CROSS CULTURAL ADAPTATION OF DESIGN THINKING IN ENTREPRENEURSHIP HIGHER EDUCATION IN INDONESIA

by
Ria Tristya Amalia

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Chair of PhD Board: Prof. Dr. Harald F.O. von Korflesch
Chair of PhD Commission: Prof. Dr. Ralf Lämmel
Examiner and Supervisor: Prof. Dr. Harald F.O. von Korflesch
Further Examiners: Prof. Dr. Mario Schaarschmidt, Prof. Dr. Wawan Dhewanto

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(Ria Tristya Amalia)

Acknowledgements

Abstract in English

Entrepreneurship and entrepreneurship education have expanded together, and their conceptual and methodological challenges do not prevent the implementation of entrepreneurial education in educational contexts. The desire for a global workforce that can handle uncertainties and solve problems that cannot be solved by pure analytical inquiry drives the rapidly expanding number of educational programs and activities that are design-based. A growing number of educational programs for entrepreneurs increasingly incorporate design-based methods. However, design thinking-based theoretical assumptions may also be lacking. Despite growing academic interest in design thinking and entrepreneurship education, little is known about design thinking in higher entrepreneurship education, especially in Eastern nations. A Western teaching method, entrepreneurial design thinking may be adapted to many cultures. In this instance, the West has established entrepreneurship education as a respectable study subject and teaching practice in higher education over the past 40 years. The Eastern nations' occurrence varies, including Indonesia. Indonesia is an intriguing research subject since it has over 50% youth due to its abundant natural resources. However, it needs more opportunity-based entrepreneurs and requires assistance in implementing entrepreneurship education with a more innovative, design-based, and successful method. Entrepreneurial design thinking fulfills this demand. Indonesian students and teachers' norm-based attitudes and cultural mindsets towards a new western creative method may hinder entrepreneurial design thinking's acceptance. The literature review found that Indonesian university students are collaborative, compassionate, and practical, like design thinkers. However, they may also be risk-averse, self-restrained, and dependent on teachers as stereotypical Asians. Classroom space, educators' design thinking competence, and university or institution support are further barriers. Additional study into these challenges is needed to adapt design thinking to Indonesian entrepreneurial higher education culturally.

Based on the above research needs, the purpose of this research endeavor is to look into the cultural nuances of the design thinking technique for entrepreneurial higher education and postulate how it could be adapted to other cultures, especially in Indonesia. This thesis uses deductive and qualitative case-study research methods. In particular, the latter used thematic analysis (Braun & Clarke, 2006; Terry & Hayfield, 2021) as the data analysis technique to provide a means and tools for understanding from interviews, class observation, and literature studies. Since this thesis follows the constructivist-relativist research paradigm, it explores contextual and cultural differences in Indonesian entrepreneurship education and its potential and obstacles to adapt the Western teaching methodology of entrepreneurial design thinking in higher education. In summary, this study searches for elements that might aid or hinder the cross-cultural adaption of entrepreneurial design thinking. This research wants to understand how cross-cultural adaptability fits into entrepreneurial design thinking research, especially for Indonesia. This thesis aims to provide new theoretical insights and practical advice on adapting entrepreneurial design thinking from Western to Eastern cultures.

From the findings, this thesis concluded at least seven educational value differentials before adaptation from the exhaustive literature and case study evaluations. For Indonesian entrepreneurship higher education institutions to use entrepreneurial design thinking, they must consider educational culture, technological infrastructure, language, primary audience, learning and teaching style, reasoning patterns, and social-cultural environment. This study provides four practical adaptation

recommendations: socialization, externalization, combination, and internalization. Finally, this research demonstrated that cross-cultural adaption of entrepreneurial design thinking in Indonesia might be difficult but worthwhile. This thesis' case study, "School of Business Management – Bandung Institute of Technology (SBM ITB)", showed that Indonesian entrepreneurial higher education might use design thinking as a teaching approach. All stakeholders must improve internally and publicly. Thus, this study recommended integrating most Indonesian higher education institutions' entrepreneurship teaching approaches with a "student-centered" approach that stresses business mentorship, uses design thinking tools and processes, and links them to students' entrepreneurial initiatives.

To summarize, this research contributes to the field since it draws on and combines the findings of several other fields of study, including entrepreneurial education, design thinking, and cross-cultural adaptation. This study stepped out of the "usual and proper" pedagogical ruts to investigate "non-human" cross-cultural adaptability. It has attempted to apply these ideas to a real-world, unique case study in a developing nation (in this case, Indonesia).

Abstract in German

Entrepreneurship und Entrepreneurship Education haben sich gemeinsam weiterentwickelt, und ihre konzeptionellen und methodischen Herausforderungen stehen der Umsetzung von Entrepreneurship Education in Bildungskontexten nicht im Wege. Der Wunsch nach globalen Arbeitskräften, die mit Unwägbarkeiten umgehen und Probleme lösen können, die durch rein analytische Untersuchungen nicht gelöst werden können, treibt das rasche Wachstum von designbasierten Lehrplänen und Bildungsaktivitäten voran. Viele Lehrpläne für die Ausbildung in unternehmerischem Denken und Handeln enthalten inzwischen designbasierte Prozesse. Es kann jedoch auch an theoretischen Annahmen fehlen, die auf Design Thinking basieren. Trotz des wachsenden akademischen Interesses an Design Thinking und Entrepreneurship Education ist nur wenig über Design Thinking in der höheren Entrepreneurship Education bekannt, insbesondere in östlichen Ländern. Als westliche Lehrmethode kann das unternehmerische Design Thinking an viele Kulturen angepasst werden. In diesem Fall hat der Westen die Entrepreneurship-Ausbildung in den letzten 40 Jahren als respektables Studienfach und Lehrpraxis in der Hochschulbildung etabliert. In den östlichen Ländern, einschließlich Indonesien, ist dies anders. Indonesien ist ein interessanter Forschungsgegenstand, da das Land aufgrund seines Reichtums an natürlichen Ressourcen über 50 % junge Menschen hat. Das Land braucht jedoch mehr chancenorientierte Unternehmer und benötigt Unterstützung bei der Umsetzung von Entrepreneurship Education mit einer innovativeren, designbasierten und erfolgreichen Methode. Entrepreneurial Design Thinking erfüllt diesen Bedarf. Die normbasierten Einstellungen und kulturellen Mentalitäten indonesischer Studenten und Lehrer gegenüber einer neuen westlichen Kreativmethode können die Akzeptanz von Entrepreneurial Design Thinking behindern. Die Literaturrecherche ergab, dass indonesische Universitätsstudenten kooperativ, einfühlendsam und praktisch veranlagt sind, wie „Design Thinker". Sie können jedoch auch risikoscheu, selbstbeherrscht und abhängig von Lehrern sein, wie es für Asiaten typisch ist. Weitere Hindernisse sind die räumlichen Gegebenheiten im Klassenzimmer, die Kompetenz der Lehrkräfte im Bereich Design Thinking und die Unterstützung durch Universitäten oder Institutionen. Weitere Studien zu diesen Herausforderungen sind erforderlich, um Design Thinking an die indonesische unternehmerische Hochschulbildung kulturell anzupassen.

Auf der Grundlage des oben genannten Forschungsbedarfs besteht das Hauptziel dieser Arbeit darin, die kulturellen Unterschiede und die mögliche kulturelle Anpassung der Design Thinking-Methodik für die unternehmerische Hochschulbildung in Indonesien zu untersuchen. In dieser Arbeit werden deduktive und qualitative Fallstudien-Forschungsmethoden verwendet. Letztere verwendet insbesondere die thematische Analyse (Braun & Clarke, 2006; Terry & Hayfield, 2021) als Datenanalysetechnik, um Mittel und Werkzeuge für das Verständnis von Interviews, Unterrichtsbeobachtungen und Literaturstudien bereitzustellen. Da diese Arbeit dem konstruktivistisch-relativistischen Forschungsparadigma folgt, untersucht sie die kontextuellen und kulturellen Unterschiede in der indonesischen Entrepreneurship-Ausbildung sowie das Potenzial und die Herausforderungen bei der Adaption der westlichen Lehrmethodik des unternehmerischen Design Thinking in der Hochschulbildung. Zusammengefasst sucht diese Studie nach Elementen, die die kulturübergreifende Adaption von Entrepreneurial Design Thinking fördern oder behindern könnten. Sie will verstehen, wie sich die kulturübergreifende Anpassungsfähigkeit in die Forschung zum unternehmerischen Design Thinking einfügt, insbesondere für Indonesien. Ziel dieser Arbeit ist es, neue theoretische Erkenntnisse und praktische Ratschläge für die Anpassung des unternehmerischen Denkens von westlichen an östliche Kulturen zu liefern.

Aus den Erkenntnissen dieser Arbeit lassen sich mindestens sieben pädagogische Wertunterschiede ableiten, bevor eine Anpassung anhand der ausführlichen Literatur und der Auswertungen der Fallstudien erfolgt. Damit indonesische Hochschulen unternehmerisches Denken anwenden können, müssen sie Bildungskultur, technologische Infrastruktur, Sprache, primäre Zielgruppe, Lern- und Lehrstil, Denkmuster und soziokulturelles Umfeld berücksichtigen. Diese Studie gibt vier praktische Anpassungsempfehlungen: Sozialisierung, Externalisierung, Kombination und Internalisierung. Schließlich hat diese Untersuchung gezeigt, dass die kulturübergreifende Anpassung des unternehmerischen Denkens in Indonesien zwar schwierig, aber lohnenswert ist. Die Fallstudie dieser

Abstract in German

Arbeit, "School of Business Management - Bandung Institute of Technology (SBM ITB)", zeigte, dass die indonesische unternehmerische Hochschulbildung Design Thinking als Lehransatz nutzen könnte. Alle Beteiligten müssen sich intern und öffentlich verbessern. In dieser Studie wird daher empfohlen, die Lehransätze der meisten indonesischen Hochschulen für Unternehmertum in einen "studierendenzentrierten" Ansatz zu integrieren, der den Schwerpunkt auf Unternehmensmentoring legt, Design-Thinking-Werkzeuge und -Prozesse einsetzt und diese mit den unternehmerischen Initiativen der Studierenden verknüpft.

Zusammenfassend lässt sich sagen, dass diese Studie einen Beitrag zum Fachgebiet leistet, da sie sich auf die Ergebnisse mehrerer anderer Studienbereiche stützt und diese miteinander verbindet, darunter unternehmerische Bildung, Design Thinking und interkulturelle Anpassung. Diese Studie verlässt die "üblichen und richtigen" pädagogischen Pfade, um die "nicht-menschliche" interkulturelle Anpassungsfähigkeit zu untersuchen. Sie hat versucht, diese Ideen auf eine reale, einzigartige Fallstudie in einem Entwicklungsland (in diesem Fall Indonesien) anzuwenden.

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List of Abbreviations

CCA   Cross-cultural adaptation

CCE   Creative cultural entrepreneurship

DT   Design thinking

EE   Entrepreneurship education

EDT   Entrepreneurial design thinking

e.g.   Exampli gratia

GDP   Gross Domestic Product

HEI(s)   Higher education institution(s)

HR   Human resource

IDR   Indonesian Rupiah

i.e.   id est

ITB   Institut Teknology Bandung (Bandung Institute of Technology)

MBA   Master of Business Administration

p.   Page

PPT   Power Point Presentation

TA   Thematic Analysis

SBM   School of Business Management

SME(s)   Small medium enterprise(s)

UK   United Kingdom

USA   United States of America

USD   United States Dollar

CHAPTER 1: INTRODUCTION

1.1 Motivation and Research Need

This section analyzes four research circumstances about entrepreneurship education and design thinking. The aim is to unfold the underlying research motivation, the necessity for conducting such research, and the potential opportunities that arise from this line of inquiry. This section examines the present condition of Entrepreneurship Education (Section 1.1.1), the status of the 'Design Thinking' methodology (Section 1.1.2), the existing research on Design Thinking within the realm of Entrepreneurship Education (Section 1.1.3), and the comprehensive and geographically inclusive literature review of Entrepreneurship Education in Western and Eastern contexts (Section 1.1.4).

1.1.1 Current State of Entrepreneurship Education

The subsequent section offers a comprehensive assessment of the present circumstances in entrepreneurship education. The text encompasses two main sections: the historical investigation's background (Section 1.1.1.1) and the current status of the inquiry (Section 1.1.1.2).

1.1.1.1 The Historical Context

According to Hägg and Kurczewska (2021), the history of entrepreneurship education is vital because several variables have shaped its development and success over time. These elements include the field's academic standing and external opinions of the field's importance in promoting societal advancement. The historical period under examination begins with a series of world crises that transpired in the 1970s. The 1973 oil crisis and the subsequent recession in 1979 caused inflation and economic stagnation, prompting world leaders to actively explore alternative measures to salvage domestic fortunes and mitigate the escalating predicament. The fast rise of Asia, which sold more affordable goods that drove their Western equivalents out of

domestic markets, further exacerbated the crisis in the West. That period also demonstrated the limited effectiveness of large Western state-owned enterprises, highlighting the pressing need for alternative strategies to stimulate economic growth.

The mindset was to transform competent people into self-employed and self-governed individuals who set up and run independently owned enterprises (Hägg & Kurczewska, 2021). As a result of this organic transition, small enterprises began to take on a central role in the novel political paradigm for economic governance predominant in Western societies. This transition period from liberalism to neoliberalism in welfare states resulted in an increased onus on individuals to shape their future outcomes (Amable, 2011). At the core of this movement was the concept of the self-initiator (Keat & Abercrombie, 1991; Rose, 1996). This individualism-neoliberal standpoint posits that individuals are responsible for their achievements and overall welfare (Harvey, 2005). Moreover, individuals should treat their lives as entrepreneurial endeavors (Rose, 1996) and strive to embody innovative qualities (Ball & Olmedo, 2013).

During the latter part of the 1970s and the 1980s, entrepreneurship began to establish itself as an independent academic discipline (Landström, 2020). One of the earliest influential books on entrepreneurship published in the 1970s, "Competition and Entrepreneurship," authored by Israel Kirzner in 1973, is a highly influential literary work on entrepreneurship. This book, firmly grounded in the Austrian School of Economics, emphasizes the significance of entrepreneurial responsiveness in spotting and seizing lucrative possibilities (Kirzner, 1973). However, the essence of entrepreneurship discourse gradually distanced itself from its initial close association with economics.

Before finally turning toward management, entrepreneurship began to incorporate other social science fields, such as psychology science, anthropology, and sociological studies (Hägg & Kurczewska, 2021). Because of this change, the multidisciplinary character of entrepreneurship study led to criticism of the field's scholarly credibility

and maturity from both the outside and the inside. The pragmatic features of this phenomenon have generated hope for the possible explanation of its underlying nature, leading to a growing discussion about its educational viability.

Hägg and Kurczewska (2021) further noted that there was a notable surge in entrepreneurship and small business research in the 1980s and the 1990s. Academic institutions became more interested in including entrepreneurship in their curricula, pointing to a discernible trend. Vesper (1992) found that only four academic institutions offered this particular form of instruction in 1968, indicating that the early availability of these institutions was limited. However, this figure experienced a notable increase to 16 by 1970, surging to a substantial tally of 370 by 1993. According to Solomon et al. (1994), there was a five-fold growth in the number of schools between 1979 and 1992. The above studies by Solomon et al. and Vesper exhibited variations in the scope of courses and programs examined. However, both studies demonstrated a remarkable surge in the prevalence of entrepreneurship education, especially the massive investment in the US educational programs that foster an entrepreneurial mindset in university students (Landström, 2020).

In the end, even though entrepreneurship education has experienced slower development than the scientific field of entrepreneurship, it is still crucial to acknowledge that the advancement of both disciplines is interconnected, as the realms of education and entrepreneurship courses exert a reciprocal influence on each other's research (Béchard & Toulouse, 1991; Kyrö, 2008). The realms of entrepreneurship alongside entrepreneurship education have evolved simultaneously, with entrepreneurship taking the lead but facing challenges regarding philosophy and methodologies (Fayolle, 2013; Rideout & Gray, 2013). Nevertheless, Pittaway and Cope (2007a) asserted that the lack of unanimity on the exact delineation of entrepreneurship has yet to impede its incorporation within educational settings. This initial phase of entrepreneurship education experienced a lower level of scholarship due to a limited number of scholars transitioning from an academic field. Therefore, it is essential to delve deeper into the current body of research on entrepreneurship education.

1.1.1.2 The Present State of Research on Entrepreneurship Education

The establishment and origins of entrepreneurship education as a scientific field and pedagogical practice have presented challenges in pinpointing its exact evolution, as argued by Mcmullan and Long (1987). They posited that the origins of specific components of entrepreneurship education may date back to as early as 1938, particularly at Kobe University, founded in Japan. Katz (2003) attributes the commencement of initial entrepreneurship courses at the Harvard Business School in the United States in 1947 to the efforts of Professor Myles Mace. Similarly, Klapper and Tegtmeier (2010) conducted a preliminary research project exploring entrepreneurship education in the early 1980s, producing many scholarly articles from Baylor University over the years. The conference "Entrepreneurship: Definition and Pedagogy" at the Harvard Business School in 1985 was a significant milestone in establishing legitimacy for education in entrepreneurship.

According to Hägg and Gabrielsson (2020), between 1970 and 1980, entrepreneurship education was considered a nascent sub-discipline within the broader field of education since socioeconomic and political circumstances notably shaped the development and progression of entrepreneurship education. Over the following two decades, the focus of research shifted from fragmented exchanges toward greater uniformity in scientific articles, with a focus on core citations (Hägg & Gabrielsson, 2020). The extant body of published material on the academic discourse of content methodology of instruction and learning techniques commenced during the 1990s. This period also marked the initiation of the earliest doctoral dissertations on entrepreneurship education (Kyrö, 2008). Hägg and Gabrielson called this period the formative years of entrepreneurship education.

Dainow (1986) conducted a preliminary review of prior research on entrepreneurship education and determined that further efforts were necessary to advance this field of study. These endeavors centered on utilizing a variety of methodologies and embracing a more methodical approach to doing empirical research. His deductions

were not surprising since his study can be attributed to the intricate nature of the review, which surpassed mere systematization.

A subsequent examination of entrepreneurship education was undertaken by Gorman et al. (1997) a decade later, encompassing a study of scholarly works from 1985 to 1994. The results of this investigation revealed more progress in the field. The researchers systematically classified 92 papers issued by seven important entrepreneurial and small-scale business magazines according to several criteria. These factors encompassed the content of the articles (whether they were scientific or qualitative), the intended audience, and the subject matter covered. The subject matter was further classified into distinct categories, namely entrepreneurial likelihood, before- and after-startup creation, learning procedure, and framework.

The study's conclusion resembles the findings of Dainow (1986), as the two emphasize the necessity for a stronger analytical focus and describe the area in its early stages of study. The researchers expressed specific concerns regarding the limitations of the methodology, including an overreliance on longitudinal research and the adoption of self-reported measures for parameters. Additionally, they noted a need for more application of conceptually developed sampling strategies and a shortage of adequate utilization of current notions. Hence, it is suggested that further investigations adopt a cross-disciplinary method to study, incorporating concepts originating in various fields.

The aforementioned time frame impacts the condition of entrepreneurship education research today, revealing a collapsing landscape. Since entrepreneurship education was first introduced into higher education, there have been enough advancements to amalgamate its outcomes; however, according to Béchard and Grégoire (2005), the research discipline of entrepreneurship education in the 1980s-1990s is limited and primarily focused on the economic and business dimensions of the educational content.

After that, in the initial years of the millennium, there was a notable increase in the prominence of sophisticated ideas based on the field's distinctive attributes (Kyrö, 2008). Entrepreneurs' pragmatic and hands-on approach to capitalizing on potential also facilitated the exploration of pedagogical techniques, creating a conducive environment for investigating effective and ineffective practices. The dynamic features of the entrepreneurial and practical-based learning process and an early inclination towards experimentation fostered an ongoing proliferation of concepts. The establishment of authenticity for entrepreneurship education and its subsequent growth is accompanied by challenges stemming from a volatile setting. Confronting ambiguity is posited to cultivate a spirit of enterprise. In this context, the prominent factors of experimenting and collaboration play a crucial role. While broad education has a solid theoretical foundation and an extensive history of inquiry, entrepreneurship education has taken a different approach by asserting its independence and distinctiveness concerning educational strategies and instructional techniques (Sexton & Bowman, 1984; Sexton & Upton, 1987). Entrepreneurship education has consistently positioned itself as a distinct sub-discipline within the broader topic of entrepreneurship rather than being considered an envisaged sub-discipline within mainstream education.

Moreover, it is important to highlight two significant scholarly literature studies on the progress of entrepreneurship education at the beginning of the 2000s (see Béchard & Grégoire, 2005 and Pittaway & Cope, 2007a). Béchard and Grégoire (2005) focused their analysis exclusively on stories of entrepreneurship education within the realm of colleges and universities. They carried out a comprehensive analysis of 103 academic publications published between 1984 and 2002. Their objective was to examine the prevailing educational themes that drive research on entrepreneurship in colleges and universities. A total of four primary categories of academic studies interests were identified: community, technical, educational, and personalist.

Nevertheless, a need exists for more representation within the context of "social-cognitive, psycho-cognitive, and spiritualist or cultural and ethical dimensions" (Béchard & Grégoire, 2005, p.35). The individual's perspective regarding the

advancement of entrepreneurship education is predominantly optimistic. However, the limited educational repercussions lie in the emphasis on creating theories and organizational credibility. It was also accepted that many researchers had challenges, needed additional learning material, and needed proficiency in education and business. Béchard and Grégoire further highlighted the necessity for increased incorporation of academic articles in learning. An alternative would be advancing entrepreneurship education by practical application and remaining limited to specific circumstances.

A study conducted by Pittaway and Cope (2007a) involved the analysis of 185 scientific papers that appeared between 1970 and 2004. The researchers systematically examined the summary and employed thematic analysis and storytelling programming to categorize concepts associated with entrepreneurship education. Their analysis of field mapping suggests that the available evidence remains incomplete. Their research on entrepreneurship education indicates that the existing studies in this field were generally conducted independently, without sufficient integration with other significant research areas such as professional development, handling acquiring knowledge, university regulations, job opportunities for graduates, and employment opportunities. Hence, the issue of delineating more advanced (sub-)areas resurfaced. The analysis also emphasizes the significance of conducting a study on entrepreneurship education in an empirically contextualized way, taking into account the necessity for greater agreement on the definition and execution of entrepreneurship within the domain of education.

Entrepreneurship education began to be widely regarded as a pioneering and forward-thinking approach to pedagogy in the 2010s (Neck & Corbett, 2018). Mwasalwiba's (2010) scholarly analysis on entrepreneurship education addressed the consensus among academics on the essential elements to be included in entrepreneurship teaching. Additionally, Mwasalwiba advocated the use of centered-around-experience instructional design, which entails a hands-on approach to learning. He also considered certain methods of instruction, such as seminars, case investigations, and students' group discussion, to be passive approaches. It is crucial

to acknowledge differences between the perceived efficacy of active classroom education and its actual execution in learning contexts.

The methodologies employed in education have seen significant transformations over four decades, as explicated in Hägg and Gabrielsson's (2020) study. They published an in-depth structured study on the evolutionary aspects of teaching in entrepreneurship education studies. They analyzed 395 articles published between 1980 and 2018 to retrace the trajectory of studies about instructional design in entrepreneurship education. This study categorized the changing nature of teaching techniques in entrepreneurship education into four phases, each aligning over the past four decades. The initial decade, the 1980s, strongly emphasized teacher-centered approaches. The 1990s focused on process-oriented approaches. The third decade, the 2000s, focused on contextual factors. Subsequently, the 2010s were marked by a shift towards an approach prioritizing learners. These changes have shifted away from informative techniques, such as seminars, invited speakers, and case studies, traditionally regarded as passive approaches (see Mwasalwiba, 2010). Practice transitioned from a didactic instructional style using methods such as company proposals, seminars, speakers, and research projects to a more practical and integrative approach to learning. This novel viewpoint incorporates "lean startup, design thinking, and the business model canvas" (Hägg & Gabrielsson, 2020, p.11). The above study presents a complete summary of the evolution and transformation of instructional strategies in entrepreneurship education.

Using an approach based on literature and research, Gabrielsson et al. (2020) looked further into several aspects of methodology in entrepreneurship education to analyze the social context of entrepreneurial education as it pertains to the scientific domain. They demonstrated a specific focus on advancements in essential matters and scientific research. Their study revealed a significant rise in the number of experts and papers in entrepreneurship education. Furthermore, the study showcased an increasing expansion of the research result, constructed upon a broadening instruction foundation. The expertise center exhibited greater uniformity and

interconnectedness from 2013 to 2018. This trend could be interpreted as indicative of the discipline's maturation and the development of its study material basis.

Landström et al. (2022) examine the impact of prominent journals, conferences, and influential authors on the development of the academic community. They identified four communities needing more scholarly connections. The comparatively modest primary group of scholars in entrepreneurship education were the primary catalysts for its advancement. Hägg and Gabrielsson (2020) further identified a potential weakness in the loosely connected nature of various communities and observed a shift towards a more theoretical-oriented focus within the core community. This shift has the potential to impede the practical-based attributes that initially sparked enthusiasm in the discipline.

The construction and exploitation of communication networks are of paramount importance in maintaining coherence within the field of entrepreneurship education (Hägg and Gabrielsson, 2020). For example, platforms such as scientific publications and local places for interaction facilitate entrepreneurship education's survival and growth as an academic discipline. Landström et al. (2022) classify entrepreneurship education as a distinct field characterized by a community-oriented approach.

In summary, there has been a noticeable shift over the past forty years toward the acceptance and integration of entrepreneurship education as a respectable field of study and pedagogical strategy in higher education. It is noteworthy that the field of education has seen a notable increase in the acknowledgment and accomplishment of educational degrees. This tendency is especially noticeable in the way that entrepreneurship courses are spreading quickly throughout colleges and institutions worldwide.

The emergence of entrepreneurship education was influenced by conventional entrepreneurship, and its advancement has led to ongoing modifications in educational programs and novel pedagogical obstacles in entrepreneurship education. The pursuit of distinctiveness compared to mainstream education carries

the possible danger of duplicating efforts, as experts have consistently advocated enhanced collaboration between the fields of learning scientific research and entrepreneurship (e.g., Fayolle et al., 2016; Pittaway & Cope, 2007a). Leveraging insights from the widely recognized field of educational science can accelerate the growth and progress of entrepreneurship education while enhancing the likelihood of publishing in reputable academic journals. The rationale for this proposition stems from the vast array of philosophical understandings and discoveries made within educational and scientific findings, which can be effectively utilized in examining entrepreneurship education. Embarking on a personal growth journey and simultaneously establishing an area of study from its foundational origins constituted an especially formidable choice that necessitated heightened dedication from the initial trailblazers and academic communities in entrepreneurship education. Moreover, the initial emphasis on establishing a robust infrastructure was limited to "curricula expansion, material for courses, and challenges related to instructional progress" (Sexton & Bowman, 1984, pp. 21–22). As a result, achieving total legitimacy in academia is the primary goal that may be reached by developing or growing a separate and adequately specialized area.

The following section provides a detailed examination of the major features in the body of knowledge regarding design thinking research in entrepreneurship education.

1.1.2 State of The Methodology 'Design Thinking'

The concept of *design thinking* has become more widely acknowledged in corporate parlance in recent years, leading to investigations of its intricacies and potential applications across many corporate contexts. The results of these efforts include practice-oriented books (such as Antonelli et al., 2013; Liedtka et al., 2013, 2017; Liedtka & Ogilvie, 2012; Lockwood, 2010; Martin & Martin, 2009) and articles (such as Beckman & Barry, 2007; Kolko, 2015; Micheli et al., 2019). A growing body of scholarly research on this topic has recently emerged (e.g., Brown, 2008; Liedtka, 2015; Seidel & Fixson, 2013).

CHAPTER 1: INTRODUCTION

The utilization of design thinking in corporate practices and business discourse is seeing an upward trend. It can be the basis for attaining a competitive edge as it enables a transition between analytical and emotional thinking and can potentially attain major advancements (Martin & Martin, 2009). Contributions from David Kelly and Tim Brown's consulting company IDEO and by Stanford Design faculty played a significant role in promoting the extensive adoption of design thinking in several enterprises. According to Brown (2008), design thinking is characterized by its emphasis on creativity and its central focus on people. He defined design thinking as "utilizing design experts' tools to address individuals' needs effectively, technology's capabilities, and organizational performance requirements" (p. 18).

The Stanford School of Design's paradigm for the innovation process (Stanford, 2009) is an influential design thinking model. The design-thinking methodology for planning and creating courses was initially tested at RMIT University in 2007. This pilot study was later officially launched by Gilbert (2012) in the entrepreneurship course program of the Fastrack Innovation curriculum. In 2005, the British Design Council adopted the design and development approach, which consists of four primary iterative cycles: explore, identify, create, and present (Groeger & Schweitzer, 2009). The concept mentioned above was applied in the creation of a curriculum centered around the subject of social entrepreneurship. The integration of problem-based learning with design thinking methods, including "rapid prototyping, proof of concept through co-design, service blueprinting, and role-playing" (Groeger & Schweitzer, 2009, p. 6), was employed to augment students' cognitive capacities in analytical intuitiveness, and diverse thinking (Huq & Gilbert, 2013). The five inquiries above constituted the pivotal design stages in the "Discover" and "Define" phases of the design thinking process. The inquiries mentioned above encompass the following: "why," "who," "what," and "how." The purpose of exploration in this context is to create and provide solutions that the course team or design group may utilize to enhance the teaching method of entrepreneurship sequentially. This would provide students with a shared sense of ownership of the journey and be supported by reliable pedagogical concepts and components. This strategy was chosen in response to low student engagement, satisfaction, and feedback from industry and startups on

the "ideal competencies" they value in today's and tomorrow's businesses (Huq & Gilbert, 2017, p.159).

Design thinking is an instructional approach that seeks to produce novel concepts and investigate alternate resolutions (Beckman & Barry, 2007). The proliferation of design thinking across many disciplines has led to multiple design thinking paradigms (Dorst, 2011b). Additionally, this strategy has been widely acknowledged as an effective means of navigating situations characterized by obscurity and uncovering unforeseen challenges that may arise later (Fixson & Rao, 2014). Numerous researchers have advocated for the significance of incorporating it into the realms of management and entrepreneurship education, and social studies (e.g., Daniel, 2016; Dunne & Martin, 2006; Garbuio et al., 2018; Kickul et al., 2018; Neck et al., 2014; Nielsen & Stovang, 2015). Other academics believe that adding design thinking into non-business school undergraduate programs could be a viable approach to combining entrepreneurship education with other studies and promoting collaboration across diverse areas (Penaluna & Penaluna, 2019; Ranger & Mantzavinou, 2018).

Several academics have also recently highlighted the use of design thinking as a constructionist pedagogical tool in business and entrepreneurship education (e.g., Hägg & Gabrielsson, 2020; Lahn & Erikson, 2016; Lynch et al., 2019). Its application in business and entrepreneurial education has been emphasized as essential to promoting efficient learning, flexible learning environments with fewer obstacles, and adaptable classroom instruction. This approach has been promoted as a way to help students better understand reflective thinking, and for teachers to improve their teaching.

Despite the significant growth in the number of scientific studies on design thinking within management education, there is still much to explore, especially in entrepreneurship education. The current state of its research is summarized below, based on the literature mentioned above.

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1.1.3 The Present State of Research on Design Thinking in The Context of Entrepreneurship Education

The initial step involves contemplating Simon's (1969) assertion that design is a practical field of study. Design is frequently approached in education and research as a natural science. Neck and Greene (2011) argue that there is a parallel between the thought processes of entrepreneurs and designers. They suggest that entrepreneurs possess a design-oriented mindset, finding potential solutions to opportunities or problems and then acting accordingly. This alignment highlights the similarities and overlaps between the two domains. Implementing this concept necessitates educators actively supporting and promoting "diverse competencies, encompassing investigation, synthesis, solutions exploration, analytical reasoning, information assimilation, visualization, imaginative thinking, solving issues, and idea generation" (Huq & Gilbert, 2017, p. 65).

Advocates of design thinking, exemplified by Tim Brown, the Chief Executive Officer of IDEO, underscore that design thinking revolves around addressing the fundamental requirements and desires of individuals. It is nothing like a sequential, milestone-driven methodology but rather an iterative process that encompasses the interplay of "inspiration, ideation, and implementation" across three distinct domains (Brown, 2008, p. 88). Compassion and active engagement are integral elements of the collaborative design process, as they contribute to developing and implementing distinctive and enhanced experiences. This approach entails including end users and key stakeholders inside the value chain. The process of iterating concepts commences with a mindset that is both tangible and analytical, wherein one scrutinizes the ineffective aspects. Subsequently, the process transitions towards the abstract realm as the issue is reframed and the effective elements are evaluated.

Brown's study aligns with Sarasvathy's (2001) Theory of Effectuation, considered a pioneering work of academic literature. The study extensively utilizes the core tenets of design thinking to analyze the decision-making process for a business. According to Huq and Gilbert (2017), this combination of analytical and applied reasoning yields

a more accurate characterization of alternatives and their applications, particularly in business management.

In addition to the studies mentioned earlier, driven by an increased emphasis on pedagogical methodologies, recent efforts seek to establish a connection between entrepreneurship research and the discourse around design science (Sarooghi et al., 2019). For example, Dimov (2016) analyzes the entrepreneurial perspective through the lens of design science, which focuses on conceptualizing entrepreneurial actions as design artifacts. He further posits that a design science strategy for entrepreneurship entails perceiving an action as an avenue for experimentation and acquiring novel information while concurrently recognizing design as the process of purposefully creating objects.

Ding (2019) expands on Dimov's study, adding to the current design approach. He presents a step-by-step paradigm for the prospective approach to design, emphasizing the purposeful and creative nature of generating and refining opportunities. According to Ding's theoretical framework, individuals adopt the position of entrepreneurs when they recognize a problem that develops from their dissatisfaction with current conditions, either through personal experience or by acquiring information from others.

Experimental and respectful research approaches (such as people observation or intercultural studies) may be used to better understand a particular subject or occurrence (Sarooghi et al., 2019). During the initial stage of problem diagnosis, the individual, who may be a businessperson, adopts an open-minded approach and examines multiple options to determine the problem's root cause. After identifying the problem, the agent engages in a cognitive process and conceptualizes a prospective artifact, performing a series of adjustments to ensure harmonic integration with the surrounding environment. The market evaluation process is used to determine appropriateness. During this phase, the agent employs a method of repetition to enhance the precision of the objects and formulate a compelling reason for using them.

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Entrepreneurship education is thought to lead to design-based framework pedagogy. Thus, according to Sarooghi et al.'s (2019) survey of US college professors and entrepreneurship centers offering an entrepreneurial curriculum, design thinking has attracted increased attention in entrepreneurial research, practice, and teaching. To examine design thinking in entrepreneurship education, the researchers requested respondents who had attended the 2016 Rochester Entrepreneurship Conference in New York to take a survey. They were invited to take the survey if they, as faculty members, had a good understanding of their curriculum on the entrepreneurial education programs, subjects, clubs, and organizations in their respective universities. From January through October 2017, 99 respondents completed the web-based Qualtrics survey, with an approval total of 21.6%. A total of three cycles of correspondence follow-up were dispatched. The investigation's findings were centered around three primary domains:

- the entrepreneurship program demonstrates a predominant focus on design thinking principles and methodologies;
- the present study examines and compares the various dimensions of design thinking, including mentality, procedure, and equipment, and
- the facilities are needed to facilitate and sustain design thinking initiatives.

Sarooghi et al.'s study suggests that entrepreneurship programs must foster a collective awareness of design thinking and build consistent tools and procedures to integrate design thinking concepts into course programming. Additional research is required to explore the impacts of design thinking on businesses in a broader context and the implications for entrepreneurship education programs. Future research aimed at developing constructs for measuring the success of design-based instruction and course application will contribute to the identification of optimal procedures and instruments that aspiring business owners might employ to enhance their pursuits of entrepreneurship.

Previous studies, such as Daniel (2016), used design thinking as a new curricular unit in 2012/13. The instructional method used design thinking principles. Upon the

conclusion of the academic session, students were requested to participate in a comprehensive evaluation survey. The data imply that design thinking improves motivation, entrepreneurial mindset, and satisfaction.

Similarly, Val et al. (2017) explored design thinking and its significance in developing entrepreneurial skills and abilities in their initial study on integrating entrepreneurship education into European educational systems. Their paper investigated how design thinking may develop entrepreneurial skills, presenting innovative ideas for integrating sustainability into design thinking and entrepreneurship in joint projects for building underdeveloped nations. Linton and Klinton (2019) examined collegiate entrepreneurship education using design thinking. They believed that design thinking in business fostered entrepreneurial abilities and attitudes and that an unorthodox method stressing ingenuity in a chaotic framework would achieve this.

In another bibliographic review search, Johann et al. (2020) found existing studies on design thinking in entrepreneurship education. Employing the Web of Science database, the study examined over 140 publications from 2009 to 2019, using the keywords "entrepreneurship education" and "design thinking." The study highlights the call by millennial students for a change in education that puts the individual at the center. Professors and students are starting to work together on this new learning strategy using real-practice didactics to educate these young people and create individuals who are critical, proactive, and involved in society.

The general findings of Johann et al. (2020) also emphasize that design thinking is a timely and meaningful topic that is receiving increasing attention in academia. It is used in many school and college classrooms, and companies also use it to develop new products and services. Therefore, design thinking from an entrepreneurial education perspective is an evolving discourse. The study shows that the design-thinking methodology is a tool for developing an entrepreneurial mindset in entrepreneurship teaching from the school to the university level. This novel approach has gained strength, especially in several European countries since 2015

(Wilson, 2008), but less so in schools and universities in developing countries. This deficiency could be the topic of research studies exploring a design-based teaching methodology that can be adapted across cultures, especially from the Western to the Eastern cultural context (Amalia & von Korflesch, 2023).

Overall, the above studies have generally captured how design thinking has developed over time, particularly within the research and practical teaching context of entrepreneurship education. Design thinking promotes practicality and encourages students to interact with the world outside the classroom. Reflective exercises support design thinking and can teach modern entrepreneurs by encouraging forward-thinking management and an enterprising staff. Both design thinking and entrepreneurship education are insightful thinking methodologies that share similar fundamental tenets and entrepreneurship pedagogy and utilize effectuation logic, such as the construction of items, cooperative decision-making, utilizing unforeseen circumstances, adopting various tools and procedures, placing significant emphasis on careful investigation, prototype creation, collection of users' opinions, and collaborative teamwork as integral components in developing novel-effectuated business models (Osterwalder et al., 2014; Ries, 2011; Steve & Dorf, 2012).

1.1.4 Literature Studies on Entrepreneurship Education in the West and East

This sub-section is two research publications of the researcher during the Ph.D. period (section 1.1.4.2 and 1.1.4.3, respectively). The two publications aim to provide some apprehension on the advancement of entrepreneurship education from the existing literature in the Western countries (Europe and the USA) and how it is different in the Eastern ones, particularly Indonesia. The proliferation also involves what and how to impart knowledge about entrepreneurship and comparing and contrasting the various ways taken in multiple regions. The design-based approach, recognized in the West as the cutting-edge, current, and students-centered educational approach for entrepreneurship education, represents one of the significant discoveries. Nevertheless, the situation can be different compared to

Indonesia, as it is still struggling with internal circumstances to develop its educational system for entrepreneurship. Therefore, understanding the above purposes is paramount, as this dissertation intends to discover whether design thinking can be cross-culturally adapted to Indonesia's entrepreneurship higher education.

1.1.4.1 Systematic and Mapping Literature Studies on Entrepreneurship Education in the US, Europe, and Indonesia

Over the past two decades, entrepreneurship education has been incorporated into discourses in higher education across the Western world. Using theories from cognitive psychology and social cognition, the discipline of entrepreneurship education has quietly taken off in higher education. While the UK and several regions of Europe discuss promoting innovative behavior, most American universities concentrate on launching firms. This emerging pattern shows that exposing students to specific forms and classifications of entrepreneurship education may aid them in developing their understanding and capabilities and their growing proclivity for entrepreneurship. Undoubtedly, empirical evidence substantiates the significance of entrepreneurship education in fostering entrepreneurial endeavors aimed at providing the community with a proficient entrepreneurial population and facilitating students' transition into self-employment and founders of micro-enterprises. Consequently, entrepreneurial education's importance to society and the individual is increased.

At the most fundamental level, some popular benefits of becoming an entrepreneur include launching a firm, being one's own boss, working on a pet project, and earning money at the same time. On a different level, countries seeking novel approaches to generate and maintain economic growth have been lured by entrepreneurial rhetoric. Policies around Europe and the Western world, where entrepreneurship is lauded as a public "good," reflect these discourses. The debate over incentives for generating entrepreneurs and supporting entrepreneurial behavior impacts policy development, impacting educational systems. Higher education institutions, notably in Europe, have embraced entrepreneurship education in the last two decades. In line with

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Cope's (2005) claim, the present study concurs that the discussions around entrepreneurship education have varied significantly relying on the body asserting them. Initially located in the business faculty, entrepreneurship education has expanded to include "wet" sciences, science, technology, and, to varying degrees, the arts and humanities. This situation raises various inquiries concerning the subject matter and objectives of entrepreneurial education.

Like Western nations, the Asia Pacific has experienced a boom in entrepreneurship and increased interest. According to the 2014 Global Entrepreneurship Monitor Global Report, the percentage of people (18–64 years old) in various Asia Pacific nations that have engaged in enterprise activities among employees (EEA) has grown (Singer et al., 2015). Countries' EEA levels of Australia, China, India, and Indonesia rose from 8.2%, 0.5%, 0.2%, and 0.5% to 9.0%, 1.2%, 2.5%, and 0.7%, respectively. In addition, as a response to the rising demands of society, higher education institutions in the Asia Pacific region, including Australia, Malaysia, and Korea, are increasingly offering entrepreneurship-related programs and courses (Arokiasamy, 2012; Lee et al., 2005; O'Connor, 2013). The most notable increase in the number of entrepreneurs is in Indonesia. Their share of the overall population increased from 1.67% in 2009 to 3.10% in 2019—still below that of Thailand (4.1%) and Singapore (7.2%).

Additionally, more than 95% of the business units in Indonesia—more than 50 million, or almost 20% of the entire population—are classified as micro-small firms or SMEs. However, the labor productivity is only about 354 million IDR (USD 24,900) annually, which is low compared to Singapore and Malaysia. From that total, SMEs account for more than 75% of the nation's GDP. Although these SMEs employ most of the workforce, each adds little value to the economy. As a result, they are viewed as entrepreneurs motivated by necessity (Larso & Saphiranti, 2016). Therefore, it is unsurprising that poverty, wealth inequality, low productivity, and unemployment are still major problems in Indonesia. Consequently, promoting higher education in entrepreneurship across the nation is challenging.

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At the same time, design thinking has grown in popularity over the last 10 years, going from an invented word to a generally acknowledged methodology. In the past, design researchers have written extensively about "design thinking." However, the term has only recently entered the managerial lexicon. It has frequently been defined as an approach for encouraging creation and supporting inventive solutions, drawing on the methodology and techniques of designers. This thinking methodology has often contributed to management and business processes. The most well-known applied design thinking methods, such as IDEO (inspire, create, implement), Stanford Business/Design School (empathize, identify, generate ideas, create a prototype, and evaluate), and IBM (comprehend, investigate, and assess), have proven this. Because of design development, many university/college programs now teach design thinking to beginners, executives, and business leaders. Accordingly, visualization, prototyping, ethnographic approach, experimentation, brainstorming, journey maps, personas, and mind maps are the most commonly listed design thinking tools and methods taught in business schools.

Compared to other approaches, design thinking emphasizes problem-solving, user-centeredness and participation, iteration, exploration, multi-segment participation, visualization ability, gestalt observation, abductive thinking, the open-mindedness of ambiguity and failure, and combining inquiry and instinct. Micheli et al. (2019) further emphasized developing one's ability to think like a designer in their analytical considerations. The idea that people who are not designers, including students, need to be taught the kinds of thought processes used by professionals in the field suggests creating a measure for measuring design thinking and carrying out a research project with various topics.

Entrepreneurship education has experienced phenomenal growth both in the West and East in the last half-century. Nevertheless, the main questions seem to prevail across the existing literature, e.g., How does entrepreneurship education in the US, Europe, and even Asia —in this case, Indonesia—differ? What are the goals of entrepreneurship education? What and how should it be taught? What can we learn from those differences?

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In the following sections, the synopses of the two articles will be presented (section 1.1.4.2 and 1.1.4.3, respectively), followed by their summary.

1.1.4.2 Entrepreneurship education in European and American higher education: a systematic literature review

For more detailed paper, please refer or cite as follows: Amalia, R.T. and von Korflesch, H.F.O. (2021) 'Entrepreneurship education in European and American higher education: a systematic literature review', J. International Business and Entrepreneurship Development, Vol. 13, Nos. 3/4, pp.311–349.

Synopsis of the article

This work strives to be straightforward while adhering to some paradigms for a systematic literature review (Pittaway & Cope, 2007a; Sirelkhatim & Gangi, 2015; Thorpe et al., 2005). It sets out to improve our understanding of research methodologies and identify the distinctive features of how entrepreneurship education is delivered. The objective is to thoroughly analyze the course material and teaching methods for entrepreneurial learning in higher education in America and Europe. This publication provides an in-depth map of the relevant subject areas and prospective research paths in entrepreneurship education for developed nations, notably Europe and the USA, so that emerging countries might benefit from this initiative.

This project aims to advance research on pedagogical theories and the contexts of entrepreneurship education in American and European higher education institutions. The findings suggest that research dominance in British entrepreneurship education has evolved. Although some contend that Europe lags behind America in terms of entrepreneurship education, the findings of this study demonstrate that European entrepreneurship education has advanced, particularly in research on entrepreneurship education programs, teaching strategies, course material, and their

connections to entrepreneurial learning practice. However, the main goal of this study conducted by Amalia and von Korflesch (2021c) is not to distinguish the conditions on the two continents. Rather, it seeks to depict the state of entrepreneurship education in the industrialized nations of the United States and Europe, thoroughly review the curriculum, and compare teaching strategies used in entrepreneurship education in higher education in the United States and Europe.

The body of research on entrepreneurial learning is widely scattered and individualized. Entrepreneurial education has been the subject of numerous investigations, but more clarity is still needed. This study under review has identified several important research issues and advancements in entrepreneurial education based on a thorough literature review. The most prevalent themes are experiential, action-oriented, identity-social, and apprentice-style learning. By highlighting the significance of real entrepreneurial experience and problem-solving in actual businesses, the first two forms of knowledge—experiential and action-oriented learning—are connected. The latter, identity-social and apprentice-style education, emphasize a practical learning environment and support students in creating an identity as "entrepreneurs." The reason is that both learning modes, such as mentorship, internships, and apprenticeships, put students at the center of the learning activities.

In addition, the main learning styles that are consistent with the research needs identified in this study's analysis include the following:
- emphasizing student-centered pedagogy;
- taking into account students' emotional needs in the learning process;
- designing entrepreneurial learning for particular contexts;
- focusing on developing relevant entrepreneurial skills for students and
- developing university-based entrepreneurship education.

A pressing requirement for more consensus over a clear description of entrepreneurship and entrepreneurship education presented another challenge when examining what entrepreneurship education programs offer and how their

content is delivered. Due to this barrier, entrepreneurial courses range greatly and have little in common. Although the authors' of the study welcomes the notion of heterogeneity in the research on entrepreneurship education, there could be better options than basing the teaching design and process on the educator's familiarity. A thorough review of the curriculum and pedagogy/teaching strategies used in entrepreneurship education is required, particularly in the developed countries of Europe and the US.

The findings indicate that the three themes of "About," "For," and "Through" entrepreneurship form the primary perspectives for the teaching content and pedagogical methodologies in entrepreneurship education. The first type—teaching "About" entrepreneurship—relates to typical educational techniques, such as covering standard business, economics, and management topics using formal lectures and case studies. The other two types—teaching "For" and "Through" entrepreneurship—reflect the demand for student-centered learning intended to foster entrepreneurial attitudes and nurture potential instead of merely imparting knowledge. As a result, the curriculum covers topics such as problem-solving, teamwork, and design thinking by methods including team teaching, online learning, mentoring, and internships.

This analysis also discovered that few studies examine each course's curriculum and teaching strategies in depth. The vast majority only briefly touch on the "what" and "how" of imparting entrepreneurship education. Studies of curricula and teaching strategies often focus on entrepreneurial education's "For" style. This is particularly the case in European nations, possibly because European colleges continue to prioritize "skill-oriented" instruction about operating a business utilizing the "For" entrepreneurial approach. If the European objective changes to supporting the provision of entrepreneurship education and aiming for more high-growth businesses, then stepping up efforts or combining the "For" style with the "Through" style of entrepreneurship education could be the best course of action. The study under review contends that the old "teacher-centered" approach to

entrepreneurship education research and its practical application should give way to a more modern "learner-centered" approach.

Given the new focus on student-centered learning as a kind of "Through" entrepreneurial education, several studies have used peer mentoring and mentorship as examples. Interactions with corporate mentors inspire students to take ownership of their education and develop self-motivation. This method exposes students to developing and acquiring certain entrepreneurial skills (St-Jean & Audet, 2013) and developing and cultivating an entrepreneurial personality (Rigg & O'Dwyer, 2012). Newcomers frequently assist and learn from more established businesses or entrepreneurs as part of their mentoring program. Unlike traditional mentoring, peer mentoring matches mentors and mentees with similar backgrounds and academic achievements (Kubberød et al., 2018). According to Terrion and Leonard (2007), mentoring benefits both parties by providing them with practical experience, encouragement, and certainty.

There are only a few empirical studies that examine the role of peer mentorship in students' entrepreneurial learning in the university context (see Elliot, Baumfield, & Reid, 2016; Elliot, Baumfield, Reid, et al., 2016). For instance, Gimmon (2014) studies the mentoring relationship between aspiring and experienced entrepreneurs outside the educational setting. This study creates a new avenue for further investigation into how entrepreneurial mentoring could help entrepreneurship students develop a credible company strategy. Hägg and Politis (2017) investigate the benefits of mentoring for student-centered entrepreneurial learning from real entrepreneurs, particularly in developing opportunity identification and exploitation abilities.

1.1.4.3 Entrepreneurship education in Indonesian higher education: mapping literature from the Country's perspective

For more detailed paper, please refer or cite as follows: Amalia, R.T., von Korflesch, H.F.O. Entrepreneurship education in Indonesian higher education: mapping

literature from the Country's perspective. *Entrep Educ* **4**, 291–333 (2021). https://doi.org/10.1007/s41959-021-00053-9

Synopsis of the article

The technique that was utilized in Amalia and von Korflesch (2021a) was a mapping literature approach by Gough et al. (2003). This approach enables the comprehensive examination of published works within a broader context, facilitating the identification of research needs and areas that have not been well explored. This mapping study highlights some prominent circumstances in the Indonesian literature on higher education, especially from the nation's point of view. The approach can serve as a point of departure to address and analyze related challenges in Indonesian entrepreneurship education, particularly in scientific English papers. Additionally, it would provide Indonesian government employees, professionals, and scientists with a simple, open method of finding more focused action plans and valuable research in the field. The articles must also be in English to be critically analyzed without encountering language obstacles due to translation, interpretation, or other contextual concerns.

Mapping the literary approach in this study under review led to numerous noteworthy discoveries. First, entrepreneurship education in higher education in Indonesia is still in its infancy. This situation has brought countless difficulties. Studies have found that the efficiency of Indonesian higher education needs improvement, especially the uneven establishment of entrepreneurship education courses and programs. Many scholarly articles about entrepreneurial educational offerings being examined in Amalia & von Korflesch's (2021a) study frequently reference higher education bodies on Java Island. The centralization in Indonesian education has a long history. Because a centralized system of government has historically governed Indonesia, the country's former education system produced graduates of higher education institutions who became passive and 'less entrepreneurial' citizens. A cultural stigma against becoming an entrepreneur persists, especially among young rural students, who prefer to work as government or corporate employees.

The next topic concerns the common ways entrepreneurship is taught in higher education in Indonesia. While an increasing number of colleges have begun to provide entrepreneurship courses developed and taught by actual entrepreneurs, the availability of comprehensive teaching resources about entrepreneurship is substantial. The former option emphasizes theoretical and pedagogical aspects, including foundational courses in management principles, business strategy and analysis, marketing strategies, and financial administration. Additionally, the latter assists students in engaging in practical entrepreneurial endeavors, such as participating in courses and projects that involve identifying opportunities, forming teams, generating ideas, establishing networks, and employing design thinking. Similarly, the focus of colleges and universities for entrepreneurship in Indonesia primarily revolves around the theoretical aspects of entrepreneurship. Traditional seminars, group debates, research papers, and startup plan preparation remain crucial in academic settings. Nevertheless, there is a growing prevalence of advanced pedagogical methods in entrepreneurship education, including using simulation-based activities for teaching entrepreneurial skills and implementing apprenticeship, coaching, and partnership programs as instructional approaches.

In Indonesia's entrepreneurship higher education, mentoring/business coaching and experience-oriented learning methods are two of the most recent emerging forms of entrepreneurial learning. This discovery is relevant to the following: Indonesian students appear more susceptible to environmental influences. Students' entrepreneurial ideas and ambitions are significantly shaped by their families, social networks, and well-known entrepreneurs. This circumstance likely accounts for the popularity of mentorship and the widespread acceptance of authentic experiential entrepreneurial learning in Indonesian entrepreneurship education.

Moreover, this mentorship model aligns with the contemporary methodology for entrepreneurship education known as teaching "through" entrepreneurship. Entrepreneurial mentors are critical in fostering an entrepreneurial culture and inspiring students to follow in their footsteps and start their own businesses. When

using this entrepreneurial learning strategy, the School of Business Management (SBM) ITB, Ciputra University, and Petra Christian University are at the forefront. The experiential or experiment-based method of learning about entrepreneurship is another unique technique. Indonesian colleges and universities have introduced experiment-based entrepreneurship courses through several approaches. One approach involves assigning students to run enterprises, providing them with hands-on entrepreneurial experience. Additionally, HEIs encourage students to actively engage in particular promotional activities, enabling them to develop practical skills in promoting their ventures.

More recent research demonstrates a transition from traditional (theoretically oriented) learning approaches to more practical and contemporary practice. A few examples are the business canvas creation, entrepreneurial direct project participation with a versatile team, and coupled modules and programs for creative and cultural entrepreneurship. The HEIs on Java Island continue to use these more contemporary teaching methods. In contrast, HEIs in other regions may continue to provide entrepreneurship courses using the traditional lecture format.

The incorrect perception of "masculinity" and the gender disparity in entrepreneurship education are examples of the challenges this study under review has discovered, in addition to traditional conventions and misconceptions regarding entrepreneurship and becoming an entrepreneur. Female entrepreneurs in Indonesia make up a sizable portion of the country's business sector. Unfortunately, several barriers have been discovered that prevent young female "millennials" (and students) from starting their businesses. These include poor and constrained access to higher education (especially, in the rural areas), trouble getting loans, potential legal discrimination against female entrepreneurs, and unfairness in family problems. Because of the above factors, Indonesian female SME owners tend to be "stuck" in the less formal business sector. This seems to lessen their earnings and render their businesses less competitive. Although this particular topic is intriguing, more research is required, for instance, to examine other gender-related difficulties in Indonesian entrepreneurship education as they fall outside the purview of this study.

Notwithstanding certain constraints, this research makes a valuable contribution toward enhancing comprehension of the landscape of entrepreneurship education within the realm of higher education in Indonesia. Amalia & von Korflesch's (2021a) review examines several significant aspects, including the accessibility of entrepreneurship education initiatives, their prevailing implementation, the diverse forms of entrepreneurship learning, and the challenges encountered by Indonesian university learners and entrepreneurs concerning entrepreneurship education within the Indonesian context. This investigation's results can potentially provide valuable insights and guidance for instructors, investigators, and regulators in Indonesia to understand the following:

- the country's current entrepreneurship education programs,

- normative teaching methods,

- some prospective student entrepreneurial competencies, student characteristics, and student mindsets; and

- issues relating to Indonesian entrepreneurs (particularly female ones) and how they can be further improved in the future through the implementation of appropriate policies and practices.

1.1.4.4 Summary from the two studies

Scholars agree that entrepreneurship can be summed up by starting a business, making and selling a product, making as much money as possible, and selling to a big company. Academics in the US often aim to create entrepreneurs and corporate capitalists to work better together. Academics concur that the essence of entrepreneurship is launching a firm, producing and marketing a product, generating as much revenue as possible, and then selling to a large corporation. In the US, academia frequently seeks to develop entrepreneurs and corporate capitalists who can collaborate more effectively. Some European countries see entrepreneurship differently than the US. In the UK, the focus is more on starting a business and promoting and fostering a spirit of enterprise among individuals. In some parts of Scandinavia, where entrepreneurship is commonly defined as adding value, the

central principle is considerably broader. However, value is determined by factors other than the economy, such as social, biological, cultural, and environmental aspects.

The quantity of Indonesian entrepreneurs has witnessed a notable surge during the past two decades, and developing higher education in entrepreneurship throughout the country has been challenging. For instance, Indonesia has had to contend with an environment that ought to be more favorable for the growth of a more extensive business community. Because of that, most young Indonesians still want to work for the government after they finish school. In the same way, studies have shown that Indonesia lacks good programs to help people start their own businesses.

In addition, a systematic study of entrepreneurship education literature in the US and Europe (Amalia & von Korflesch, 2021c) identified important research themes and trends in entrepreneurial learning. The most common themes are experience-based, action-based, identity-based, and apprentice-style learning. The first two types are related because they both stress the importance of having real business experience and solving real business problems in actual companies. In contrast, the last two give students more practical learning and can help them develop a sense of who they are as an "entrepreneur" because the student is at the center of the learning activities in mentorship, internship, or apprenticeship.

Most studies agree that entrepreneurship education has three different types: teaching "About," "For," and "Through" entrepreneurship. About is a short way of saying that the teacher tells the students about the theories and then asks them to think about them and repeat them later. So, the cognitive perspective is used to talk "About" entrepreneurship. This approach fits well with the traditional ways that universities teach. The cognitive perspective focuses on the individual's success, making input (instruction) an easily measurable output that equals learning. However, it must give students a wide range of learning opportunities related to entrepreneurship. "For" entrepreneurship is a type of teaching that supports learners with tools to help them start their own businesses, such as a business plan and capital.

Most business schools offer these classes, and students are tested on how well they can use the tools in real-life situations. In 'Through' entrepreneurship, students have to apply their knowledge in practical settings, talk to clients and customers, do market study, and turn their thoughts into models and real products. Entrepreneurship can be learned in student community centers, incubators, or even startup seminars. This 'through' category of entrepreneurship is the one that, from a policy point of view, has the most chance of creating entrepreneurs. The most common type of entrepreneurship education and teaching method, especially in European countries, is the "For" type. One reason could be that "For" entrepreneurship training in European universities still focuses on "skills-oriented" business training.

Teaching entrepreneurship in universities, particularly in Europe, need to involve 'through' entrepreneurship components. How various forms of teaching and learning are blended in this scenario must be specified. Amalia & von Korflesch's (2021c) review argues that the research and practical contribution of entrepreneurship education should shift away from a traditional "teacher-centered" approach and toward a more modern "learner-centered" approach. Recent emphasis on student-centered learning as a form of 'Through' entrepreneurial education has been produced in several studies that use mentorship and peer mentoring as examples. Interactions with business mentors inspire students to assume responsibility for their education and develop self-motivation. Students may be exposed to creating and gaining particular entrepreneurial abilities and establishing and cultivating an entrepreneurial personality. Newcomers frequently assist and learn from more established businesses or entrepreneurs as part of their mentoring program. Peer mentoring differs from traditional mentoring in that it matches mentors and mentees with comparable academic backgrounds and levels of performance. Mentoring gives practical skills, direction, and reassurance to both parties.

In Indonesian college-level entrepreneurship programs, mentoring and experiential learning methods are two of the increasingly trendy types of entrepreneurial learning acknowledged by Amalia and von Korflesch (2021a). Nevertheless, conventional

methods, including seminars, forums, scenarios, and creating company plans, continue to be extensively employed. This finding pertains to the subsequent aspect: Indonesian pupils exhibit greater susceptibility to environmental influences. The impact of family encouragement, circles of friends, and notable businesspeople on students' attitudes toward entrepreneurship and ambitions is substantial. The utilization of mentorship, along with authentic practical learning, holds significant recognition and esteem within the realm of Indonesian entrepreneurship education.

Ultimately, the design-based approach has also contributed to developing a novel technique for integrating creativity, inquiry, and forward-thinking into entrepreneurship education. This strategy is implemented by guiding students' behaviors, creativity, and cognitive processes towards a specific orientation and mindset or by rethinking how students learn entrepreneurial knowledge through artifact-mediated activities in their entrepreneurial ventures to create innovative capabilities. In this instance, students are encouraged to work as interns in high-tech organizations or to carry out entrepreneurial ventures to reflect and learn using several artifacts as "scaffolds." This method promotes self-awareness regarding the effects of various action strategies. Previous research conducted by Apel et al. (2018) and Parrish et al. (2017) has demonstrated the promising capabilities of design thinking when employed as a mentoring tool at the educational institution. Mentorship presents a valuable occasion for the learner and the manager to benefit from their distinct viewpoints, facilitating knowledge expansion for everyone involved. The student being mentored offers valuable perspectives on the interests and needs of contemporary students, while the mentor catalyzes genuine advancement and profound introspection. The utilization of the design thinking approach proves to be advantageous in the application of design alternatives to both individual and organizational predicaments.

This thesis has presented a review of entrepreneurship development in Western countries and Indonesia from the above two studies. The aim is not simply to compare both worlds but to emphasize the need to research whether design thinking is compatible and applicable to be cross-culturally adapted as the Western teaching

methodology for entrepreneurship education in Indonesia. Currently, no one seems to oppose the possibility of a cultural adaptation of this entrepreneurial design thinking education approach. This thesis aims to close the knowledge gap for the question: What other factors support or contradict the transition, and what new perspectives and suggestions can we offer to improve the body of knowledge and real-world examples on this subject, particularly with regard to Indonesia as an emerging Asian nation?

1.2 Research Opportunity

Entrepreneurship education: From the research above, we can summarize some insights as the following (see Table 1).

Table 1. Summarized Literature on Entrepreneurship Education[1]

Authors, year	Research insights
Béchard and Grégoire (2005)	The prior research on entrepreneurship education focuses mainly on the economic and entrepreneurial content of teaching and thus needs to be extended further. The development of entrepreneurship education may only be driven by practice and remains context dependent.
Dainow (1986)	More theoretically derived sampling needs to be conducted with more use cases made of prevailing propositions. A more holistic study method should be adopted, wherein premises derived from other fields are utilized.
Kyrö (2008)	From the beginning, entrepreneurship education has been seen as a subfield of entrepreneurship rather than a potential subfield of general education, in which glorifying the idea of "facing uncertainty" was the ideal path to becoming an entrepreneur.
Hägg and Gabrielsson (2020)	Teaching methods changed from didactic to action-based and from experiential learning (actual business) to experiential-constructivist learning perspective (Lean Start-up, Design Thinking, and Business Model Canvas).
Landström et al. (2022)	Entrepreneurship education as a "social scientific field" where the development of communication systems can achieve the importance of the cohesion of the field.
Pittaway and Cope (2007a)	Call for entrepreneurship education research to be more context related.

The past studies on entrepreneurship education have focused on a positive movement towards legitimizing entrepreneurship education as a research field and on how the teaching methodology of entrepreneurship education has shifted from a traditional teacher-centered to a more contemporary student-centered learning approach. Besides, the research on entrepreneurship education may need to fully

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[1] Author's own table

cover the cultural context of design-based teaching methodology, especially in transferring and adapting to a different culture. This idea is the starting point for this thesis, which examines design thinking in a context that includes entrepreneurship education at the college level. Therefore, future research on entrepreneurship education should consider the social and possibly cultural context and location where entrepreneurship education takes place and apply the recent constructivist approach to learning. One of the most commonly suggested approaches is design thinking. However, the research on "entrepreneurial design thinking" seems to be lacking regarding how both fields are theoretically connected and explore conceptually adapting this well-known Western teaching methodology to different cultural entities.

Design thinking: Similarly, from the design above thinking research state of the art, we can summarize several insights (see Table 2).

Table 2. Summarized Literature on Design Thinking[2]

Authors, year	Research insights
Sarasvathy (2001)	The exploration of "effectuated" decision-making in businesses incorporates the core concepts of design thinking.
Osterwalder et al. (2014); Osterwalder and Pigneur (2010); Ries (2011); Steve and Dorf (2012)	Various tools and processes for entrepreneurship pedagogy, including the Design Thinking philosophy in curriculum design and delivery.
Daniel (2016)	Design Thinking has positively impacted fostering entrepreneurial thinking, intention, and fulfillment with overall performance.
Val et al. (2017)	Entrepreneurial skills can be fostered through the tools of design thinking.
Linton and Klinton (2019)	Entrepreneurship education in this new teaching era could be used numerously from design thinking as a teaching methodology and device.
Sarooghi et al. (2019)	The scope to which design thinking needs to be used in entrepreneurship education has been investigated:

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[2] Author's own table

	• Placement of general design thinking in entrepreneurship education programs • A proportionate focal point on the various facets of design thinking mentality, procedures, and equipment. • Composition tools to reinforce design thinking programs
Johann et al. (2020)	Analyze studies issued in global multi-disciplinary journals on design thinking concerning entrepreneurial mindset, motivated by today's generation of students calls for a shift in education toward an individual-centered approach.
Dimov (2016)	State a design science frame of reference for entrepreneurship that treats entrepreneurial action to pursue entrepreneurial fortuities as design objects.

Research on design thinking related to entrepreneurship education has focused on how design thinking could effectively transform more practical and experiential teaching in entrepreneurship education. The characteristics, processes, tools, and framework of design thinking have facilitated educators in supporting students to become more constructivist and reflectionist in dealing with real entrepreneurial problems, in supporting students' entrepreneurial endeavors, and in building their entrepreneurial identity. However, the field may also need more theoretical concepts behind design thinking. Despite the growing research attention in design thinking and entrepreneurship education, more is needed to know the actual application of design-thinking teaching in higher entrepreneurship education, particularly in Eastern countries, also, whether the Western teaching methodology 'entrepreneurial design thinking' can be cross-culturally adapted in different cultural contexts.

In conclusion, previous research (see section 2.2.3.1 and 2.2.3.2, respectively, for the summarized literature review) prompted this thesis to look into how the cutting-edge design-based teaching method widely used in higher education in the West might be adapted for use in Eastern countries. Specifically, there are three points to represent the overall research needs of this thesis:

1. No research exists that scrutinizes the empirical literature study on Indonesian entrepreneurship education, theoretical connections between

design thinking and entrepreneurship education, and their potential-conceptual integration, particularly in the case of Indonesia.

2. No research questions related to how cross-cultural adaptation fits the entrepreneurial design thinking (EDT) research spectrum.

3. Nobody is challenging whether there is a possibility for a cultural adaptation of this EDT teaching methodology. Also, what components contribute and do not contribute to the adaptation, and what insights and recommendations can we provide to enrich the literature and practical examples concerning this matter, especially in the case of Indonesia as a developing Asian country?

The issue representation as discussed in section 1.1 and the research need outlined in section 1.2 have provided the foundation for defining the thesis's objective and key research question, as elucidated in section 1.3.

1.3 Research Objectives and Questions

Although the existing literature has acknowledged the widespread acceptance of design thinking as one of the effective teaching methods for a more pragmatic, hands-on, and constructivist approach to entrepreneurship education, previous studies provided less guidance on how this contemporary teaching method can adapt to various cultural entities. Even further, the development of entrepreneurial education in Indonesia has encountered significant challenges (section 1.1.4.3). Therefore, the overarching aim of this dissertation is:

To investigate the cultural differences and potential cultural adaptation of the design thinking methodology for entrepreneurship higher education in Indonesia.

This primary research purpose gives rise to the subsequent research problems/inquiries.

1. *What theoretical concepts stand behind design thinking, and how is design thinking theoretically connected to entrepreneurship education?*

The concept of design thinking has received much attention globally. The terminology of design thinking, which originally comes from design studies, has moved from the world of product design to the practical tools used in the non-design worlds. The reason is that design thinking brings not only thinking methodology to solve complex problems but also, more importantly, world-changing innovations that can be applied across various disciplines, such as business management, entrepreneurship, and education. However, there needs to be more studies that thoroughly scrutinize the theoretical backgrounds, concepts, and development of design thinking and its connection to entrepreneurship education. Regarding entrepreneurship education, multiple earlier research (for the proof, see the extensive literature chapter in section 2.1) concurs that a paradigm change from traditional (passive, teacher-centered) to innovative (active, learner-centered) methods is necessary. The change is described as transitioning from a conventional, didactical method towards more action-

oriented, experience-oriented, and constructivist design-based approach. They are all consistent with the core concepts of design thinking (see the literature section 2.2).

2. *Is there a potential for design thinking to be culturally adapted for entrepreneurship education in higher education in Indonesia?*

Besides abundant natural resources, Indonesia has young people that constitute over 50% of the total population. They are creative, highly adaptive to new technologies, and have a low dependency ratio among their workforce (Global Business Guide, 2015). In contrast to China, which has an aging population and a high dependency ratio because of its one-child policy, the World Bank predicts that Indonesia will still have 65 million young people in 2035. If the quality of the new generations improves, Indonesia will become a developed country. This equally means that Indonesian higher education institutions must embrace a more innovative and globally-minded approach to educating young people. Entrepreneurial design thinking is one of the far-reaching educational approaches that best suits this need.

Norm-based perceptions and cultural mindsets of Indonesian students and lecturers over a new western creative concept can be a big challenge that hinders the effective implementation of entrepreneurial design thinking. As explained in more details in the literature review (see Chapter 2) and our empirical studies (section 1.1.4), Indonesian university students may share similar cultures with design thinking, such as collaborative, empathetic, and practical. However, as stereotyped Asians, Indonesians may depend more on teachers, be risk-averse, and have self-restraint (Hofstede, 1986). Other challenges could be classroom spaces (Nielsen & Stovang, 2015), lecturers' teaching experiences in design thinking projects (Stevens, 2013), and institutional or university support (Ghina et al., 2014). Thus, further study of those challenges to develop possible strategies for culturally adapting design thinking to Indonesian entrepreneurship higher education is important.

More importantly, the existing studies investigating the connection between the teaching of "entrepreneurial design thinking" and cultural adaption theories are

hardly found. The theories above might broach several concepts behind the terminologies "social identity," "cultural adaptation," "culture shock," and "affective-interpersonal-cognitive learning aspect." The major purpose behind this research question is to explore what components can and cannot contribute to cross-cultural adaptation of design thinking in Indonesian entrepreneurship higher education. Eventually, this thesis aims to provide novel theoretical insights and practical recommendations on how entrepreneurial design thinking could be cross-culturally adapted from the West to the Eastern cultural context. Indonesia is an interesting object of investigation because it is one of the developing countries with an insufficient number of opportunity-based entrepreneurs and needs help in implementing entrepreneurship education with a more innovative, design-based, and effective approach.

Overall, this thesis emphasizes the exploration of cultural differences and the potential of cross-cultural adaption of entrepreneurial design thinking from Western teaching methodology to Eastern countries. The significance of this study is three-fold. First, the study will scrutinize theoretical frameworks that connect design thinking and entrepreneurship education and how the theories of cross-cultural adaptation fit in the research spectrum of entrepreneurial design thinking (see Chapter 2, sections 2.2.3.1, 2.2.3.2, and 2.3.2, respectively). Second, the study will analyze the components, both from the individual (educators and students) and environmental side (university/HEI and the country's bureaucracy), that add the knowledge of Indonesia's opportunities and challenges with the connection of cultural adaptation theories. This aim will generate further insights on whether those components can contribute or not contribute to the cross-cultural adaptation of entrepreneurial design thinking as a teaching methodology from the West into Indonesian entrepreneurship higher education (see Chapter 3, section 3.5). As the third significance, we will provide some insights and recommendations on whether design thinking could be cross-culturally adapted for entrepreneurship education in Indonesian higher education (see Chapter 3, section 3.6).

Section 1.4 outlines the proposed research approach, considering the research need identified in section 1.2 and the overarching objectives of the dissertation as discussed in this part.

1.4 Research Approach

1.4.1 Overview Research Approach

Numerous studies have proposed different descriptions of research. However, according to the Oxford Advanced Learners' Dictionary of Current English (Hornby et al., 2015), research is a methodical inquiry that was conducted to unearth recent information and to gather more data. It is imperative to ensure that the data in the inquiry is gathered and analyzed methodically. The research should possess a well-defined objective. Saunders et al. (2009) define research as "something you do to seek answers in a systematic way to improve your knowledge" (p.5). Based on the meanings of research presented above, research is a planned activity that aims to discover new information and details about a certain topic. The research procedure comprises identifying a topic or subject of interest, converting it into a research problem, acquiring data, interpreting it, and disseminating the findings.

After selecting the study problem or subject of interest, an acceptable method(s) should be chosen. The research approach or "onion" of Saunders et al. (2009, p.108) was adopted to guide this study. This onion shows the researcher's paradigms, tactics, and steps (see Figure 1).
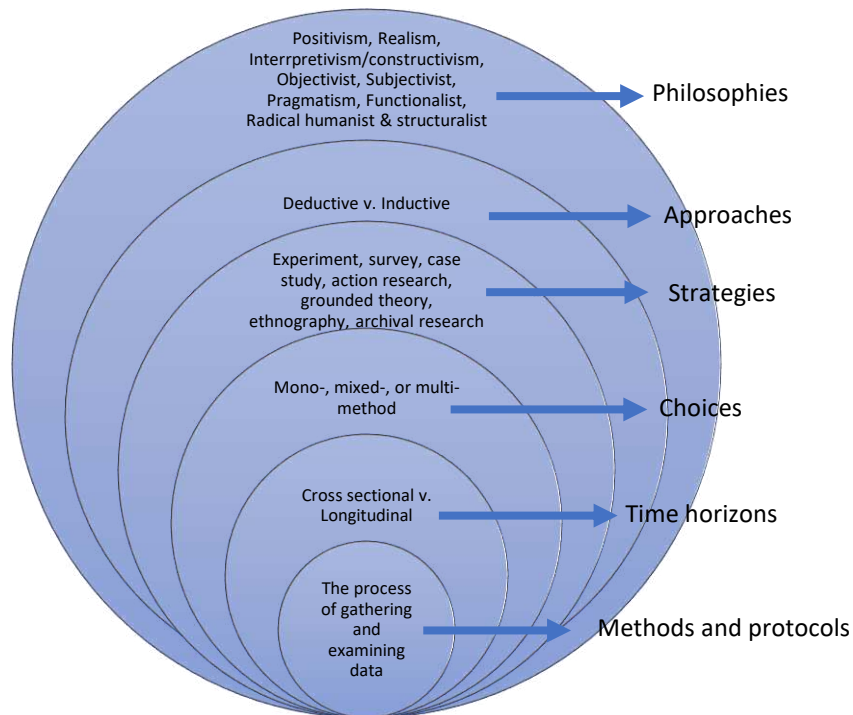
Figure 1. Research Onion [3]

The selection of a research philosophical thought by the study's authors encompasses significant fundamental beliefs on their worldview (Van der Merwe, 2009). The study approach and choice of the author's methodology are based on these fundamental ideas. As Johnson and Clark (2006) note, the author must be fully mindful concerning the philosophical commitments through the research strategy since this significantly impacts what we do and comprehends what we are studying. The following are brief explanations of concepts of qualitative research, hierarchical research order of paradigms, and finally, the chosen research approach for this thesis.

1.4.2 Qualitative Research

According to Van der Merwe (2009), qualitative research is a research method that aims to build hypotheses and knowledge. Denzin and Lincoln (2011, p.10) elucidate

> qualitative research as a situated activity that locates the observer in
> the world. It involves an explicative, naturalistic technique to the globe;
> that is, the authors study qualitative phenomena in their common

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[3] Author's formatting, referencing Saunders et al. (2009, p.108)

circumstances and attempt to comprehend and explain them in terms of the essences people give them. Qualitative research emphasizes the qualities of entities, processes, and meanings that cannot be studied or measured experimentally.

Denzin and Lincoln also highlight "qualitative" research as examining substances and events' characteristics and diverging from "quantitative" research, which does not rely on experiments or measure interpretations in terms of size, weight, intensity, or recurrence. Qualitative data are distinguished by using phrases, sentences, and keywords (Neuman, 1991). This concept is logical as qualitative researchers prioritize exploring inquiries highlighting the construction and attribution of significance regarding societal situations (Denzin & Lincoln, 2011). In addition, scholars employing a qualitative methodology refrain from using the terminology associated with quantitative research.

Weinreich (2009) explains that the goal of qualitative research is to provide the investigator with the point of view of their intended demographic participants. This concept is done by immersing the researcher in a cultural-context or situation and interacting with the participants being studied. Weinreich further argues that the investigator represents a data-gathering tool and that the outcomes might vary greatly on who does the investigation. This approach seeks to develop self-awareness and knowledge of the way people live. In contrast to the quantitative approach, which seeks data about human conduct to evaluate and advance hypotheses, the qualitative approach seeks a deeper comprehension of human activity and perspective.

Qualitative approaches include in-person observation, analysis of records and summaries, human inquiry, open-ended inquiries, and unscripted interviews (Denzin & Lincoln, 2011). These methods assist researchers find out what people think about social phenomena and what is going on in their minds when they do things. Worthen and Sanders (1987) characterize qualitative inquiry as a research methodology where data gathering and investigation are mostly carried out by an investigator in an

organic environment. The utilities of qualitative approach lie in its prominence on dense explanation, i.e., obtaining actual, extensive, and meticulous data that illuminate familiar 'patterns' of meaning and behavior/action from the perspective of the studied individuals. This viewpoint places a strong focus on the investigator's viewpoint and getting direct knowledge of his/her encounters with a certain subject. It emphasizes social processes and the connection between researcher and respondent.

Respondent interviews are one of the primary data collection techniques used in qualitative research (Creswell, 2012; Merriam & Tisdell, 2015) . Nonetheless, it may use deductive and inductive techniques to assess the data and summarize the detail and concepts that present the wholesome data. Qualitative methods are strong because they yield rich, comprehensive data while maintaining the viewpoints of the individuals taking part and giving the issue under study context (Weinreich, 2009). Even so, one drawback of the qualitative data-gathering method is that it can be costly in terms of time and labor.

1.4.3 Hierarchical Order of a Paradigm

It is essential to begin a discussion of paradigms by clarifying the definition of the conceptual research perspective or paradigm, its components, and the various views before addressing the paradigmatic premises of this study. Rocco et al. (2003) elucidate a *paradigm* as a world-perspective. It is a collection of core convictions or presumptions that direct the investigator's investigation. The authors further explain that investigators approach their work with various overlapping, occasionally at odd hypotheses and perspectives. Creswell (2012) points out that the process of designing a research study starts by assigning the philosophical presumptions that investigators settle upon before beginning a study. Investigators approach investigations with opinions, ideologies, or assumptions that impact how the inquiry is carried out and reported. In line with Creswell, Mason (2017) points out that there is an interaction between ontological and epistemological presumptions, main

theoretical pillars, inquiry issues, and investigation methodologies is crucial for a researcher.

The researcher holds certain beliefs regarding the nature of reality, called ontological beliefs (Creswell, 1998). In addition, the researcher's epistemological beliefs relate to what can be known – the researcher's relationship to what is being studied. Fayolle et al. (2005, p.136) state

> in the concepts of ontology and epistemology, there are 'rules of the game.' Each game has different rules, and these rules are all interconnected. If we assume that there are different kinds of knowledge and that they change, then it makes sense to think there are different ways to study them.

This thesis uses a hierarchical order to express how knowledge, especially from qualitative research, can be analyzed and explained, as shown in Figure 2.
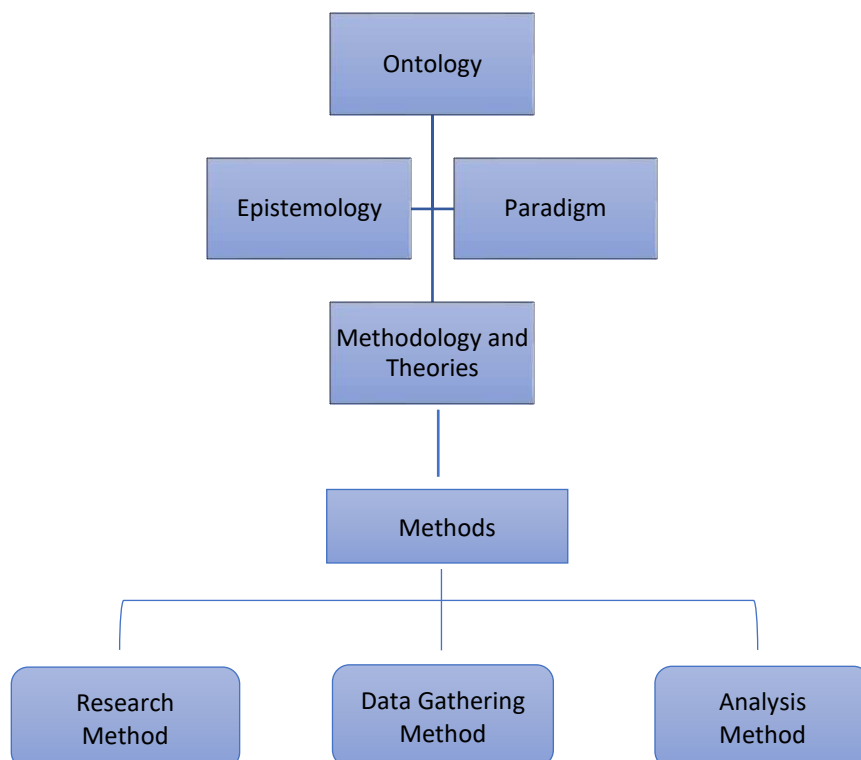
Figure 2. The hierarchical order of a paradigm[4]

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[4] Author's formatting, referencing Fayolle et al. (2005, p.137)

Fayolle et al. (2005) explained that ontology is the most general and core level (what is believed about the essence of reality), accompanied by epistemology (the paramount characteristic of knowledge), which is the subsequent level and can be derived from ontology. Ontology deals with the various techniques of obtaining information or research choices (methodology). Each methodological option includes many particular approaches, and one can select numerous data gathering and analysis methods. For example, Merriam and Tisdell (2015) suggest that qualitative research is philosophically positioned among other forms of research. In contrast to other types of investigation, the philosophical foundations of qualitative investigation are covered in most literature on the subject (Creswell, 2012; Denzin & Lincoln, 2011; Patton, 2015). The classifications put forward by Carr and Kemmis (2005) and Lather (1986, 2006), as well as Prasad's (2015) exploration of interpretive, critical, and "post" traditions (such as postmodernism, poststructuralism, and postcolonialism) are relevant in this discussion. Carr and Kemmis further distinguish three forms of 'epistemological paradigms' – positivist, interpretivist/constructivist, and critical. Lather also includes the terms post-structural and postmodern to this typology. See Table 3.

Table 3. Epistemological Paradigms[5]

	Positivist/ Postpositivist	Interpretive/ Constructivist	Critical	Postmodern/ Post-structural
Goal	Forecast, manage, and extrapolate	Explain, comprehend, and translate	Transform, liberate, and enable	Dissect, analyze, pose questions, and distract
Categories	Experimental, survey, quasi-experimental	Phenomenology, ethnography, hermeneutic, grounded theory, naturalistic/ qualitative	Neo-Marxist, feminist, participatory action research (PAR), critical race theory, critical ethnography	Postcolonial, post-structural, postmodern, query theory

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[5] Author's formatting, referencing Merriam & Tisdell (2015)

Actuality	External objectives	Many actualities, dependent on circumstance	Several worlds within certain historical, social, and cultural circumstances (with an exclusive version)	Inquiries like "Is there something there?" presume a location that existence exists.

As Table 3 exhibits, a positive perspective encompasses the assumption that reality exists independently and can be objectively seen, characterized by its stability and quantifiability. The acquisition of information via examining this particular realm is commonly called "scientific," encompassing the establishment of fundamental "laws." The field experimentation had a positivist perspective. The inflexibility of this perspective might be attributed to the philosophical frameworks of logical reasoning and post-positivism. Post-positivism acknowledges the relativity of knowledge rather than its absoluteness. However, it posits that it is feasible to differentiate between assertions of varying plausibility by relying on tangible proof (Patton, 2015).

The explanatory investigation, a prevalent form of qualitative research, operates under the assumption that the truth is produced by society, hence rejecting the notion of a singular, objectively visible fact (Merriam & Tisdell, 2015). However, it is important to acknowledge that various facts or meanings exist pertaining to a certain occurrence. Comprehension is not simply discovered by investigators but rather actively constructed by them. Constructivism is commonly employed interchangeably with interpretivism in academic discourse. Another theoretical framework that has an impact on qualitative interpretative inquiry, phenomenology, and symbolic interactivity is social constructivism. According to Patton (2015), constructivism is a theoretical framework that examines how individuals experience and comprehend the world through sensory experiences. The interpretation of an individual's experience is a critical facet in shaping their overall meaning of it. The existence of a 'rational' perception that is exterior of one's understanding is absent.

CHAPTER 1: INTRODUCTION

Merriam & Tisdell (2015) explicate that examining how people construe their views of their surroundings constitutes a singular facet of fundamental inquiry. The phenomenon under consideration is deeply rooted in diverse historical and cultural norms and spans a wide spectrum of theoretical and practical methods. A fundamental principle in critical inquiry is recognizing that all cognitive processes are influenced by power dynamics shaped by cultural and social variables. Moreover, any investigation that identifies itself as 'vital' must be accompanied by a commitment to addressing the inequities within a certain society (Kincheloe & McLaren, 2011). In contemporary scholarship, critical investigation incorporates several theoretical frameworks such as feminist theory, critical racial conceptual terms, postcolonial analysis, and ethnography of significance.

The subsequent perspective in Lather (1986, 2006) paradigm is poststructuralism or postmodernism. The examination of investigation from a postmodern standpoint diverges from all of the preceding three modes of discourse, and there are many possible approaches and intricate deliberations on these contemporary methods (Lather & St. Pierre, 2013). The postmodern age is characterized by the absence of the reason, procedure, and assurances that were prevalent in the contemporary world. In alignment with the postmodernist perspective, the interpretations of the state of affairs in the universe are regarded as myths or overarching narrations. The existence of a one, universally applicable "truth" with a capitalized "T" is not supported, as there are instead various variations of "absolute" truth. Postmodernists espouse a celebratory stance towards the multifariousness exhibited by individuals, concepts, and establishments. Acknowledging global variety and variation ensures that no aspect is granted preference or superiority over others.

Furthermore, postmodern research is characterized by a strong emphasis on experimentation, playfulness, and aesthetic expression, resulting in a diverse range of unique approaches throughout different postmodern subjects (Prasad, 2015). Postmodernism favors descriptive, simple narratives that interpret micro-circumstances in specific settings without attempting to resemble vague hypotheses,

generality, or generalizations. This view usually combines with feminist, critical theories, and queer approaches.

In summary, there are different types of research processes, which one a researcher chooses for his or her endeavor's success is contingent upon the objectives of the investigation, the inquiries it seeks to address, and, consequently, the challenges it aims to resolve. The preceding research process (see Figures 1 and 2) summarizes the important issues that must be considered and accounted before conducting research. The multiple levels of the onion form the foundation for thinking about the investigator's philosophical stance, i.e., the investigation strategy they have selected, the approach to the investigation they selected, the timeframes they need to examine, and the methods they have used to gather evidence. The following is the basis of the research process for this thesis.

1.4.4 Research Approach of This Thesis

As explained earlier (see section 1.1.1), entrepreneurship suffered many "epistemological, theoretical, pedagogical, and practical obstacles" (Fiet, 2001b, 2001a, p.106). Even Béchard and Grégoire (2005) point out that entrepreneurship education is frequently characterized by its reliance on experiential learning instead of systematic pedagogical methods, resulting in a more handcrafted than scientific approach. The reason is mostly due to the perceived absence of scholarly validation within the discipline (Fayolle et al., 2006). Moreover, numerous education scholars still believe that the field is young, emerging, and still developing its paradigms and theories (Béchard & Grégoire, 2005; Fiet, 2001b, 2001a; Hills, 1988; Katz, 2003; Kuratko, 2005; McMullan & Long, 1990; Sexton & Bowman, 1984; Vesper, 1992).

Furthermore, there exist varying perspectives on entrepreneurial education and design thinking (e.g., Johansson-Sköldberg et al., 2013; Mansoori & Lackéus, 2020; O'Grady, 2008) and limited research that integrates both theories (e.g., Nielsen & Stovang, 2015; von Kortzfleisch et al., 2013). Besides, entrepreneurship education and design thinking are rooted in pragmatism (see Bruner & Bruner, 1990; Dalsgaard,

2014; Hägg & Kurczewska, 2021), which is a problem-centered worldview (Creswell, 2014). In this case, both fields may adopt a positivist or interpretivist/constructivist philosophy. The reason is that the pragmatist's view enables the variations in the research epistemology (theories of knowledge), ontology (the nature of reality), and axiology (the values of the researcher).

Moreover, this study concerns human beings (learners and educators) in the framework of practical teaching entrepreneurship education with design thinking as the teaching methodology and is culturally bounded. So, this thesis uses subjectivism as the ontological base. However, it does not mean that "subjectivism" is atheoretical. Rather, this thesis was designed to use a variety of theoretical perspectives (i.e., literature studies and research on entrepreneurship education, design thinking, and cross-cultural adaptation) to support the findings of the thesis (see sections 1.1.4, 2.1, 2.2, and 2.3, respectively). To answer this thesis's research questions (see section 1.3), the epistemology framing this qualitative dissertation research is the constructivism/interpretivism paradigm. The approach enables us to explore and understand the cultural context of Indonesia's entrepreneurship education and design thinking teachings. It intends to provide insights on whether design thinking as the Western teaching methodology could be adapted to different cultural settings. This epistemological approach was primarily chosen because of the following rationales.

The researcher argues that this thesis's research topic and fields still lay in the nascent theory (Edmondson & Mcmanus, 2007) and lead her to the open-ended, constructivist, and exclusive qualitative research method. Constructivism/interpretivism holds that different people build meaning differently, even when witnessing the same event (Crotty, 1998). There are three premises under this epistemological approach, three of which are fundamental to this thesis:
- Since individuals construct relevance via their interactions with their study environment, investigators often utilize wide-ranging questions to elicit respondent viewpoints;

- Individuals interact and try to make sense of it from the perspectives of their cultures and societies; and

- Meaning is fundamentally social and always emerges from human interaction within a community.

As a result, context determines the study outcomes and interpretations in qualitative investigations. This idea is in line with the thesis topic that is context-bound to the case of entrepreneurship education in Indonesian higher education.

Furthermore, constructivist investigators utilize unrestricted inquiries (Crotty, 1998) to examine the daily lives of individuals (Jones et al., 2006) in order to comprehend and reconstitute people's interpretations of the phenomena they are studying (Gubrium & Holstein, 1998; Jones, 2002). Therefore, this thesis's philosophical stance about axiology—the investigator's interpretation of the significance of values in research—is how people try to make meaning from the world. The concern would be understanding the fundamental meanings attached to the respected case and explaining what is going on (Saunders et al., 2009). In this case, the researcher has immersed herself for 12 weeks of observation and interview data collection primarily to understand the world of her intended participants (Esterberg, 2002) and how participants in their own world comprehend their actuality that create their meanings (Gubrium & Holstein, 1998). The details of the data collection method are covered in Chapter 3 (see section 3.4).

Lastly, to be able to accomplish the research mentioned above philosophies, the primary research approaches of this thesis are a combination of theoretical (deductive) and qualitative case-study research (inductive) (see Chapter 3, sections 3.1 – 3.3, for more details). Especially for this thesis' case study, thematic analysis (Braun & Clarke, 2006; Terry & Hayfield, 2021) was used as the data analysis technique/method to provide a means and tools for understanding from

1. Interview interpretation of students and lecturers as the research respondents

2. Class observation of how entrepreneurship education and design thinking were taught in Indonesian higher education institutions and

3. The review of literature studies (Chapter 2) and research publications from this thesis (section 1.1.4) were used as theoretical and empirical underpinnings for this thesis.

In the hope that those data would be able to support the findings of this thesis:

- what components of Indonesian entrepreneurship education would contribute to the cross-cultural adaptation process of design thinking as teaching methodology (i.e., students, educators, and university/environmental factors) (see Chapter 3, section 3.5); and

- what insights and recommendation that this study can provide concerning the cross-cultural adaptation of design thinking in Indonesian entrepreneurship higher education (see Chapter 3, section 3.6).

1.4.5 Structure of This Thesis

Chapter 1 is "Introduction." The contemporaneous research on entrepreneurship education and design thinking was briefly discussed. Also, this thesis' research motivation and the resulting research needs (section 1.1), opportunity (section 1.2), and objectives and questions (section 1.3) were highlighted, i.e., the exploration of cultural differences and the potential of cross-cultural adaption of entrepreneurial design thinking from the Western teaching methodology to the Eastern country. In particular, section 1.1.4 explicates some research publications from this thesis that will enhance the understanding of the topic and support in answering this thesis' research questions. Two scientific publications discussed systematic literature education in Western countries (US and Europe) and presented mapped literature review on entrepreneurship education in Indonesia, respectively. Those two papers were created and published to understand the differences in teaching (i.e., contents and methods) entrepreneurship education in the West and Indonesia. Those publications have done that by analyzing the existing literature, acknowledging the significant contribution of "design thinking" as a contemporary entrepreneurship

teaching method for a more student-centered approach, and recognizing this thesis research need, that, is exploring the contextual and cultural insights/potentials of adapting design thinking to Indonesian entrepreneurship higher education as the Western teaching methodology. This thesis's research process and structure were then presented in the present section (section 1.4.1).

The following Chapter 2 is Conceptual Basics and Theoretical Foundation. The chapter consisted of three sections, i.e., entrepreneurship education (section 2.1), design thinking (section 2.2), and cross-cultural adaptation (section 2.3). For each area, there will be specific literature sections on conceptual basics, theoretical foundations, and summary and insights for the thesis as the following.

First, section 2.1 discussed conceptual basics and understanding of entrepreneurship in the literature, followed by the debates and conceptualization of entrepreneurship education (section 2.1.1). The latter covered several critical elements, i.e., definitions, objectives, categories, teaching contents, methods, heterogeneity, and expected competencies' audiences of entrepreneurship education. Subsequently, the theoretical foundations of entrepreneurship education (section 2.1.2) were thoroughly explained. Historical philosophy understanding, learning paradigms in the educational philosophy, and then constructivism learning theories related to entrepreneurship education were scrutinized. Those theoretical underpinnings were critical to building a comprehensive understanding of the research field because the interaction between the notions of entrepreneurship and education delineate the function of education in promoting entrepreneurship as a pedagogical approach and its connection to a forward-thinking movement (Hägg & Kurczewska, 2016; Mueller, 2012; Parker, 2005). Section 2.1.3 summarizes the conceptual and literature section of entrepreneurship education, and the understanding of educational theories on learning paradigm led us to comprehend that the contributions of integrating societal factors in the instructional procedure (i.e., social constructivist approach) is in line with the method of design-based learning.

CHAPTER 1: INTRODUCTION

Next, section 2.2 is about design thinking. Primarily, section 2.2.1 thoroughly discussed the conceptual basics of design thinking, which covered its roots from two discourses and understanding of the design thinking concept (i.e., definition, process, and characteristics). Section 2.2.2 explicated some fundamental theories related to design thinking. Building from that, section 2.2.3 summarizes all the previous literature and theories on design thinking, which would be utilized to respond the first research inquiry of this thesis, which comprises theoretical concepts stand behind design thinking (section 2.2.3.1) and theoretical connections to entrepreneurial design thinking (section 2.2.3.2). In particular, the comparison and similarities between design thinking and entrepreneurial design thinking in the existing literature were explained in details, and how its implementation in real-practice higher education examples from the literature was presented. As for the immediate insight, there exists a necessity to investigate and analyze the variances in cultural norms and practices between entrepreneurship education and design thinking teachings in Western and Eastern countries. There is a further need to provide novel insights on whether it is possible to cross-culturally adapt entrepreneurial design thinking as a teaching methodology from the West, particularly in Indonesia.

The third, section 2.3, was the cross-cultural adaptation. Section 2.3.1 started by briefly explaining the theoretical understanding of culture (i.e., definition, dimensions, and differences). In particular, the study of Hofstede (1980, 1983, 1986) on four major national culture dimensions will be extensively used in the latter discussion chapter of this thesis case study (Chapter 3). Subsequently, section 2.3.2 comprehensively discussed the fundamental concepts of cross-cultural adaptation and its theories and models, respectively. Subsequently, section 2.3.3 summarizes the earlier literature studies on cross-cultural adaptation and provides insights on how cross-cultural adaptation would fit the research spectrum of "entrepreneurial design thinking."

Chapter 3's ''The Case-Study Approach about Cross-Cultural Adaptation for Entrepreneurship Higher Education in Indonesia'' is extensively and meticulously

carried out. The chapter comprehensively explained the case study research design in section 3.1, objectives in section 3.2, and techniques and procedures for data collection and analysis in section 3.3. The analysis method chosen for this study was a qualitative thematic analysis approach, as described in Section 3.4. The theoretical framework of this approach primarily drew upon the works of Braun and Clarke (2006) and Terry and Hayfield (2021). The primary aim of the case analysis was to address the second research question posed in the thesis. That is: "is there a potential for design thinking to be culturally adapted for entrepreneurship education in Indonesian higher education?". The case study analysis process (sections 3.4.1 – 3.4.5), extensive results presentation (3.4.6), and comprehensive discussion (section 3.5) were explained in detail. In particular, the latter discussed the contributing factors to cross-cultural adaptation, i.e., the country's circumstantial factors, bureaucracy, and HEIs (section 3.5.1); educators (section 3.5.2); and students' factors (section 3.5.3) thoroughly. The summary, insights, and recommendations of the case study were delineated in section 3.6.

Finally, the "Summary, Conclusion, and Outlook" were presented in Chapter 4. Section 4.1 provides an overview of this thesis, its limitations, and further recommendations. Subsequently, section 4.2 delves into the ramifications and importance of both practical application and further scholarly investigation. The visual representation in Figure 3 provides a comprehensive overview of the organizational layout of the dissertation.

1 Introduction

Motivation and Research Need: Current State of Research and Literature Studies on Entrepreneurship Education and Design Thinking	Research Objectives and Questions	Research Approach	Structure

2 Theoretical and Conceptual Foundation

Theoretical & Conceptual Foundations on Entrepreneurship Education	Theoretical & Conceptual Foundations on Design Thinking	Theoretical & Conceptual Foundations on Cross-Cultural Adaptation	Summary and Insights: Theories Standing Behind Design Thinking, The Connection to Entrepreneurship Education, The Fitness of Cross-Cultural Adaptation to the Research Spectrum of Entrepreneurial Design Thinking

3 Case Study

Research Design and Objective of the Case Study	Research Techniques & Procedures	Detailed Analysis and Results Presentation	Discussion of the Case Study	Summary, Insights, and Practical Recommendations

4 Summary, Conclusion and Outlook

Summary of The Thesis and Limitation and Further Recommendation	Contribution and Implication

Figure 3. The Thesis Structure[6]

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[6] Author's own figure

CHAPTER 2: CONCEPTUAL BASICS AND THEORETICAL FOUNDATIONS

This chapter is an extensive portion of this thesis that consists of the conceptual basics and theoretical foundations for entrepreneurship education (section 2.1), design thinking (section 2.2), and cross-cultural adaptation (section 2.3).

2.1 Entrepreneurship Education

This section will begin the literature on entrepreneurship education by firstly understanding the term entrepreneurship in the literature and will further disclose the debates and conceptualization of entrepreneurship education, including the field's definitions, objectives, categories, course contents, teaching methods, heterogeneous features, and expected competencies (section 2.1.1). The educational philosophy and theories of entrepreneurship education will be explained subsequently (section 2.1.2). The literature will lead us to the implementation of educational theories for entrepreneurship education as the insight for this thesis, which will be covered at the end of the section (section 2.1.3).

2.1.1 Conceptual Basics

According to Hägg and Kurczewska (2021), from an economic perspective, the term "entrepreneur" originates with the French philosopher and businessman Richard Cantillon (1680-1734). He incorporated eighteenth-century entrepreneurialism into economics (Krueger, 2005), asserting that enterprises assume risks when they part with certain expenses to resell the merchandise at an uncertain price in the marketplace (Jevons, 1931). Later, a businessman, Adam Smith (1776), applied it to economics.

Because of their capacity to act as economic actors and turn demand into supply, entrepreneurs are frequently referred to as the "invisible hand" of an economy (Bjerke & Hultman, 2002, p. 52). Businesses move clandestinely to send pricing

information and manage client demands (Krueger, 2005). In the past, the idea has implied the power of those who want to bring about change (Dana et al., 1999).

Because of its many interpretations and points of view, one of the key problems of entrepreneurship study is the need for a uniform research framework on its vocabulary (Davidsson, 2004; Shane & Venkataraman, 2000). In the absence of a single, accepted definition of entrepreneurship, scholars have described it in close relation to their conceptualization (Matlay, 2005). Here are a few instances:

- the establishment of novel commercial undertaking (Low & Macmillan, 1988; Lumpkin & Dess, 1996);

- the establishment and operation of for-profit corporations as a deliberate endeavor aimed at creating new entities (Cole, 1949; Gartner, 1988);

- the phenomenon in which individuals, whether independently or within organizational contexts, exploit opportunities irrespective of their current resource allocation (Wiklund, 1998);

- the exploitation of an opportunity by creating unique combinations of resources to make a difference in the marketplace (Stevenson & Jarillo, 1990), and

- the last definition is the action of making something of value through the expenditure of one's time and energy to gain some material or psychological reward (Hisrich & Peters, 1989).

The lack of comprehensive and standardized methodologies in entrepreneurship research makes it challenging for academics to compare theoretical frameworks with actual findings (Hägg & Kurczewska, 2021). Moreover, ongoing discussions on the precise meanings of the terms "entrepreneur" and "entrepreneurship" could create ambiguity when evaluating the current state of entrepreneurship education (Gibb, 2007; Henry et al., 2005b). For example, it is essential to be clear whether entrepreneurship is merely an entrepreneurial phenomenon or has a broader application (Gibb, 2002). In this case, Katz and Gartner (1988) indicate that entrepreneurship occurs when an entrepreneur identifies an entrepreneurial opportunity, gathers resources, creates an organization to produce items in the

marketplace, and acts as a commercial entity that actively acknowledges and engages with the broader societal and governmental contexts.

Krueger (2005) added that starting a business involves four major entrepreneurial events. After finding opportunities or developing innovative ideas (Bygrave & Churchill, 1989a, 1989b; Kollmann & Kuckertz, 2006), the entrepreneur implements the long-term goals of the business idea for a profitable business and organizational growth. In this perspective, entrepreneurship is about process-based, interdependent entrepreneurial activities rather than a series of isolated activities.

Various aspects exert influence on the aforementioned entrepreneurial process. It is influenced by many different variables, including external and individual factors, and cultural and workplace variables (Krueger, 2005). The environmental aspects encompass several elements, such as commercial possibilities, sources of inspiration, original inventiveness during the startup stages, and regulatory frameworks. When considering individual variables, it is important to consider achievements, autonomy, and willingness to risk. Nevertheless, an enduring person's unwavering determination and visionary outlook can significantly contribute to advancing their entrepreneurial pursuits, fostering the development of both the individual entrepreneur and the associated firm.

In addition, the entrepreneurial process includes some general components, such as the actual or potential presence of something innovative, the creative thinking of the entrepreneur, uncertainties in the environment, other risks, and the entrepreneur's pursuit of growth (Brazeal & Herbert, 1999). Similarly, Shane and Venkataraman (2000) provide a necessary theoretical foundation for entrepreneurial capabilities by focusing on entrepreneurship as a process. The authors describe entrepreneurship as the finding and executing of entrepreneurial possibilities based on previous understanding, cognitive qualities, potential substance, and personality traits. Entrepreneurs find, assess, and capitalize on prospects.

Baptista and Naia (2015) and several others have also performed empirical investigations to ascertain the characteristics, psychological qualities, and learned skills that impact the decision to pursue entrepreneurship as a profession and the subsequent success of entrepreneurs (see Table 4).

Table 4. Impacting Factors by Individuals Toward the Decision to Purse Entrepreneurship as a Future Career[7]

Psychological trait factors	- tenacity and the endurance of uncertainty (Timmons & Spinelli, 2007), - a desire for independence (Sexton & Bowman, 1984), - compassion and excitement (Ferreira et al., 2017; Shane et al., 2003), - the endurance of disappointment and perseverance (Gompers et al., 2010; Timmons & Spinelli, 2007), - self-assurance and self-esteem (Heinonen, 2007; Soetanto et al., 2010; Toftoy & Jabbour, 2007), - willingness to take risks propensity (Kuratko, 2005; Lüthje & Franke, 2003), - the center of dominance (Brockhaus Sr & Horwitz, 1986; Lüthje & Franke, 2003; Shane et al., 2003), - enthusiasm and accomplishment requisite (Chen et al., 1998; Krueger & Brazeal, 1994), and - proactive actions (Ratten, 2012).
Hereditary factors	- role of parents in nurturing entrepreneurship (Delmar & Davidsson, 2000), - experience gained within a family business (Erkkilä, 2000; Ferreira et al., 2017).
Contextual factors	- current employment frustration (Brockhaus Sr & Horwitz, 1986), - tedious job conditions (Delmar & Davidsson, 2000), - authoritarian institutional environment (Lu, 2010; Shane et al., 2003), and - national governmental and financial uncertainty and difficulty of getting first-time funding (Soetanto et al., 2010).

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[7] Author's formatting, referencing Baptista and Naia (2015)

Social/circumstantial factors	• a need to acquire entrepreneurial skills through work experience (Davidsson et al., 1994; Jo & Lee, 1996) and conventional education (Ferreira et al., 2017), as well as • business networking (Greve, 1995; Ray, 1993; Ronstadt, 1985) and learning from role models (Fry & Cohen, 2009; Soetanto et al., 2010).

In summary, entrepreneurs and entrepreneurship can mean many things to many people. Since the study of entrepreneurship has yet to mature, the word 'entrepreneurship' refers to a wide range of investigative endeavors (Shane & Venkataraman, 2000). Numerous attempts have also been made to delineate the notion and its scope of investigation (e.g., Davidsson, 2004; Gartner, 2001; Shane & Venkataraman, 2000; Sharma & Chrisman, 1999). A common conception of entrepreneurship is that enterprising individuals (or entrepreneurs) create innovative added-value ventures, i.e., commercial or non-profitable ones (Gartner, 1990). Nevertheless, it is crucial to acknowledge that entrepreneurship inside prevailing companies may not inherently entail the establishment of separate entities (Shane & Venkataraman, 2000). The scope of this phenomenon extends beyond the realm of entrepreneurial individuals to encompass both the potential for entrepreneurship and the interplay between these individuals and the possibilities themselves (Shane, 2003). The essence of entrepreneurship extends beyond the individuals involved in the process, encompassing the value generated, the external context, the procedural aspects, and the interrelationships among these components over time (Bruyat & Julien, 2001).

2.1.1.1 Debates and basic elements

Entrepreneurship has a longstanding history, and entrepreneurship research has grown dramatically in popularity over the previous decade (Kuratko, 2003). Several studies have found that entrepreneurship is the major motor of most nations' economies and societies (Acs, 1992; Brock & Evans, 1989; Carree & Thurik, 2010). The term is widely recognized as a critical mechanism for navigating the changing competitive environment in modern times (Hitt & Reed, 2000) owing to its beneficial

outcomes on both the larger scale of a country's economic progress and the smaller scale of personal contentment and accomplishment (Anderson et al., 1998; Birch, 1979).

Recent studies show an increasing trend toward developing educational programs that encourage entrepreneurship, consistent with advances in the field (Solomon et al., 2002). Others reported a substantial rise in the need for instructors specializing in entrepreneurship over the past ten years and emphasized the growing significance of education in fostering the attitude and competencies required for successful entrepreneurship in recent decades (e.g., Baptista & Naia, 2015; Finkle et al., 2001; Mitra and Manimala, 2008). Furthermore, the proliferation of the 'entrepreneurial environment' (Keat & Abercrombie, 1991) has generated scholarly attention to supporting this new focus, calling for in-depth research on the characteristics, functions, and features that define entrepreneurs, particularly in the field of education.

For instance, the teachability of entrepreneurship is widely accepted among researchers, leaving little room for argument (see Drucker, 2014; Gorman et al., 1997; Kuratko, 2005). Also, Gibb (2005) emphasizes the significance of entrepreneurship education, highlighting that adopting entrepreneurial perspectives and actions is a paramount and individualized voluntary decision. Thus, the question is not whether learning entrepreneurial skills is possible but whether effective approaches, environments, and techniques for instructing entrepreneurship are required (Baptista & Naia, 2015). Education, especially higher education, should promote entrepreneurial attitudes when a person starts a business (Ducheneaut & Bellotti, 2001). It can be implied that numerous arguments have emerged about many issues in the field.

For instance, Winch and Gingell (2004) explained that educational concepts prepare students for life, while conceptualizations concerns that life preparation itself. In addition, educational concepts are more complex and value-based since they tackle the intricate dynamics of socioeconomic, corporate, and personal perspectives on

higher learning. The questions of "which aspects are significant, which individuals are concerned about, and for what motives" (Winch & Gingell, 2004, p. 186) are equivalent to the argument that pedagogical concepts and conceptualizations can be applied differently to entrepreneurship education.

Examining entrepreneurial education and its significance constitutes a fundamental component of this inquiry (Hägg & Kurczewska, 2021). Divergent perspectives on entrepreneurship education may exist among politicians, corporate leaders, parents, educators, and pupils, with varying notions of its worth, timing, and implementation. The goal of higher learning is inherently non-neutral, as it is shaped by the values held by those individuals who establish its objectives. In order to comprehend the intricacy of the subject matter, it is imperative to consider several dimensions, such as society, religion, liberty, morality, and authority. Entrepreneurship education must have a goal and purpose about what, for whom, and who decides (Hannon, 2006). Thus, several concepts question the broader functions of entrepreneurship teachers in the context of students' learning.

The theoretical advancements in the discipline have given rise to concepts that are not fully developed or well thought out (Winch & Gingell, 2004). The concepts encompassed in this discussion are student traits and preparedness, conduct and mental abilities, ethnicity and authority influence, occupation and career growth, and student self-worth (Hannon, 2006). Some of these terms are discussed later in the section on data analysis:

- the entrepreneurial characteristics, behaviors, and perhaps perceptions of students in their learning process;
- the pedagogy used in entrepreneurship education at the college level, and
- how to adapt the teaching methodology of entrepreneurship, which is very well known in the West, to the Eastern educational culture across cultures, for example, in this thesis' case.

Overall, the discipline has presented educators with numerous issues to consider. Consequently, they should know the current studies, ongoing discussions, and

potential regulatory and practical consequences associated with entrepreneurship education in colleges and universities. Brockhaus (1994) insists that teaching individuals the art of entrepreneurship resembles instructing individuals to become creative. One may not become the actual Van Gogh, yet his artistic abilities can be honed via color theory and composition instruction. Similarly, one cannot make a person into another Richard Branson or Elon Musk, but entrepreneurship education can enhance the skills and creativity needed to succeed. The following section examines the vast literature on concepts in entrepreneurship education, i.e., definitions, categories, teaching contents and methods, the heterogenous feature, and the expected student competencies arising from obtaining entrepreneurship education.

2.1.1.1 1 Definitions

The complexity of comparing entrepreneurial education is compounded by the limited applicability of study outcomes and the disparity in objectives and interpretations connected with the terminology used to characterize educational programs and endeavors (Baptista and Naia, 2015). The literature and practice surrounding the terms 'entrepreneurship,' 'enterprise,' and 'small business' might benefit from increased clarification (Alberti, 1999). Although the general disputes on these topics have been previously addressed, further clarification is necessary.

Entrepreneurship education can be interpreted in a variety of ways. Tomcyzk et al. (2016) state that entrepreneurship education primarily focuses on cultivating specific personal attributes rather than solely emphasizing the initiation of new company ventures. However, Fayolle and Gailly (2008) argue that its impact is mostly shaped by the range of definitions of entrepreneurship rather than by the requirement for cohesive philosophical principles about instruction, the instructor's function, and the student's role. Baptista and Naia (2015) further imply that the differentiation between entrepreneurship and business education requires the presence of an underlying philosophical framework. The former entity can generate a wider range of strategies, leverage prevailing circumstances, and execute extensive measures in

response. In this vein, Katz and Green (2009) postulate that entrepreneurship is a systematic operation that generates economic value through ideas. The process encompasses the conception of a novel concept, its subsequent conversion into a commercial venture, and the subsequent reception and adoption by the market. It is suggested that a thorough entrepreneurial education should prioritize examining the 'what' and 'so what' dimensions (Katz & Green, 2009, p.15). This entails the significance of addressing the business initiating methods, the rationale for its importance, and the implications associated with commencing a commercial venture.

In this scenario, the diverse discourses around entrepreneurship education can give rise to perplexity, intricacy, and disorder. Categorizing the many methodologies comprising the majority of entrepreneurship education proves advantageous. One classification scheme identifies four different methodologies (Hannon, 2005):

- *The process undergoes concentration*. An educational approach centered on entrepreneurship significantly emphasizes comprehending and cultivating the foundational abilities that support entrepreneurial mindsets and are associated with modes of action, execution, perception, and conduct.

- *A focus on customer satisfaction and meeting customer needs*. A customer orientation emphasizes particular target demographics of learners. This initiative aims to facilitate the pairing of learners with common attributes, including their objectives, prior experience, professional standing, academic field, proficiency in information technology, volatility and complexity within their sector or market, and personal circumstances.

- *A focus on achieving desired results or outcomes*. Emphasizing outcomes encourages the examination of students' desired outcomes and ambitions. The concept in question exhibits a strong correlation with the notion of prioritizing customer satisfaction. This focus encompasses the significance of entrepreneurial education in facilitating commercializing results from research and novel information, hence generating additional capital.

- *The central point of attention*. This inquiry examines the wider impact of entrepreneurship education in developing and facilitating prospective social and economic landscapes. The field of entrepreneurship presents novel

prospects for both individuals and organizations, while education catalyzes driving transformative shifts.

Based on the distinctions mentioned above, the definition of entrepreneurial education is most appropriately determined within a specific situation. In the extant literature, there is a variation in the terminology employed (Hannon, 2005). The terms "enterprise" and "entrepreneurship education" are commonly used within the domain. The former is predominantly recognized within the United Kingdom, where the term is closely related to "personal development," which refers to enhancing one's skills and talents. In the United States, it is worth noting that the latter terminology is specifically centered around initiating a business venture and pursuing self-employment (Erkkilä, 2000; Mahiu, 2006; QAA, 2012).

Because of this rationale, the concept becomes more lucid, lacks feasibility, and may result in potential misinterpretation. As such, Erkkilä (2000) has attempted to emphasize the more inclusive term' entrepreneurial education' as a unifying concept encompassing enterprise and entrepreneurship education. Similarly, researchers from Northern and Eastern Europe have proposed further terminology. In Sweden and the Balkans, the concept of entrepreneurial learning is considered synonymous with entrepreneurship education, as evidenced by the works of Leffler and Falk-Lundqvist (2014) and Ljubić et al. (2013). The present scenario can be occasionally perplexing due to the utilization of identical terminology of entrepreneurial learning, which investigates the process by which entrepreneurs acquire knowledge and skills beyond the confines of formal education (Lackéus, 2014a). In Finland, there is a concept known as internal and external entrepreneurship education, as discussed by Seikkula-Leino et al. (2010). The former is akin to enterprise education, whereas the other form can be synonymous with entrepreneurship education. In contrast, the latter is occasionally synonymous with intrapreneurship, which refers to the entrepreneurial behavior exhibited by individuals within an organizational setting (e.g., Burgelman, 1983).

This thesis employs the term "entrepreneurship education" to denote the learning process in which entrepreneurs engage with their surroundings and generate value via their endeavors. This idea pertains to the theoretical constructs, practical abilities, and cognitive consciousness or perspective individuals employ when focusing on development enterprises (Fiet, 2001a). As Lackéus (2014a) highlighted, entrepreneurship should encompass the essential elements of knowledge acquisition and value creation, transforming into the central objectives of learners pursuing this form of education.

2.1.1.1.2 Objectives

Numerous types of research have differed in their descriptions of the objectives of entrepreneurship education and have primarily supported a narrow definition of entrepreneurship (see, e.g., Béchard & Toulouse, 1998; Jones & English, 2004; Vesper & McMullan, 1988). The most commonly desired outcome of such education is economic benefits brought about if and when students create lucrative organizations that are growing and creating jobs for economic growth (Wong et al., 2005). Entrepreneurship education is usually viewed as a reaction to a more global and complicated world, which demands entrepreneurial competencies from individuals and entities (Gibb, 2002). This concept is connected to the entrepreneurship "conventional meaning of new-venture creation" (Kirby, 2006, p. 600). Béchard and Toulouse (1998) are among the advocates who support the limited interpretation of entrepreneurship education. They define it as a structured curriculum that imparts knowledge, skills, and training to individuals seeking to initiate or enhance startup ventures. Jones and English (2004) further stated that "an educational process is required for individuals who can recognize entrepreneurial possibilities and possess the requisite abilities and bravery to seek them actively" (p. 416). Instructing individuals in entrepreneurship is expected to yield a wider range of concepts on "effectively utilizing entrepreneurial capabilities and developing a more all-encompassing strategy for implementing and establishing a novel business endeavor" (Vesper & McMullan, 1988, p.9).

Nevertheless, a body of thinkers opposes the traditional model of entrepreneurial education. Prior research endeavors have used a more comprehensive conceptualization of entrepreneurship, for example, the potential outcomes of student involvement and societal value creation (Moberg, 2014; Nakkula et al., 2004), the alleged importance, commitment, and enthusiasm of students and employees in educational settings (Surlemont, 2007), and in professional environments (Amabile & Kramer, 2011). According to West et al. (2009), other goals, such as the formation of a cognitive and cultural-entrepreneurial community, are as important as the economic value of entrepreneurship education.

Moreover, entrepreneurship education is recognized as having a far stronger correlation and being of greater significance to the educational objectives of college faculties, such as, Gibb (2007). He suggested a more comprehensive framework for entrepreneurial behaviors and education. This framework aims to cultivate specific individual traits, with a subsequent emphasis on establishing new ventures. The comprehensive scope of this approach will equip learners with the necessary abilities that may be applied across various contexts. Some argue, however, that the overarching goal of entrepreneurship education inhibits the ability to provide students with more inventive roles in the local, regional, and worldwide economy (Black et al., 2003).

All in all, combining individual advantages and communal anticipations may contribute to the diverse objectives of entrepreneurship education. For example, Hills (1988) surveyed the 15 leading entrepreneurship instructors in the United States, concluding that entrepreneurship education encompasses two main goals. The primary objectives are (a) to enhance knowledge and comprehension about initiating and managing new enterprises while concurrently (b) fostering students' recognition of ownership of small companies as a viable career path. Similarly, Kourilsky (1995) and Cox (1996) propose that the fundamental objectives of entrepreneurship education ought to be centered around fostering students' self-efficacy and dedication toward embarking on entrepreneurial endeavors and establishing novel enterprises. Additional objectives of entrepreneurship education have been

identified in several studies (Henry et al., 2005b; Hisrich & Peters, 1998; Roach, 1999), such as:

- to comprehensively comprehend the merits and demerits of both emerging and established enterprises,
- to ascertain, assess, and implement potential business prospects to foster and maintain the growth of the enterprise.

Similarly, Garavan and O'Cinneide (1994) contend that the primary objective of entrepreneurship education extends beyond the mere establishment of new enterprises. While assessing six entrepreneurial initiatives implemented across five European nations, the researchers identified additional aims that were pursued alongside the primary goals. For instance:

- promoting entrepreneurial activity, perspective, and competencies;
- mitigating the conservative inclination commonly observed in analytical approaches;
- fostering the advancement of empathy and other skills related to entrepreneurship and
- cultivating a flexible mindset toward creativity and individual growth in the context of entrepreneurial awareness.

Kuratko (2005) contends that the objectives of entrepreneurship education today should differ from those of traditional business education and that contemporary entrepreneurship education should encompass multiple elements, such as the changing dynamics of the corporate landscape, the concept of venture capital, and the safeguarding of ideas. Additionally, the integration of skill-enhancement components, such as bargaining, authority, innovative thought, and technological innovations, is emphasized. Furthermore, the cultivation of an understanding of entrepreneurial vocations, traits commonly found in accomplished entrepreneurs, and the cultivation of risk tolerance and an appreciation for challenges are also highlighted. Fayolle and Gailly (2008) and Mwasalwiba (2010) assert that the primary objective of entrepreneurship education should be to cultivate an entrepreneurial mindset, inspiration, and cultural orientation within individuals and the broader

community. It should strive to equip individuals with requisite entrepreneurial competencies, facilitate the emergence of a greater number of local entrepreneurs, and bolster the overall significance of entrepreneurship within the community.

In conclusion, incorporating the wider objective of entrepreneurship education is fundamental in the current era of a knowledge-creation-oriented economy. It promotes a crucial part in addressing significant world problems to cultivate unconventional solutions and generate value at the individual, workplace, and social levels (Austin et al., 2006; Lackéus, 2014b; Rae, 2010; Volkmann et al., 2009).

2.1.1.1.3 Categories

Several studies have identified different typological forms of entrepreneurship education. These forms include education "about," "for," "by," and education "embedded" in entrepreneurship (Gibb, 2002; Handscombe et al., 2008; Pittaway, 2009; Pittaway & Cope, 2007a; Pittaway & Edwards, 2012).

According to Mwasalwiba (2010), entrepreneurship education's "about" style is widely recognized as the most prevalent form. This category employs predominantly conventional educational methods and didactic methodologies, which are often teacher-oriented in nature. The major goals of this style of education are to enhance students' comprehension of entrepreneurship, facilitate the dissemination of knowledge, and foster a comprehensive grasp of this issue. This specific mode of education is commonly implemented as part of the framework of theory-driven programs (Pittaway & Hannon, 2008).

The "for" type of entrepreneurship education is the second most prevalent. Various methodologies have successfully helped entrepreneurs carry out tasks, activities, and projects, facilitating the acquisition of essential skills and competencies (Mcmullan & Long, 1987; Solomon et al., 2002; Vesper & McMullan, 1988). This type refers to deliberate efforts to give learners the abilities and understanding they need to start their businesses in their careers (Gibb, 2002; Pittaway & Edwards, 2012). Examples

of immersive, exploratory, and project-based approaches are a business concept competition, accounting or commercial scenarios, and simulations on computers (Brawer, 1997; Gorman et al., 1997). The pedagogy of teaching "for" entrepreneurship involves employing a process- and experience-oriented methodology in which students engage in a practical learning experience that simulates the entrepreneurial journey (Kyrö, 2008). In contrast to the "through" type, this approach provides a secure environment in which students can develop entrepreneurial skills and knowledge (Hills, 1988; Truell et al., 1998). The approaches known as "about" and "for" are generally applicable to most secondary and college students (Handscombe et al., 2008; Smith et al., 2006).

The "through" method, as proposed by Pittaway and Edwards (2012), calls for a more comprehensive understanding of entrepreneurship. This approach suggests that entrepreneurial qualities, procedures, and encounters can be effectively included in other academic courses by building links to the principal topic. This strategy strongly emphasizes experiential learning (Pittaway & Cope, 2007b), which corresponds to learners actively participating in real-world business activities or assisting businesses (Gibb, 2002; Solomon et al., 2002).

The final category pertains to the "embedded" or "in" manifestation of entrepreneurship education. Both the "through" and "embedded" types may have wider applicability across various stages of learning and to a wider range of learners (Lackéus, 2014a). In particular, the "Embedded" or "In" type allows for immersion in non-business courses covering a wide range of disciplines (Handscombe et al., 2008; Kuratko, 2005; Solomon et al., 2002). One possibility would be to teach science students about intellectual property and technology transfer from science to actual business (Pittaway & Edwards, 2012). The objective is to provide non-business students with entrepreneurial awareness and experience within their field so that entrepreneurship could be more relevant to their area of interest (Pittaway & Edwards, 2012). However, embedding entrepreneurship into non-business education inevitably faces challenges, such as time and resource restrictions, lack of enthusiasm from educators, and assessment and cost-related issues (Smith et al., 2006).

There is also an ongoing debate regarding how entrepreneurship may be differentiated from educational classifications. For instance, Dreisler and Nielsen (2003) argue that there is ambiguity surrounding the differentiation between teaching "about" and "for." Education of entrepreneurship encompasses all facets of those two tiers. Therefore, during the initial stages of an entrepreneurship course or initiative, the learners typically receive instruction on entrepreneurial knowledge and theories, which mostly involve education on the subject matter (i.e., teaching 'about'). As education advances, students increasingly understand sophisticated entrepreneurial tactics and inventions. They are provided with opportunities to apply and refine their entrepreneurial abilities (i.e., teaching 'for'), which are also encompassed within the framework of entrepreneurship education.

In addition, Garavan and O'Cinneide (1994) proposed a framework consisting of four more extended tiers of entrepreneurship education. These tiers include:

1. fostering an understanding of small business,

2. providing education and coaching for SMEs,

3. imparting entrepreneurial knowledge, and

4. offering training tailored for small business endeavors.

The primary distinction within the above categorization lies between training and schooling in entrepreneurship and education and certification in small company operations (Garavan & O'Cinneide, 1994). The initial stage of consciousness is similar to entrepreneurial education, whose primary objective is to provide pupils with fundamental concepts and ideas. The second tier of small business education provides students with the information and abilities necessary to launch a new company venture. This level of education is specifically designed for individuals interested in becoming small business owners rather than seeking work in established organizations. In the third level, entrepreneurial education surpasses the second level in scope and relevance to small business owners. The major goal of this program is to assist persons with the necessary ability and talents to start a small-scale business. It also strives to impart theoretical concepts, practical methodologies,

and innovative strategies that enable students to establish themselves and thrive in their entrepreneurial endeavors. The final course offered is a conventional business course designed for mature students seeking to enhance their entrepreneurial competencies.

Another category by Liñán (2004) provided a comprehensive overview of the various stages of entrepreneurship education. These levels encompass a spectrum that begins with basic courses aimed at familiarizing individuals with the concept of entrepreneurship and progresses to more complex programs designed to enhance the capabilities of experienced entrepreneurs. There are four distinct stages of entrepreneurship education, namely:

1. education focused on fostering entrepreneurial perception,
2. education centered around startup development,
3. education emphasizing the understanding of entrepreneurial circumstances, and
4. education specifically designed for entrepreneurs to cultivate entrepreneurship skills and knowledge.

Education focused on fostering entrepreneurial perception. The principal aim of entrepreneurship education is "to augment participants' comprehension and awareness of small companies, self-employment, and entrepreneurship, encouraging them to perceive these options as viable and feasible" (Liñán, 2004, p.10). Consequently, the primary focus of this educational level does not lie in the quantification of entrepreneurial ventures initiated by students upon the culmination of the entrepreneurship curriculum or program. Instead, students are instructed in acquiring entrepreneurial knowledge and abilities while simultaneously fostering the development of their entrepreneurship mindsets and objectives.

Liñán posits that collegiate entrepreneurship courses can be educational endeavors to foster entrepreneurial understanding. These courses are typically provided within economics, engineering, social and behavioral sciences, and artistic fields. The primary emphasis of awareness education should be on fundamental entrepreneurial

skills and knowledge, as well as developing an extensive awareness of the ideals and significance of entrepreneurship. It should also provide opportunities for individuals to engage with entrepreneurs or others in the industry to gain practical insights and experiences. In the context of the educational process, it is not the objective of professors or instructors to transform students into aspiring entrepreneurs upon the conclusion of a course. Nevertheless, their primary objective is cultivating the students' enthusiasm for business and fostering their long-term commitment to pursuing entrepreneurial endeavors. This type of entrepreneurial knowledge course may be appropriate for inclusion in a variety of college curricula.

Education centered around startup development. Education for prospective entrepreneurs entails providing students with the necessary training to initiate and establish their company ventures (Liñán, 2004). In contrast to developing awareness, which involves familiarizing learners with basic knowledge, individuals engaging in courses or programs tailored for startups typically have a strong intrinsic drive and enthusiasm toward entrepreneurship. Individuals are often strongly inclined toward acquiring further knowledge in entrepreneurship. Liñán further explains that the admission procedures for company startup courses heavily emphasize candidates having established their business concepts. Therefore, it may be argued that company startup courses positively impact individuals' entrepreneurial inclinations, ultimately facilitating the initiation of new business ventures. Business starter training courses frequently draw in those with strong drive and motivation to initiate business ventures. The courses primarily emphasize the pragmatic aspects associated with initiating a business venture. Business starting training would primarily emphasize the practical and specialized elements associated with the initial phase of establishing a business. These elements encompass financing, marketing concerns, legal obligations, tax considerations, and other essential actions that are indispensable for commencing a new business venture.

Furthermore, businesses must begin training programs to cultivate the aptitude of participants in discerning entrepreneurial prospects and determining the optimal moment to initiate business operations. This concept entails accurately identifying

the most favorable circumstances for commencing a business venture. Consequently, individuals are encouraged to embark on entrepreneurial endeavors at this stage of their educational journey. Entrepreneurial training at this level encompasses business launch programs and initiatives designed to assist participants in establishing their firms (Jamieson, 1984).

Education emphasizes the understanding of entrepreneurial circumstances. Educational programs designed to foster entrepreneurial dynamism have surpassed earlier educational initiatives aimed at supporting businesses. This particular educational level fosters the development of entrepreneurial behaviors after establishing a new business. Consequently, individuals enrolled in this educational tier typically have prior entrepreneurial experience (Liñán, 2004).

The objective of active coaching is to facilitate the expansion and prospective advancement of the organization. This training program emphasizes developing members' entrepreneurial skills and purpose to foster innovative attitudes in the operation of their firms. According to Jamieson (1984), it is anticipated that participants would cultivate a repertoire of abilities, expertise, and views, enabling them to proactively design their future and effectively address any challenges that may arise in the ongoing operations of their businesses. This degree of education is commonly recognized as a comprehensive business education program, encompassing several aspects connected to a company, such as leadership enhancement, growth development, and the creation of novel products and commercialization.

Education specifically designed for entrepreneurs to cultivate entrepreneurship skills and knowledge. This form of ongoing education is the culminating phase of entrepreneurial education after establishing and first expanding a business venture (Liñán, 2004). The program resembles conventional adult education, focusing on entrepreneurship and enhancing existing entrepreneurial and managerial competencies. Hence, Liñán argues that individuals in this educational tier typically consist of entrepreneurs seeking to rejuvenate their cognitive processes and enhance

their entrepreneurial competencies. This educational program should prioritize the acquisition of contemporary entrepreneurial conceptions and skills, fostering interpersonal connections among participants, providing training in innovation, and facilitating the exchange of information and ideas. One example of entrepreneurial education at this level is the provision of single-day programs and conferences in business schools (Garavan & O'Cinneide, 1994).

In practical application, the primary difficulty is enticing seasoned entrepreneurs to participate in these programs. Entrepreneurs have a practical inclination and a preference for hands-on training. Entrepreneurship education's educational material and activities are designed to be intellectually stimulating and assist entrepreneurs in addressing business challenges. Educators may consider promoting this level of learning in company startups or dynamic programs to recruit participants because individuals who have been through both forms of education may possess "a higher degree of receptiveness toward further learning" (Liñán, 2004, p.12).

2.1.1.1.4 Teaching contents

A range of perspectives regarding instructional approaches for entrepreneurship education in the existing research of the field have led to a perceived need for increased consistency in offering entrepreneurship educational programs (see Solomon et al., 2002). Some studies even argue that the lack of entrepreneurship education discourse could be attributed to the prevalence of adjunct or 'expert' teachers (Menzies & Paradi, 2003; Sexton & Bowman, 1984). Other studies propose that the entrepreneurship education curriculum must accord priority to examining and exploring entrepreneurial ideas and concepts since they are beneficial in enhancing cognitive skills in learners (Fiet, 2001a, 2001b). However, alternative perspectives have been put forward by scholars such as Hostager & Decker (1999), Ireland et al. (2001), and Johannisson et al. (1998), who contend that educational techniques emphasizing practical experience and active engagement are more effective than other instructional methods. Anderson and Jack (2008) also believe

that entrepreneurship education must prioritize incorporating both theoretical and hands-on elements.

In particular, Zeithaml and George (1987) suggested that entrepreneurship education needs to encompass the entirety of the business administration field. Block and Stumpf (1990) and Knight (1987) have put forth the notion that entrepreneurship education ought to encompass targeted instruction in the realm of management abilities for businesses. Critical factors of entrepreneurship encompass a range of essential components, such as market assessment and organization, pricing methods, budgeting, administration, staff development, and various theories of management and abilities. These aspects also encompass the discovery of opportunities, formulation of methods, and management of resources. Furthermore, Hood and Young (1993) put forward a comprehensive framework for entrepreneurship education, drawing upon the perspectives of 100 entrepreneurs and corporate executives. This framework encompasses four key dimensions: content, abilities/skills, behavior, and psychological mindset. The content dimension encompasses finance, money management, technological advances, and accounting. The skills/abilities dimension encompasses general management, interaction, and interpersonal communication. The behavior dimension encompasses traits such as creativity and flexible thinking. Lastly, the psychological behavior dimension encompasses qualities such as determination and willingness to take chances.

Nevertheless, previous studies (e.g., Henry et al., 2005a, 2005b; Hindle, 2007; Kuratko, 2005) reveal a consensus among experts that entrepreneurship courses exhibit distinct characteristics compared to conventional business courses. These courses focus on topics such as firm development (Gartner et al., 1992), starting a business, and the context of manufacturing (Binks et al., 2006). Specifically, McMullan and Long (1987) state that several stages can characterize the process of entrepreneurship. Consequently, entrepreneurship education must encompass these stages' requisite information and abilities. Based on this, Gartner and Vesper (1994) asserted that the abilities and knowledge possessed by startup entrepreneurs are distinct from those often found in mainstream corporate management. Gibb

(1993) underscored the inappropriateness of integrating the complete business course into entrepreneurship education when contrasting their different learning emphasis.

Accordingly, Kuratko (2003) proposed modifications to the course curriculum. There is a need for improvement in the curricula/programs normally taught in business schools, which focus on cultivating entrepreneurial abilities, attributes, and activities (Rae, 1997). Jack and Anderson (1999) also argue that entrepreneurship education imparts a comprehensive set of managerial competencies, encompassing multidimensional abilities alongside fostering creativity and invention abilities. These skills are essential for effectively navigating the intricate landscape of entrepreneurial endeavors characterized by inherent uncertainties and dangers. The proposal entails the incorporation of specialized modules aimed at cultivating proficiencies in interpersonal interaction, innovation, intellect, governance, bargaining, solutions, interaction with others, and time organization. Fiet (2001a) further underlines that an alternative viewpoint needs to be proposed as adjustments to the existing entrepreneurship education course content. An effective entrepreneurship education necessitates a departure from theoretical approaches. Given the practicality of comprehending the expenses of initiating a new venture, prospective business owners must acquire theoretical knowledge.

Lastly, several additional scholars have proposed adequately priming individuals for their respective experimental environments. For example, Root and Gall (1981) underlined the need to foster an independent attitude among students beyond the confines of the conventional classroom setting. Rice (1985) emphasized the progression of psychological attributes linked to entrepreneurship, including fostering principles and beliefs that enable learners to navigate unpredictability and risk situations effectively. Souitaris et al. (2007) emphasized cultivating encouragement, namely the psychological component, among students from implementing entrepreneurship courses. Shepherd (2003, 2004) also stressed the need to teach students of entrepreneurship the right mindset and the lessons that come from experiencing setbacks.

The debate over the content of entrepreneurship education is inextricably linked to the debate over the people in charge of transferring entrepreneurial expertise. A significant number of educators in entrepreneurship either originate from different business administration fields or serve as adjuncts. Consequently, they may lack expertise in entrepreneurship research but prioritize entrepreneurial coaching and practical applications. This greater familiarity with practical applications rather than theoretical concepts makes adjuncts less effective at teaching theory-driven topics than academics (Fiet, 2001a).

Given the need for teaching theory-driven content, the necessity for tenure-track professor positions in the field of entrepreneurship is widely acknowledged (Katz, 2003). This would help legitimize the profession and enhance teaching since only academically qualified and experienced individuals possess the requisite expertise to effectively teach the appropriate topics (Kroon and Meyer, 2001).

In the following section, we address pedagogical approaches arising from current debates.

2.1.1.1.5 Teaching methods

Within the body of extant literature, a variety of implementation tactics for entrepreneurship education programs have been found; however, little is known about the effectiveness of teachers' pedagogical strategies in entrepreneurship (Brockhaus et al., 2001). Furthermore, the demand for college graduates with entrepreneurial abilities is rising, necessitating further research and comprehension of entrepreneurship education (Kirby, 2002).

In the past, the main emphasis of entrepreneurship education was on giving students hands-on experience starting and running new businesses. This concept is consistent with Ronstadt's (1990) assertion that entrepreneurial decision-making is vital, particularly given the unstructured and unpredictable character of business

situations. Individual students are expected to provide a "novel approach within contexts characterized by unpredictability and uncertainty" in unorganized entrepreneurship courses, according to Sexton & Bowman (1984, p.24), who argue that the significance of individual actions exceeds that of group activities, particularly in the context of personal decision-making.

Collins et al. (2004), on the other hand, recommended using strategies that promote student collaboration. Co & Mitchell (2006) clarified that it is crucial to evaluate the efficacy of different instructional approaches in achieving targeted learning outcomes based on a variety of teaching approaches. Using cooperative learning strategies, such as role-playing and business simulations, is advised to help students use their analytical reasoning and cooperative decision-making skills.

Conventional instructional approaches are widely favored in entrepreneurship education (Solomon et al.,2002). However, some academics have voiced their distaste for traditional methods and pushed for a change in entrepreneurship education that places more of an emphasis on innovative thinking and practical application (e.g., Davies & Gibb, 1991; Hartshorn & Hannon, 1999; Mwasalwiba, 2010). Those scholars believe a more suitable approach for instructing entrepreneurship would involve prioritizing unconventional strategies emphasizing theories and fundamentals. They further argued that a more hands-on approach to learning should be used, wherein instructors assume the role of advisers or trainers. The notion presented is substantiated by Young and Sexton (1997), who contend that the provision of entrepreneurial education necessitates immersive and practical learning settings, which are challenging to attain using conventional instructional methods. However, Shepherd and Douglas (1997) criticize contemporary entrepreneurship methodologies that involve scenarios, role-playing simulations, and figuring out solutions, asserting that these approaches primarily facilitate the logical transfer of knowledge rather than foster creative or entrepreneurial learning.

Several researchers (e.g., Hanke et al., 2005; Wee, 2004) have also proposed using problem-based instruction as an effective approach to entrepreneurship education.

This pedagogical method emphasizes an atmosphere of learner-oriented learning. Other scholars have suggested the utilization of the project-based approach in entrepreneurship education (e.g., Gartner & Vesper, 1994; Vesper & McMullan, 1988), including the inclusion of company proposal crafting (Honig, 2004; Upton et al., 2002), hands-on instruction (Mitchell & Chesteen, 1995), in addition to the exhibition-based approach (Theroux & Kilbane, 2004).

Furthermore, Mcmullan and Boberg (1991) found that applying the case-based reasoning technique aided in the improvement of cognitive skills and the integration of knowledge. This concept was realized by contrasting the case-based and project-centered methods of instruction. On the other hand, a project-based technique proved beneficial for cultivating knowledge and comprehension of entrepreneurship and analyzing potential company prospects. According to its proponents, the project-based method is more suited for teaching entrepreneurship. Peterson and Ronstadt (1987) proposed integrating several instructional approaches, such as seminars, case investigations, and practicality plans. This recommendation stems from the recognition that a blend of organized and unregulated elements characterizes the nature of an entrepreneurship course.

The World Economic Forum "Educating the Next Wave of Entrepreneurs" 2009 provides a synopsis elucidating critical pedagogical strategies for imparting entrepreneurial knowledge (as cited in Rogers and Hewson, 2016). The report emphasizes revising the conventional teaching methods to accommodate interactive, focused projects and diverse and dynamic techniques deemed indispensable for effective entrepreneurial education. It further asserts that cultivating advanced thinking abilities is imperative for all young individuals and emphasizes the significance of concerted efforts toward achieving this objective.

Contemporary entrepreneurship education can encompass a broader range of instructional methods beyond conventional approaches such as lectures, presentations, and similar approaches. It is also argued that book-based learning and instructional approaches are more beneficial in promoting student advancement

within the field (Dutta et al., 2010). There is a need for a shift in educational techniques from conventional to contemporary approaches. The instruction program of successful adolescent entrepreneurship programs typically includes well-defined learning goals that are aligned with textbook subjects. These programs commonly incorporate pre- and post- testing procedures and evaluations to evaluate the students' progress. Additionally, these courses frequently occur in non-traditional educational settings, as supported by Tomcyzk et al. (2016) and Tung (2011), such as:

- online simulated technological device learning methods (Brawer, 1997; Cooper, 2007);

- action-oriented simulated approach (Stumpf et al., 1991);

- meeting entrepreneurs, live discussions, and observation (Solomon et al., 1994);

- live-story case and approach (Rae & Carswell, 2000; Gartner & Vesper, 1994);

- mentoring and coaching (Robinson & Haynes, 1991), excursion (Klatt, 1988); also

- creation of student videos/films showing actual entrepreneurship conditions (Verduijn & Berglund, 2020) has also been explored in academic contexts.

Furthermore, the most effective entrepreneurship education efforts have recently featured the participation of businesspeople and other business experts as voluntary counselors, mentors, and trainers (see e.g., Amalia & von Korflesch, 2021a, 2021c). Mentors and coaches significantly impact the process of students establishing businesses (Tomcyzk et al., 2016). Also, prospective new entrepreneurs must be allowed to acquire thorough education and adequate guidance.

2.1.1.1.6 Heterogeneity and expected competencies of audiences

In the past, entrepreneurship education has primarily concentrated on individuals involved in the management and ownership of small businesses (Kyrö, 2008). However, it is important to note that these two related ideas possess distinct characteristics (Alberti et al., 2004). Individuals seeking to launch new companies as independent entities or within the framework of established corporations must

develop entrepreneurial understanding and competencies. However, this strategy only improves the management of small businesses. Today's entrepreneurship education should include a wide range of people, from those without formal education to Ph.D. students and from those living in wealthy countries to underprivileged areas (Brockhaus et al., 2001).

According to Block and Stumpf (1990), *entrepreneurship* can be defined as the active pursuit of opportunities without being limited by existing resources. They argue that the scope of entrepreneurship education extends far beyond hypothetical business startups, reaching a far wider audience. Entrepreneurship education programs can cater to a diverse range of individuals, including those who are independently employed, owners of small companies, those involved in rapidly growing new businesses, multinational entrepreneurs, dealmakers, chief executive officers, top-level managers, counselors specializing in small and medium-sized enterprises, experts, admirers, and pupils pursuing business-related studies. Thus, segmentation is crucial as it caters to the diverse learning requirements of persons engaged in entrepreneurship education. The division could be assigned to many specific populations at various stages as their features evolve. In light of the expanding demographic of individuals seeking entrepreneurship education, it is imperative to understand the distinct identities, traits, and educational requirements of these many target cohorts. Therefore, instructors must demonstrate attentiveness and responsiveness toward students and consider the prospective beneficiaries of educational programs on entrepreneurship (Block & Stumpf, 1990; Hill, 2003).

Entrepreneurs. The primary demographic often targeted for entrepreneurship education consists of individuals already engaged in entrepreneurial activities and seeking further development in management or entrepreneurship skills. Specifically, following Vesper (1980), various categories of entrepreneurs can be identified:

- autonomous, high-potential new companies characterized by innovation or invention;
- new businesses operating within established companies, known as intrapreneurs;

- self-employed individuals, including professionals such as physicians, attorneys, and accounting firms;

- individuals involved in acquiring and operating businesses;

- individuals engaged in facilitating deals and acting as intermediaries; and

- practitioners focused on turning around struggling businesses.

Individuals may possess diverse origins and exhibit varying goals concerning their prospective entrepreneurial endeavors. Certainly, several elements of entrepreneurship may be applied universally across all professions, such as the methods and approaches employed to acquire information and the preferred learning styles. On the other hand, individual entrepreneurs' knowledge and skill requirements vary.

Executives. Administrators or upper-level executives should cultivate an entrepreneurial mindset that prioritizes recognizing and exploiting opportunities within their workforce (Block & Stumpf, 1990). The learning objectives for these managers encompass acquiring data to enhance their capacity to foster innovation, mitigating obstacles to innovation, training staff in entrepreneurial endeavors, and mitigating conservative tendencies. Furthermore, Mohan-Neill (2001) points out empirical evidence indicating the interest exhibited by major firms in financially supporting graduate degrees in entrepreneurship. This commitment stems from their desire to cultivate a workforce with entrepreneurial skills and knowledge.

Supporters of entrepreneurship. Those who belong to these groups are motivated to foster and promote entrepreneurship within society (Block & Stumpf, 1990). Despite their lack of active engagement in entrepreneurial operations, they can exert influence through their pursuits, perspectives, and behaviors. The instructional requirements in entrepreneurship education encompass cultivating understanding, providing encouragement, enhancing comprehension, and exploring strategies to foster innovation.

Individuals that possess an inclination toward entrepreneurship. These individuals aspire to cultivate their entrepreneurial mindset (Block & Stumpf, 1990). They demonstrate a disposition toward encountering novel circumstances, advocating for change, and displaying adaptability and receptiveness to fresh concepts. The individual's educational goals and ambitions encompass identifying and cultivating entrepreneurial aptitudes and competencies, developing compassion, and assisting entrepreneurial endeavors.

Researchers. Some people possess a desire to engage in the academic study of entrepreneurship. These individuals aim to pursue entrepreneurship as a career path rather than acquiring a comprehensive understanding of the intricacies of entrepreneurship without imminent intentions of applying this information in their professional endeavors. This classification often encompasses those pursuing higher education, undergraduate, and advanced degrees (Block & Stumpf, 1990). There is a recognition among certain individuals of the necessity for the growth of social entrepreneurship, leading them to participate in educational programs aimed at enhancing their understanding of this field.

The provision of entrepreneurship education can foster the development of entrepreneurial mindsets, perspectives, and abilities while also being capable of addressing contemporary phenomena such as brainstorming, initialization ventures, growth, and innovation (Wilson, 2008). Hence, entrepreneurship education must encompass the cultivation of formal knowledge and entrepreneurial abilities alongside the cultivation of human attributes pertinent to entrepreneurship, such as innovation, imagination, willingness to take risks, and commitment (Tomcyzk et al., 2016). In addition to the qualities mentioned earlier, other attributes are commonly associated with successful entrepreneurs:

- ability to figure out solutions, partnerships, communication, self-assurance, and inspiration enables the perception of problems as chances for personal development;
- teamwork and connections require the adaptability to work together with others and acquire new skills; and

- self-assurance and drive encompass the capacity to believe in oneself and engage in crucial distinct and ongoing learning and thinking.

Lackéus (2014b) further defines entrepreneurship abilities as encompassing expertise, abilities, and mindsets that impact an individual's inclination and capability to generate novel value. The provided definition aligns with the academic literature on competencies, including both broad abilities and, specifically, entrepreneurial proficiencies (Fisher et al., 2008; Kraiger et al., 1993; Sánchez, 2011a). This entrepreneurial knowledge encompasses theories and conceptual models, a fundamental understanding of the economics of entrepreneurship, finance, advertising, and related fields, and the self-perception associated with business ownership (Krueger & Brazeal, 1994).

In addition, Fisher et al. (2008) note that entrepreneurial talents encompass the following areas:

- marketing, including market research, market assessment, persuasive techniques for promoting goods or services, and effective interpersonal and communication capabilities;
- managing resources, such as creating organizational and financial plans and optimizing the acquisition and allocation of funding;
- recognizing and capitalizing on entrepreneurial opportunities and translating them into viable products, goods, and services;
- the ability to organize, supervise, inspire others, interact with others, and resolve conflicts within the organization as interpersonal competencies; and
- analytical abilities, which involve goal-setting, prioritization, and maintaining focus.

The entrepreneurial mindset encompasses various attributes, such as enthusiasm, self-esteem, and belief in entrepreneurial abilities (Krueger, 2005, 2007); proactivity, willingness to take risks, and inclination toward invention (Murnieks, 2007; Sánchez, 2011b); also persistence (Cotton, 1991; Markman et al., 2005). Entrepreneurship education is characterized by its ongoing nature, encompassing a range of mindsets,

abilities, and knowledge. This idea necessitates the implementation of specialized pedagogical interventions that effectively foster the acquisition and dissemination of knowledge (Solomon, 2007). There is an imperative for improved organization and definition of the process, suggesting that entrepreneurship pedagogy should align with this feature (Tomcyzk et al., 2016).

Overall, it is implied that the realm of entrepreneurship education would derive advantages from the advancement of studies on entrepreneurship (Fiet, 2001b). Additionally, entrepreneurial action in education might greatly benefit from the contributions of entrepreneurship research (Davidsson, 2002). The field of entrepreneurship research serves as a mediator in the connection between educational experiences in entrepreneurship and entrepreneurial occurrences. Studies offer useful material for educational purposes, particularly concerning the study of entrepreneurship occurrences. Entrepreneurship research derives its subject matter from actual life events, thereby establishing a comprehensive framework that has the potential to yield favorable consequences for people, institutions, and society as a whole. The present state of entrepreneurship education indicates the developmental stage of the investigation's domain. Given the relatively early stage of development in the subject, entrepreneurship education must establish a strong and robust groundwork (Béchard & Grégoire, 2005). In addition, the ongoing discussion regarding entrepreneurship education can be understood as a discourse centered on the interaction between learning and entrepreneurial inquiry (Béchard & Toulouse, 1991; Kyrö, 2008). Hence, the expansion of both aspects is imperative for the advancement of entrepreneurship education. This thesis aims to elucidate the underlying philosophical and theoretical underpinnings that help facilitate the establishment and development of the field.

2.1.2 Theoretical Foundations

This sub-section will thoroughly discuss the theoretical foundations of entrepreneurship education. The discussion consists of historical and philosophical understanding (section 2.1.2.1), learning paradigms in the educational philosophy

(section 2.1.2.2), and constructivism and learning theories related to entrepreneurship education (2.1.2.3).

2.1.2.1 Historical and Philosophical Understandings

According to Hägg and Kurczewska (2021), today's situation holds significant importance in comprehending the principles of didactics and instructional design, the philosophical underpinnings of acquiring knowledge, and the theories surrounding entrepreneurial education. The idea's historical origins may be traced to German educators Wolfgang Ratke (1571-1635) and Johan Amos Comenius (1592-1670, who were instrumental in developing a comprehensive method of instruction known as didactics (didactica). This aimed to administer a more encompassing strategy to education than simply a logic-based approach (Kansanen, 1995). The term "didactics" has come to refer to the process of conveying information in general rather than being restricted to a specific teaching style in connection with pedagogy or teaching techniques. On the other hand, defining the relationship between the natural world and the human mind and the distinction between the mind and the body became central to the positivist tradition of psychology education in America. Bowen (1985) also explained that the emergence of education as a commitment and the formation of human capital can be attributed to empirical positivism during the first decades of 1960. During this particular era, entrepreneurship experienced marginalization, with the scientific discussion on the two types of theories being predominantly controlled by equilibrium theories. Additionally, positivism held a respected scientific status. The influence of these changes in mainland Europe and America is reflected in the way pedagogy and didactics are used today (Hägg & Kurczewska, 2021).

The term 'didactics' is widely employed, particularly in Central European and Nordic nations (Bowen, 1985). In contrast, integrating didactics and instructional psychology as distinct subjects within the pedagogical domain is rare in English- and French-speaking nations. However, this distinction is particularly evident in the German system of schooling. Kansanen (1995) claimed that the concept of 'didactics' in Germany and other Nordic nations has historically encompassed philosophical

contemplation, theoretical analysis, and the development of philosophical frameworks.

In contrast, Kyrö (2018) argue that the situation in the United States exhibits notable distinctions. Within the American teaching pedagogy literature, the challenges associated with instructing and learning are commonly categorized into distinct groups. Methodological issues are being addressed. At the philosophical level, the development of conceptual frameworks has mostly centered around empirical investigations and their practical implementation. The reason is that the American approach begins with practices and then creates frameworks for instruction (i.e., the 'what' question or teaching) and knowledge acquisition (i.e., the 'how' question or learning) through pedagogy (Kyrö, 2018). The philosophical foundation of learning models that use this approach is more subtly expressed than overtly stated. Understandably, entrepreneurship education needs assistance, considering the presence of conflicting conceptions surrounding the education realm.

The perspectives on education and ideation processes in the English-speaking world and European mainland contexts have given rise to distinct methodologies for developing educational concepts (Kyrö, 2018). The Anglo-American approach to education commences with practical application and develops into pedagogical frameworks for instruction and the knowledge acquisition process. In contrast, the continental method is grounded on a philosophical framework around the development of theoretical models and teaching and learning strategies.

The approach taken to methodology has also significantly influenced the ontological framework axiology or epistemology of investigations and thinking in entrepreneurship education. Researchers (e.g., Audi, 1999) in the field endeavor to ascertain the fundamental and constitutive components of knowledge that underpin the processes of instruction and knowledge acquisition.

- Ontology investigates our conceptualizations of actuality and the mechanisms by which they are formed. Inside the realm of ontology, the inquiry pertains

    to determining what is important inside our reality and the fundamental constituents that define our existence.

- Epistemology pertains to the inquiry into the methods and processes by which knowledge is acquired regarding the nature of reality. Within epistemology, the subject matter pertains to the determination of knowledge that holds value within our reality and the methods and avenues that possess value in acquiring that knowledge.

- Axiology pertains to appreciating existing premises.

All of these approaches prioritize inquiries into the underlying reasons behind learning, ultimately providing insights regarding why it is necessary to study and educate.

Concerning the disparities in education, Kyrö (2018) further elaborated that the continental European perspective initiates by engaging in the discourse surrounding ontological, axiological, and epistemological inquiries. As mentioned earlier, the inquiries pertain to the underlying rationales behind the development of learning theories, namely, encompassing the aspects of what and how. This perspective is the foundation for learning perspectives and developing pedagogy and didactics in learning and teaching. The British-American cultural method of education begins by observing and engaging in practical teaching and learning experiences and subsequently formulates pedagogical models to guide instructional practices. As a result, the British-American approach places significant emphasis on addressing the concerns of 'what' and 'how.'

On the other hand, the European method is rooted in inquiries into the underlying reasons or causes (Hägg & Kurczewska, 2021). Irrespective of the methodology employed, the various aspects encompassed under the 'learning perspective' continue to hold significant importance as a moderating construct in learning. The learning paradigm encompasses the underlying philosophical principles, the pedagogical approaches modified to suit certain contexts, and the methods of instruction.

2.1.2.2 Paradigmas of Learning in the Philosophy of Education

This derivation of learning paradigms in the educational philosophy has consisted of three discussions. First is pragmatism as the major research paradigm or orientation in entrepreneurship education (section 2.2.2.1). The discussion follows behaviorism (section 2.2.2.2) and cognitivism paradigms (section 2.2.2.3). Lastly, constructivism, the newest educational and learning paradigm arguably compatible with entrepreneurship education, will be explained (section 2.2.2.4).

2.2.2.1 Pragmatism – Orientation in Entrepreneurship Education

The legacy of pragmatism, notably Dewey's (1946) contributions, greatly impacted the academic growth and education of entrepreneurship in American society. The ideas expressed by Dewey stressed the critical function of experiential learning in acquiring knowledge. Pragmatism is primarily characterized by its emphasis on usefulness and the quest for truth through scientific inquiry. This philosophical method entails applying theories and ideas that are becoming more apparent and investigating what they signify in practice (Dewey, 1946). The alignment between education in entrepreneurship and a pragmatic mindset emphasized practice as a key source of entrepreneurial knowledge. This inspired research into innovative learning methods that may effectively facilitate forward-thinking education.

Following the Dewey's paradigm, pragmatism constituted an integral component of a broader intellectual movement, sometimes called "educational advancement." An increased emphasis on specialized study currently distinguishes modern learning. As a result, it endeavors to address a larger array of urgent social issues. Traditional education emphasizes acknowledging and appreciating the accomplishments of preceding eras, thereby highlighting their enduring legacy. Progressive education is founded upon the fundamental notion that the global landscape is continuously undergoing dynamic transformations. Hence, it is imperative for the field of education to effectively address and adjust to these evolving circumstances. Through

this strategy, learners can benefit from life opportunities. Progressive education strongly correlates with the principles of democracy, how people develop, a proactive role, and establishing an era of democracy. Progressive educators place significant emphasis on the significance of distinctiveness and independence. Learning can be an ongoing and perpetual process, wherein one experience serves as a stepping stone to the next. As mentioned above, the process exhibits a high degree of individualization and learner-centricity while concurrently being intertwined with a distinct cohort of persons, fostering cooperation and collaboration.

This study employs Kuhn's (1962) conceptualization to delineate the learning paradigm. According to Kuhn, the standard model is pivotal in generating cognitive knowledge. Basic hypotheses, conventional investigations, and established methodologies guide scientific labor and reasoning. Paradigms are conceptual frameworks encompassing philosophical postulates, and these fundamental principles are deeply ingrained in the educational training that equips and authorizes students for professional engagement. Kuhn's paradigmatic framework is fundamentally concerned with the interplay between the ontological framework, axiology, and epistemological theory. The existing body of instructional works on entrepreneurship education has extensively discussed several learning paradigms that have gained recognition. Scholars have extensively explored and documented these paradigms (e.g., Bell & Bell, 2020; Hägg & Kurczewska, 2021; Kyrö, 2018). The three main theoretical frameworks in the field of education are cognitivism, behaviorism, and the theory of constructivism.

2.2.2.1.2 Behaviorism: The Role of Empiricism and Structure in Learning Theories

Behaviorism posits that perceptions of the world and experiences determine knowledge acquisition by drawing from the principles of empiricism (e.g., Huit & Sarvimäki, 1984; Niiniluoto, 1984). The justification for acquiring information within the framework of empiricism is derived from empirical observations (e.g., Boyd, 1999). The prevailing notion that individuals are shaped by their educational experiences leads to their subsequent classification and categorization. Due to the

postulations by Charles Darwin (1809-1882), contemporary discourse has witnessed the inclusion of humans inside the realm of animal classification. Behaviorists assert that establishing a conducive atmosphere for learning is of the utmost importance, as every act of humankind results from previous shaping within the surroundings (Bierema, 2001).

In behaviorism, Hannon (2005) believes that the student was perceived as an entity that could be manipulated, and their reactions were utilized to assess their knowledge acquisition. In the context of empirical evidence, the one who knows might be conceptualized as an entity publicly noticed, with its understanding confined to the visible world. Traditional schooling was structured in the shape of instruction in class and might involve supplemented laboratory studies. The instructor's primary responsibility encompassed directing the content and methodology of learning, posing inquiries and supplying accurate responses, establishing the expected conduct, and fostering individuals who adhered to such behavioral expectations. In this context, the term "learning" is seen as a process that leads to a modification in attitude (Hannon, 2005). This understanding aligns with Beech's 1980 description, as cited in Gibb's (1993) works, that learning is deemed to have occurred after an observable alteration in an individual's conduct.

2.2.2.1.3 Cognitivism – Logical Knowledge and Rationality in Theories of Learning

Between the start of the 20th century and the 1970s, the prevalent notions concerning organization and technical advancement transformed, consequently influencing the individual's perception (Hägg & Kurczewska, 2021; Kyrö, 2018). The concept that the Earth is governed and modified by systematic organization and technological advancements has also been extended to kinship and social structures (Etzioni, 1986; Halsey et al., 1997; Morgan, 2011; Zuboff, 1988). Within the structure of the intellectual framework, a person has traditionally been conceptualized as a component of a system or equipment (Bowen, 1985; Fiske & Taylor, 1991). Under the principles of rationalism, the cognitive paradigm posits that genuine knowledge can be attained through the faculties involving sensibility or logic. There exists a

preexisting truth that does not necessitate empirical validation (Huit & Sarvimäki, 1984; Niiniluoto, 1984). Behaviorism and cognitive philosophy differ in their approaches to learning. Behaviorism emphasizes confirmation of learning through observable physical reactions, whereas the viewpoint of cognition places greater emphasis on the interior mental structures involved in the instruction process.

The process of learning in the past mostly involved extensive memory, followed by the acquisition of substantial amounts of information. This accumulation of knowledge subsequently led to advancements in the organization and structure of content—the emergence of computerized data processing tools and applications correspondingly served as valuable frameworks and inspiration for learning. Teachers' responsibilities encompassed identifying pupils' educational requirements and the needed expertise, followed by providing well-structured and comprehensive material to meet those needs.

2.2.2.1.4 Constructivism: Learning with Complexity and The Human Itself

Constructivism, the most recent paradigm, has challenged the previously established paradigms of behaviorism and cognitivism (Krueger, 2007). Concerning the constructivist perspective, understanding cannot be transferred or recalled but actively developed by individuals. In the case of the behaviorist framework, it is posited that human action is characterized by predictability and controllability. Hence, studies are directed toward investigating observable and quantifiable acts and examining the impact of surrounding modifications on learning. The concept posits that by implementing suitable educational measures, any student has the potential to acquire identical, inflexible information regarding the external environment passively (Löbler, 2007).

Unlike behaviorism, the philosophy of constructivism, having its roots in mental growth inquiry within the field of psychology, emphasizes acquisition comprehension as opposed to rote memorization of facts (Hägg & Kurczewska, 2021). The learning process is inherently subjective, centering on the individual learner's perceptions and

conscience. This subjective experience empowers learners to adopt an objective point of view, interrogate established knowledge, and engage in introspection on areas of uncertainty. This phenomenon occurs through interpersonal engagement and allows individuals to actively participate in global and personal spheres. Pupils' knowledge acquisition is mostly facilitated through experiential learning, wherein cognitive models are employed, and the process of obtaining experience broadens and transforms their existing knowledge patterns.

However, the premise of constructivism is expansive and has transformed into two distinct streams of theoretical inquiry during its development. The initial aspect pertains to the cognitive processes of individuals and their ability to comprehend and interpret the surrounding environment. The second concept pertains to acquiring knowledge within a social framework and the influence of community conditions on cognitive processes (Mueller & Anderson, 2014). Both concepts align closely with the defining features of entrepreneurship education and underscore the notion that individuals actively create their learning methods to convert what they have learned into practical expertise.

Furthermore, the social constructivist perspective, frequently associated with the work of Vygotsky and Cole (1978), centers on knowledge construction within social environments. This viewpoint considers an individual's social contacts, linguistic abilities, cultural background, and physical attributes. Vygotsky and Cole (1978, p. 100) define

> the bounds of proximal development, as the discrepancy within the anticipated stage of expansion, ascertained through problem-solving abilities with the assistance of an adult or more proficient peers, and the current level of growth and development, established by autonomous problem-solving.

Trainers have the potential to enhance peer groups' development by actively promoting dialogues, thereby creating an environment in which learners can

effectively exchange expertise and abilities with one another. Educators strategically design their instructional sessions by considering the social setting.

Learning paradigms refer to philosophical frameworks used to understand and interpret the world. In the education framework, these theories are applied to analyze and make sense of many aspects related to teaching and learning. Society considers this idea to be effective in achieving success. Kuhn (1992) characterized the interactions among axiological, ontological, and epistemological difficulties as reliable ways. The abovementioned techniques of 'classical experiment' pertain to acquiring and imparting knowledge, namely pedagogy and didactics. Consequently, the present study has formulated a coherent progression of concepts organized as a learning framework, establishing a connection between the foundations of philosophy and instructional methods, as outlined below.

2.1.2.3 Constructivism and Learning Theories in Relation with Entrepreneurship Education

What is the rationale behind aligning constructivism and social constructivism with entrepreneurship education? The constructivist model is a fundamental framework for entrepreneurship education because it emphasizes action-oriented, experiential, and problem-centered learning. This approach aligns with entrepreneurial education's forward-thinking and practical aspect (Hägg & Kurczewska, 2021). Additionally, Krueger (2007) emphasizes the centrality of the learner and the education activity. In the opinion of Löbler (2007), in the constructivist paradigm students have the agency to develop and guide their educational process, allowing for flexibility in written material, design, goals, and experiences. This form of teaching instills a sense of responsibility in individuals for their growth and empowers students to address any inquiries that pertain to their studies. The constructivist method posits that acquiring knowledge is a continuous and self-driven procedure in which education fosters conscientious teaching and learning, the pupil assumes an active role as a creator, and the educator assumes the role of a learning agent. According to the constructivist viewpoint, proficient businesspeople construct mental

frameworks based on their observations and subsequently modify their expertise frameworks to extract meaningful insights. Therefore, experiences have the potential to facilitate modifications in knowledge frameworks. When doing research, the primary focus is on the learners' knowledge production process. Studies of learning are conducted to elucidate the mechanisms by which people acquire understanding through how they learn (Mueller & Anderson, 2014).

The concept of constructivism is frequently linked to transformational instruction (Mezirow, 1991). In entrepreneurship education, this theory suggests that deeply impactful revolutionary experiences within tailored educational activities are crucial in guiding students toward engaging in entrepreneurial actions and subsequent contemplation. Students are urged to take an active role in critical reflection, as it can offer them a greater sense of significance and a more profound comprehension of their lives. This viewpoint also exemplifies the attributes of entrepreneurship education, which seeks to convert the student into an individual with entrepreneurial qualities capable of making informed company choices and taking appropriate actions, ultimately resulting in the cultivation of longstanding entrepreneurial habits or the establishment of an attitude of entrepreneurship over an extended time. These two features frequently have a strong correlation. It is noteworthy to acknowledge that the scholarly interest in the concept of constructivism and the consequences for education has facilitated the development of entrepreneurship education research, which has fostered an action-oriented approach to learning and teaching (Hägg & Kurczewska, 2021). Additionally, they played a significant role in establishing numerous educational approaches prioritizing experience learning, such as action-based, experiential-, and problem-oriented learning, which will be further elaborated on in the following discussion. Table 5 provides a concise overview of these learning approaches.

Table 5. Summary of The Learning Theories Related to Entrepreneurship Education[8]

Theoretical approach	Learning focused on action	Learning focused on experience	Learning focused on solving problems
Description	The primary or fundamental explanation or characterization of a concept or term. Rather than providing a primary definition, we will employ a learning equation proposed by Revans (2011): The learning process can be conceptualized as a combination of programmed knowledge and questioning insight.	The phenomenon through which knowledge is produced via the conversion of lived experiences. Kolb (1984), knowledge is derived from capturing and processing experience.	The acquisition of knowledge and skills directly results from comprehending or resolving a given situation. The problem pertains to an unsolved or perplexing matter that necessitates resolution and arises a learning motivation for seeking out solutions (Barrows & Tamblyn, 1980), p.18).
Key contributors	Peler et al. (1989); Revans (2011)	Kolb (1984); Kolb and Kolb (2009)	Barrows and Tamblyn (1980); Schmidt (1993)
Core assumptions	Learner-centered, experience, team learning.	Learner-centered, experience, individual learning.	Learner-centered, experience, group learning.
Central concepts	The key themes encompassed in this discussion are team learning, action, critical inquiry, and reflection.	The concepts of individual learning, the experience-oriented cycle, and focus on action, observation, abstraction, and doing experimentation.	This academic course incorporates several elements such as problem definition, analysis of fictitious and real-life instances, collaborative small group activities, and critical thinking and self-reflection.

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[8] Author's formatting, referencing Hägg & Kurczewska (2021)

Application in entrepreneurship education	The primary influence stems from British researchers and the cultivation of enterprise-based education.	The concept of exerting influence through entrepreneurship and action-based learning holds significant importance.	The teaching method has been subjected to testing and implementation for students aspiring to pursue entrepreneurship.
Significant scholarly investigations on the subject of entrepreneurship.	Jones-evans et al. (2000); Pittaway and Cope (2007b, 2007a); Rae (2009)	Cope and Watts (2000); Corbett (2005, 2007); Dhliwayo (2010); Politis (2005b, 2005a)	Hansemark (1998); Krueger (2007); San Tan and Ng (2006); Wee (2004)

2.1.2.3.1 Action learning

Entrepreneurship education has been transformed toward and focused on action educational methodology due to the pragmatic feature and dynamic tendency in a constructivist educational context (Fiet, 2001a, 2001b; Rasmussen & Sørheim, 2006). Revans (1982) posited that the primary objective of action-based learning involves acquiring knowledge and the subsequent transformation that results in improved prospective behavior and results. Hence, it is employed to facilitate ongoing enhancement. Researchers examining entrepreneurship in education share common objectives with proponents of interactive and purposeful learning.

In lay terms, actions refer to the behaviors and activities undertaken by individuals. According to Thomson et al. (2004), individuals engage in intuitive and deliberate behaviors, which can be either reflexive or spontaneous, as seen by the ancient Greeks. The terms are commonly interpreted as intentional and strategic conduct outcomes within entrepreneurship and entrepreneurial operations. According to Hägg and Kurczewska (2016), the scientific community is primarily directed toward intentional acts rather than random or automatic reactions to certain stimuli. This hypothesis also supports the study of Bae et al.'s (2014) entrepreneurial intentions,

which examines the correlation between entrepreneurship education and intentions to do business, referencing purposeful acts by entrepreneurs and the elements that precede them in entrepreneurial education.

Hägg and Kurczewska (2016) observed that the emphasis on procedure prompted entrepreneurship educators to incorporate activity into their classes and instructional design. They did so despite properly considering the meaning of action within entrepreneurship and its interplay with various components in the learning procedure. The concept of "action" has been subjected to oversimplified interpretations and subsequently employed in the context of the educational process. When it comes to the education process, placing an exclusive emphasis on performance may go beyond the primary goal of learning, which is creating new knowledge and accumulating existing information.

2.1.2.3.2 Experiential learning

In the early stages of the development of action emphasis in the field of entrepreneurship education, experiential learning was crucial (Hannon, 2005). The roots of experiential learning can be traced from the philosophical perspectives of James (1907) and Dewey (1897), who were proponents of pragmatism. The philosophical framework of pragmatism substantiates the underlying rationale for individuals actively participating in learning through experience (Kolb, 1984).

Kolb (1984) explains *learning* as an experience-based process. Experience is used to learn (Kolb, 1976). Social and exogenous constructivist learning creates and recreates social information in the learner's knowledge (Kolb & Kolb, 2005). Experiential learning is dynamic and holistic. It has four phases: tangible experience, contemplative investigation, philosophical abstraction, and active exploration (Kolb & Kolb, 2009).

The initiation of the cycle can occur at any given moment; nevertheless, to achieve good learning outcomes, all phases must be executed consecutively (Bell & Bell,

2020). Experiential learning involves the active involvement of students in various cognitive processes, enabling them to absorb knowledge effectively within a dynamic and engaging learning environment (Feinstein et al., 2002). Therefore, it can be classified as a constructivist type of interactive learning. Incorporating experiential learning holds a significant position within the socially constructive educational paradigm framework (Mueller et al., 2015). This pedagogical approach is deemed essential due to its ability to address the imperative requirement of cultivating various skills, traits, and abilities. Experiential learning facilitates collaborative interactions among students within a specific context by educators, intending to foster a more profound comprehension of the subject matter. This approach transcends mere instruction.

The pedagogy of entrepreneurship education encompasses three main approaches: demonstrating "about" entrepreneurship, whose emphasis is on imparting the philosophical aspects of entrepreneurship; providing instruction "for" entrepreneurship, which attempts to equip learners with the appropriate understanding and capacities for entrepreneurial endeavors; and instruction "through" entrepreneurship, and these involve providing pupils with practical entrepreneurial experiences to enhance their knowledge of the subject (Hannon, 2005). The objective of incorporating experiential education into entrepreneurship education is to augment the true meaning of the educational experience. This method offers learners opportunities to engage in practical experiences that enable them to apply and enhance their entrepreneurial skills. Developing these competencies is crucial in equipping learners with the necessary abilities to engage in entrepreneurial activities professionally (Fayolle & Gailly, 2008).

2.1.2.3.3 Problem-based learning

Another viewpoint on entrepreneurship education holds that learning about entrepreneurship is "a method of solving problems that prioritize gaining, archiving, and executing information about entrepreneurship in perpetual consciousness" (Rae & Carswell, 2001, p. 221), which encourages entrepreneurial thinking. A component

of focused on action pedagogy, which concentrates on students and the learning process, is problem-based instruction. As a model of learning, it calls for individuals to consider ideas thoughtfully but correctly, producing understanding. The approach is based on using educational experiences within a particular context. The core principle underlying the focus on issues in instructional systems is to give pupils unrestricted assignments, frequently in working groups, and to support their efforts to develop solutions. To demonstrate a topic in the educational program, educators often choose exercises that contain real-life circumstances (particularly scenarios), which are also challenging for students' cognitive abilities. Problem-focused instruction aids learners in preparing themselves for life as a future entrepreneur since it develops entrepreneurial understandings as entrepreneurs gain information (Hägg & Politis, 2017). In line with Krueger's (2007, p.132) argument, "problem-oriented training in the framework of entrepreneurship education is requiring and enabling trainees beyond obtaining responses to inventing queries, therefore involves taking intellectual leadership of activities." He continues by saying that problem-based learning is representative of the everyday obstacles that entrepreneurs encounter. Participants' views on their learning invariably result in this realization: the necessity to keep enhancing their responsibilities and identification as entrepreneurs.

2.1.2.3 4 Experience-based learning

Entrepreneurship education is grounded in present-day concepts and instructional design of experience training (Hägg & Kurczewska, 2020). Experience-based learning and education is a conceptual approach that centers on developing a curriculum and enhancing students' learning (Hägg & Politis, 2017; Itin, 1999; Roberts, 2012). The theory at hand is a comprehensive framework that originates from a comprehension of the educational method and employs a methodology akin to the constructivist perspective (Biggs & Tang, 2011). However, an alternative discourse regarding the interconnectedness of diverse activities related to learning gives rise to what Dewey (1946) termed educational experiences. Experience-based learning and its relationship to entrepreneurship education can be understood as a theoretical

construct that originated from the principles of Deweyian progressivism and ongoing dialogues on education through experience (Hägg & Politis, 2017; Roberts, 2012). Nevertheless, these parts are integrated with supplementary components as proposed by the theory of cognitive burden (Sweller, 2011; Sweller et al., 2007). The above ideas contribute to our comprehension of the methodology and progression from the pupils' standpoint and their engagement with their learning (Hägg & Kurczewska, 2018, 2020).

The underlying premise of practical instruction in entrepreneurship posits that entrepreneurs acquire knowledge and skills by analyzing and reflecting on their previous experiences. Hence, the acquisition and accumulation of entrepreneurial knowledge are facilitated by experiential processes, whereas entrepreneurial learning is fostered by the dynamic interaction between both initial and subsequent interactions (Hägg & Kurczewska, 2020). As mentioned above, the interaction is predicated upon the fundamental principle that Dewey (1946) posited when developing his concepts about educational advancement. McLellan (1889) expounded upon the dialectical relationship between knowledge acquisition and practical application, asserting that one must possess knowledge to engage in action. Conversely, one must engage in action to fully grasp and comprehend. The ability to engage in ongoing learning is facilitated by the convergence of two distinct types of experiences: physical experiences and cognitive experiences. The field of education for entrepreneurs has a rich historical background, primarily attributed to the contributions of Kolb (1984) and his influential theory on experience learning. Experience-based learning, grounded on the principles of experiential education, prioritizes experience as the major means of knowledge acquisition. This approach is informed by existing educational literature and underscores the distinction between a student and a practitioner. The integration from previous experience has a comparable methodology with action, commencing from the reality of entrepreneurs engaged in practical activities and their corresponding behaviors (Sweller, 2015).

2.1.3 Summary and Insight for This Thesis

This chapter covers the theoretical and philosophical underpinnings of entrepreneurship and entrepreneurship education and then analyzes their existing research. The topic of entrepreneurship has garnered significant attention in recent times. However, from a scholarly standpoint, there remains a need for further exploration and understanding of entrepreneurship education. This concept necessitates discussing and researching how educational initiatives can cultivate entrepreneurship. There is an increasingly prevalent perspective that entrepreneurship possesses the capacity to be imparted through teaching and education, suggesting that individuals may acquire the skills and qualities necessary for entrepreneurial endeavors rather than inherently having them. In line with the above argument, Gorman et al. (1997) mentioned that it is evident that "the majority of empirical research examined suggests that entrepreneurship has the potential to be imparted or facilitated through entrepreneurship education" (p.63). Therefore, whether entrepreneurship ought to be imparted through education becomes irrelevant (Ronstadt, 1985). The focal point of the current scholars' consideration must be directed toward the content and methodology of instruction (Kuratko, 2003).

This section of the thesis serves as the theoretical framework and examines the current research on entrepreneurship education. It encompasses various aspects such as classifications, goals, and targets of entrepreneurship education, the diverse nature of entrepreneurship as a field, the material of courses, teaching methodologies, and the desired skills of learners in entrepreneurship education. The aforementioned challenging circumstances are interconnected, as seen in Figure 4.
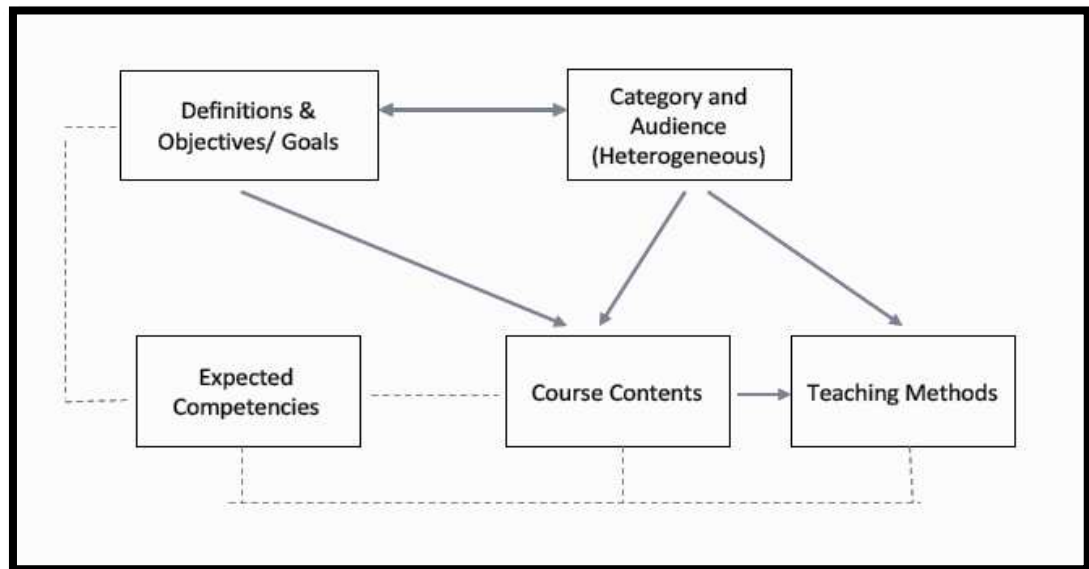
Figure 4. Summary on Fundamental Concepts of Entrepreneurship Education[9]

Figure 4 mainly presents the associations between all the basic concepts of entrepreneurship education explained in this chapter. The main activity is the definition and objectives or goals of entrepreneurship education. These parts define and are at the same time directly affected by and to whom or what category of the respected audience for that educational program. Specifically for the latter, learning needs strongly depend on the phenomenon that audiences will face. The ramifications for teaching and learning in entrepreneurship courses are significant when considering market variation. Evaluating the target market is a crucial aspect of managing entrepreneurship education. The task at hand involves comprehending the distinct attributes of each demographic and their respective educational and learning requirements. Providing a comprehensive account of the characteristics and educational requirements of the intended recipients is crucial to enhancing the efficacy of entrepreneurship education. Enhancing efficacy can be achieved by comprehending the distinct demands of individual segments, accurately delineating their learning prerequisites, and formulating distinct educational resources and initiatives for every category. For example, the entrepreneurship education curriculum is designed for equivalent to first- and second-year college students,

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[9] Author's own figure

constituting its target population. In this instance, the program's intended description and objective could be "about" entrepreneurship, which aims to impart fundamental concepts and ideas of entrepreneurial endeavors to participants. Accordingly, the defined program and objectives include how the educators create suitable course contents and teaching methods aligned with the program's audience, definitions, objectives, and goals. One of the outcomes is students' expected competencies that are reflected in the teaching and learning process.

The preceding theoretical discussion has also acknowledged, albeit not entirely recognized consensus, that the three main frameworks in the field of education have given rise to three distinct learning methods in entrepreneurship education characterized by a pragmatic orientation (Hägg & Kurczewska, 2016; Mueller, 2012). They are behavioral psychology, cognitivism, and constructivism in several ways. The field of entrepreneurship education research stands to gain valuable insights from the educational concepts outlined above, specifically the constructivist, behaviorist, and social frameworks (Parker, 2005). Incorporating these notions may help elucidate the potential impact of entrepreneurial education on the ongoing discourse within the field of education.

The further correlation between educational theories and basic entrepreneurship concepts delineates the modern-primary role of entrepreneurship education as a pedagogical approach and solidifies its affiliation with the constructivism paradigm. Introducing entrepreneurship education in this constructive motion has created "a paradigm shift in understanding human pedagogy." The concept strongly emphasizes movement direction, independence, and the dynamic relationship between reflexivity, accountability, and taking on calculated hazards as the core elements of the learning journey. Additionally, it presents novel educational and instructional concepts. From an educational standpoint (e.g., Kyrö, 2015, 2018), entrepreneurship can be conceptualized as a pedagogy that revitalizes prior learning paradigms and fosters structural and instructional methods.

Following the above basic conceptualization and theoretical foundations, the subsequent case study on Indonesia's entrepreneurship higher education (see Chapter 3) agrees with what Liñán (2004) previously defined, i.e., entrepreneurship education predominantly as a "constructivist" entrepreneurial awareness and learning educational program (but not necessarily for a startup), specifically in higher education level. It is the learning process of how learners, as individual entrepreneurs, construct their own learning experiences and interact with the environment. As such, this thesis focuses on the learning process of individual learners when they are exposed to the concepts, skills, and mental awareness or mindset of entrepreneurship aimed at starting their ventures or creating entrepreneurial journeys. Educational institutions catering to students from diverse backgrounds offer the entrepreneurship course. The primary objective of the entrepreneurship course is to familiarize individuals with the fundamental principles and theoretical foundations of entrepreneurship, with the ultimate aim of fostering the development of entrepreneurial skills and mindsets among participants. Students are expected to cultivate and construct their comprehension and aptitude while enhancing their disposition regarding entrepreneurship. Hence, the intended recipients of entrepreneurship education encompass a broader spectrum (i.e., business people, academics, and anyone with an affinity for entrepreneurship). Individuals lacking interest in this particular occurrence might also benefit from participating in such a course or program. Including an entrepreneurship training program or course is justified due to its ability to provide knowledge on entrepreneurship's concepts, values, and rewards and the essential concepts, ideas, and skills required to initiate a new company venture. It is anticipated that pupils learning about entrepreneurship will enhance their skills and probability of seeking professions, whether creating profit-oriented organizations, social businesses, or even inter-preneurship (managerial within the organization).

Similarly, this thesis further supports the perspective Neck and Greene (2011) put forth that entrepreneurship needs to be instructed as a constructivist approach instead of a sequential series of steps, as in the cognitive and behavioral approaches. In this scenario, a compilation of practice-oriented teaching methodologies can

facilitate students in comprehending, cultivating, and applying the requisite proficiencies and methodologies essential for effective entrepreneurship. These methodologies encompass engaging in business ventures as a component of academic courses of study, employing activities and experiments, adopting design-based learning approaches, and engaging in self-reflection. The learning process is facilitated by experiential engagement and the proactive observation of social models, enabling pupils to autonomously and dynamically construct their understanding of reality. This viewpoint aligns with the constructivist educational paradigm. The underlying assumption posits that the acquisition of knowledge results from the learner's active construction, drawing upon personal experiences within the external environment while being facilitated by the instructor in the learning process. Mueller (2012) also determined that "entrepreneurial learning is a process that is individually formed and influenced by distinct stages of development" (p. 193). The approach involves the collaborative generation of knowledge through social engagement with peers and instructors, akin to the entrepreneurial activities conducted beyond academic study (Giones et al., 2012). The viewpoint above underscores the importance of incorporating a social context within the educational experience, as exemplified by the socially constructed learning approach, which supports building a novel research framework for entrepreneurship education. Reflection plays a crucial role within the constructivist framework as it serves as a guiding mechanism for individuals in developing their learning experience (Phillips, 1995).

Moreover, one crucial aspect of constructivism is its capacity to facilitate the transformation of people into "constructivists." Including contemplation in entrepreneurship education is of utmost importance due to its facilitation of continual improvement (Neck & Greene, 2011; Schön, 1987). Kolb (1984) proposed a model outlining the reflective course of experiential learning, wherein learners contemplate their actions afterward, also known as "reflection on action." Based on the premises of this theory, the learning process is facilitated by reflecting upon the errors made and then implementing improvements within a following loop of learning. Schön (1983) proposed an alternate approach to learning that involves the

process of "reflection in action." This method entails learners engaging in intense thought on theoretical concepts and subsequently reevaluating and applying this knowledge in practical situations. This technique allows learners to critically examine and reassess the fundamental logic and strategic elements of their plan of action concerning their objectives, enabling them to make appropriate modifications during their educational process and instantly acquire knowledge.

The notion of experiential learning has the potential to extend beyond its initial scope, offering individuals the chance to partake in transformative learning experiences that can alter their sense of self and identity (Mezirow, 1997). The efficacy of transformational learning lies not solely in the quantity of knowledge acquired or comprehended but also in the extent to which the learning experience brings about personal transformation in the learner. Kolb and Kolb (2009) emphasized the significance of the contextual theory of learning (Lave & Wenger, 1991) in their research, asserting that knowledge acquisition can be conceptualized as an individual's integration into an atmosphere of professionals through active engagement. For instance, several forms of experiential learning, such as apprenticeships, training, tasks, and professional engagement, can facilitate the transformation and development of one's identity by facilitating immersive engagement in practical tasks under the guidance and supervision of experienced professionals. In the same manner, the significance of "authentic learning encounters" in fostering congruence between an individual's career and personal identities and facilitating the pursuit of suitable avenues for personal development is underscored by Rae et al. (2012). Individuals have the potential to derive advantages from personal development and transformation, thereby acquiring novel information and competencies. However, these experiences can also help the individual cultivate a more robust sense of self grounded in novel insights and comprehension (Hinchliffe & Jolly, 2011). Developing skills, particularly entrepreneurial identity and interpersonal competency, can be facilitated by hands-on training, such as engaging in startup activities and project work. Hence, educators must adopt a well-rounded teaching strategy to equip learners with adequate information and the ability to

engage in critical thinking, thereby facilitating effective management of constructive learning processes.

In conclusion, there are highlighted points from this conceptual understanding and literature section of entrepreneurship education:

- Entrepreneurship is a multifaceted undertaking that involves identifying, generating, and pursuing possibilities, encompassing elements of innovation, strategic planning, and deliberate action (Shane & Venkataraman, 2000);

- Learning is the process through which one makes sense of the world so that people can respond in novel ways and strike a balance between performing, comprehending, and interpreting (Mumford, 1995);

- People learn, produce novel information, and develop and establish interpretation through contextual encounters (Weick, 1995);

- Based on the earlier philosophies, entrepreneurship education proposes establishing educational settings that foster enterprising and practical education. These environments facilitate the construction of individuals' comprehension and their growing capabilities within their own culture and economy that values entrepreneurship (Bell & Bell, 2020);

- Design-oriented teaching methodology is one of the constructivist learning paradigms and practical-based pedagogies that support the role of reflection, experience, and experimentation (Neck & Greene, 2011) and

- The anticipated result is that participants will clearly understand their potential accomplishments and be knowledgeable in utilizing available learning support resources to make progress toward maximizing their contribution within an entrepreneurial context – whatever that may be – as an entrepreneur or within any aspect of the socioeconomic society (Hannon, 2005).

In the following sub-section, the theoretical foundation and literature of design thinking will be presented.

2.2 Design Thinking

In this section, the conceptual basics of design thinking (section 2.2.1) and its fundamental theories (section 2.2.2) will be explored. This part will further summarize the discussion at the end by revisiting some previous terms (design science and research as the roots of design thinking) and connect them with today's design thinking (section 2.2.3).

2.2.1 Conceptual Basics

The discussion of design thinking's conceptual basics is categorized into four primary components. Firstly, this section will thoroughly explain the roots of design thinking (section 2.2.1.1), which will cover from its first generation until today's era (sections 2.2.1.1.1 – 2.2.1.1.4). Then, it will further discuss design thinking's principal elements gathered from the existing literature, i.e., definitions (section 2.2.1.2), characteristics (2.2.1.3), and process (2.2.1.4).

2.2.1.1 The roots of design thinking

This section addresses the first half of research question number one, i.e., the theoretical foundation behind design thinking. It will explore design thinking within the realm of literary works by elucidating its foundational origins, followed by its foundational theories from the design discourse. Subsequently, it will explore the conceptual understanding of design thinking—which covers its definitions, characteristics, and processes. The insights from this will allow us to answer the second half of this thesis's research question number one, i.e., the theoretical connection that integrates design thinking and entrepreneurship education as an educational pedagogy.

According to Johansson-Sköldberg et al. (2013), design thinking is rooted in two discourses, i.e., design and management (see Figure 5).
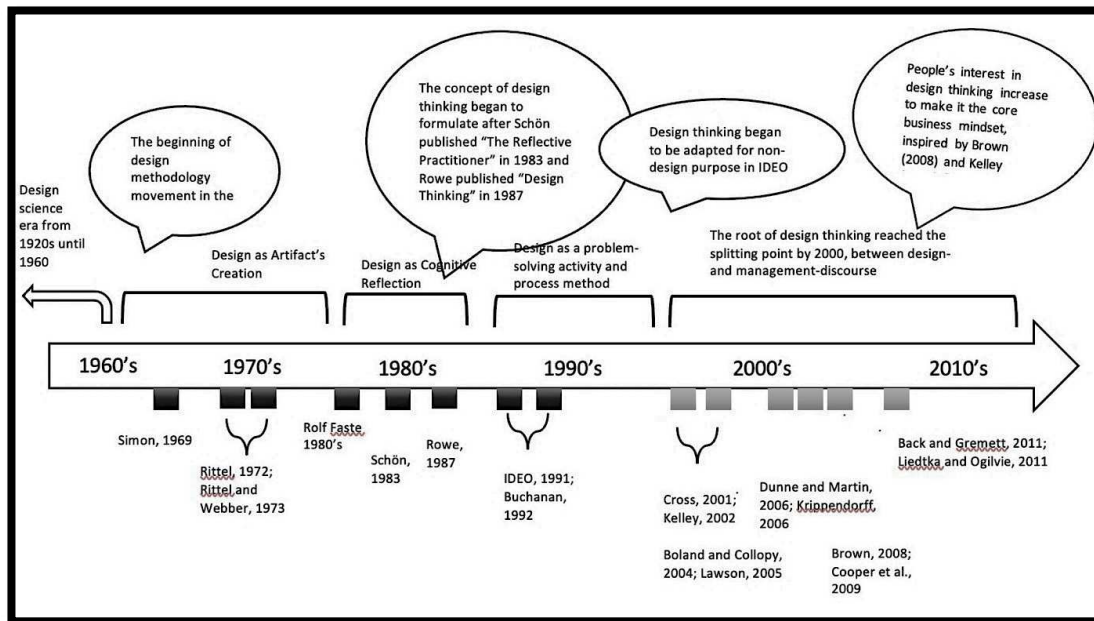
Figure 5 The Roots of Design Thinking[10]

Within the design realm, the formulation of the design thinking concept addresses the designerly way of knowing (Cross, 1982) or how designers contemplate (Lawson, 1980). The early studies described how the underpinnings of the concept formulated within the design's discourse through seminal works (Cross, 1982, 2001; Lawson, 1980; Rowe, 1987; Schön, 1983; Simon, 1969). Those early studies generally define 'design thinking within design discourse' or so-called designerly thinking theory and practice as the scholarly formulation of a skilled creator's talents and their intellectual contemplations on interpreting and characterizing the designer's non-verbal competence. Presently, "design thinking in the design discourse" is often overlooked and underestimated, notwithstanding its extensive advances in theory and ongoing discussions.

Design thinking is a very effective approach to developing creative thinking and accelerating organizational growth (Hassi & Laakso, 2011). Despite its popularity, applying this idea to management practice, arising from management conversations—has less scientific foundation than design thinking in design

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[10] Author's own formatting figure, adapting and referencing Hassi & Laakso (2011); Johansson-Sköldberg et al. (2013); Oh & Nah (2014).

discussions. Sometimes, the rhetoric surrounding design thinking in business requires stronger connections to the field of design research, impeding knowledge accumulation. In their study, Johansson-Sköldberg et al. (2013) characterized "design thinking within management discourse." This concept pertains to applying practical design and expertise outside conventional design contexts, specifically in non-design fields such as organizational leadership, artwork, and building construction. The authors highlight the relevance of design thinking for individuals lacking formal education in design. The word 'design thinking' ultimately evolves into a modified rendition of 'designerly thinking' or a depiction of the experts' methodologies, which incorporate theoretical and real-world management discussions.

The following is a detailed explanation of the roots of design thinking, as depicted earlier in Figure 5.

2.2.1.1.1 The first generation: the 1960s' design movement era

Around the end of the 1800s and early 1900s, there was discussion concerning design approaches derived from managers' ventures with an engineering background to apply their knowledge in industrial production. However, their publications (see, e.g., Le Corbusier, 1929; Taylor, 1911) were published in engineering journals (Barley & Kunda, 1992) and are known as the "scientific management" era (Romme, 2003). The emergence of the approach was referred to as the design movement, particularly in England and Scotland, around the 1960s (Hassi & Laakso, 2011). The root of design thinking is attributed to the influential thoughts of Herbert Simon in 1969, specifically his key publication titled "The Sciences of the Artificial."

Simon understood and described design by collaborating with an influential architect and mathematician (Alexander, 1964). After researching economics and business concepts, Simon directed his attention toward examining the organization, which he called the "design" of individual endeavors within artificial environments. His cognitive approach defines *design* as "knowledge in other professions and aims to embrace all planned activities to create something new." Design is primarily focused

on the ideal state of affairs, commonly referred to as "what should happen," as opposed to the natural scientific fields, which primarily focus on the objective understanding of the existing state of affairs, commonly referred to as "what exactly is," thereby distinguishing it from natural sciences, social sciences, and humanities.

Simon (1962) assumed that creation is a rational set of procedures responding to a well-defined problem. Solving those problems involves separating systems and seeking and selecting alternatives. Simon (1973) believed that it is possible to determine a desired state of affairs. Simon (1996) did not explicitly employ the phrase 'design thinking,' but showed an awareness of decision-making and characterized design as converting a current state toward a desired state. Consequently, he is considered a prominent figure in design and design thinking, a significant reference point for scholarly literature, and a pioneer of research in the design field.

In summary, during the 1960s, the "Design Methods" movement conducted a series of studies on what designers do and how they think (Buchanan, 1992; Buchanan & Margolin, 1995; Jones, 1992). Early researchers sought to understand the procedures and methodologies used by design innovators in their creative endeavors, particularly when design problems became increasingly complex and it was difficult to define Simon's desired state of concern in advance (Kimbell, 2009).

2.2.1.1.2 The second generation: the 1980s reflective-design practice

The subsequent phase of design thinking came into being in the 1980s. The Design Organization and Management method that centered on human connections, functionalist systems theory, and socio-technical systems are examples of regulating processes (Checkland, 1981; Drucker, 1954; Emery & Trist, 1965; Jaques, 2013). Also, Rolf Faste, in the 1980s at Stanford University, further expanded the concept of design thinking from McKim's (1973) work of Experiences of Visual Thinking as a cognitive and creative action (see, e.g., Faste, 1994; Oh & Nah, 2014). In particular, the work of McKim (1973) will serve as the theoretical foundation of design thinking for this thesis (see Section 2.2.2).

During this period, designers gained recognition following Schön (1983) evaluation of Simon's viewpoint as overly aligned with positivism. Schön introduced reflecting as the fundamental element of design practice, facilitating designers' ongoing enhancement of abilities and recreation. In his seminal work, "The Reflective Practitioner," Schön presents a thought-provoking argument that calls for a reevaluation of the significance attributed by practitioners and academics to the quality of technical knowledge. His analysis centers on the business behaviors of individuals as they engage in "reflection in action," wherein they modify problem-solving approaches depending on their judgment (Kimbell, 2009). The contributions of Simon and Schön are highly significant in design research, especially concerning Schoen's influential work, The Reflective Practitioner, in 1983 (Hassi & Laakso, 2011).

Nevertheless, scholarly research has extensively examined the contrasting perspectives of Simon and Schön about design (see, e.g., Dorst, 1997, 2011b). Schön's refutation of Simon's theory of cognition has been widely discussed (Johansson-Sköldberg et al., 2013). Such a discrepancy can be observed during a period characterized by a significant divergence across intellectual and subjective methodologies. Simon's cognitive approach aligned closely with positivism because he emphasized empirical analysis. In contrast, Schön's philosophical pragmatism reflected a closer affinity with hermeneutics. Simon also developed an arrangement characterized by objectivity in the design field while considering the epistemological perspective. In contrast, Schön expanded upon this framework by focusing on the descriptive accounts of designers and their practical experiences. In the following decade, Owen (1998) merged the works of Simon and Schön by introducing a conceptual framework clarifying the process for understanding the formation and its relationship to the design field.

Schön, in particular, developed a conceptual framework that portrayed the designer's role by emphasizing the interplay within the activity of generation and the subsequent contemplation of what had been created. This approach facilitated the enhancement of persistent skills and the ability to engage in iterative reproduction

processes. The art of reflection, as identified by Schön, was recognized as a fundamental aspect of design work, observed by both constructors and mental health professionals. Schön's study also examined management methods and revealed that executives understand fundamental domains of practice that extend beyond technical reasoning. Managers employ perception to navigate decision-making in volatile situations, cultivating an ability to solve issues that are fundamentally difficult to analyze. This capacity is developed via extensive and diverse practical experience compared to investigating theoretical concepts or methodologies. Employers do exhibit a degree of reflection in their actions. However, it might be argued that this reflection could be more extensive.

Rowe (1987) published a book titled "Design Thinking," recognizing the term's first important use. Although Rowe's book explains more about systematic design processes in architecture and urban planning, the term "design thinking" evolved towards a human-centered perspective to solve real problems from that time. This group of design methodologies, distinguished by a co-evolutionary, morally charged, and ethics-based systems approach, is progressively built on well-articulated philosophical and theoretical stances (Romme, 2003). Following that, other studies (e.g., Kruger & Cross, 2006; Lawson, 1980, 2005) involved attempts to describe designers' thought processes: their designerly way of knowing or design thinking.

2.2.1.1.3 The third generation: the 1990s design as a problem-solving activity

From the beginning of the twentieth century forward, scholars and practitioners began adopting a more human-centric perspective when studying the practical application of design thinking (Oh & Nah, 2014). David M. Kelley, an associate of Rolf Faste at Stanford University and the founder of IDEO, a renowned worldwide design agency established in 1991, appropriated the concept of design thinking for applications beyond the field of design (Brown, 2009b). In Buchanan's (1992) seminal study titled "Wicked Problems in Design Thinking," he introduced a paradigm shift in design theory, transitioning from a cognitive-oriented approach to an intellectual framework that acknowledges the social dimensions inherent in creating designs.

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Informed by the philosophical insights of Dewey (1938) regarding "Logic: The Theory of Inquiry," Buchanan posited that design possesses characteristics aligned with the principles of liberal arts, making it highly compatible with the needs of a society characterized by technology. In such a context, where the creation of both physical objects and immaterial systems is intentional, and individual predicaments can be complex, the design emerges as a discipline capable of addressing these challenges effectively. Buchanan argues that designers possess a unique perspective and approach to addressing these types of difficulties (or 'wicked' dreadful issues) (Rittel, 1972; Rittel & Webber, 1973).

Buchanan subsequently developed the concept of "placements" as a crucial instrument for designers to situate their design concepts within a specific environment. Placements serve as deliberate or unintentional mechanisms for structuring a design scenario, facilitating an understanding of many perspectives, issues, and interventions, ultimately resulting in a viable proposal for further investigation and advancement. *Design thinking* is a subject that involves the iterative process of addressing various situational positioning difficulties, where the issue formulation and solution development occur simultaneously as opposed to in orderly phases (Wylant, 2010). When employed to address the challenges, the arrangement concept blurs the distinctions across modernist and postmodernist approaches to design thinking.

Given the growing intervention of technological innovation in the natural realm, Buchanan's approach also highlights the necessity of including people from other disciplines in the design procedure. He presents a framework consisting of four separate domains within design thinking, which serve as potential locations for engagement and has thoroughly analyzed the issues and potential remedies within these fields, i.e.:
- Graphic and aesthetic communication, also known as graphic design, is a discipline that deals with developing and modifying aspects of visuals to convey messages and ideas.
- Material things, often known as industrial design.

- Actions and management services, or service design, refer to the processes and practices involved in planning, organizing, and delivering various organizational tasks and amenities.

- Sophisticated living environments or arrangements are designed to accommodate various activities such as work, residence, recreation, and education.

2.2.1.1.4 The fourth generation: the 2000s design thing based on design- and management–discourse

The roots of design thinking reached the splitting point by 2000, i.e., between design- and management discourse. These two different discourses are not rivals with each other but are developing in parallel.

2.2.1.1.4.1 'Design Thinking' within the Design Discourse

Cross's (2001) article "Designer Ways of Knowing: Design Discipline v. Design Science" employed a traditional methodology to explicate the concept of design in relation to its practical application. Drawing on the notion of self-reflection, which does not belong to a scientific field, the paper offers numerous insights pertaining to a designer's awareness and proficiency in any of the various fields and advancements in design. According to Cross, design is classified as a method for comprehending or rationalizing phenomena within the design domain. Cross and Lawson's publications have generated significant scholarly attention by shedding light on the cognitive processes and professional practices of designers through real-life examples. Lawson's (1980, 2005) publication "How Designers Think: The Design Process Demystified" took a psychological approach to creative design techniques, with the aim of enabling designers to apply scientific insights in their work.

In his presentations and articles on 'designerly' methods of knowing, Cross (2001) employed qualitative methods to explore the actions of designers in the course of their work. Cross's book "Design Thinking" also investigates this topic. Lawson and

Cross adhere to the reflective tradition initially defined by Schön (1983). Nevertheless, their texts focus on practical application rather than theoretical contemplation, and illustrate concepts by providing concrete examples rather than theoretical viewpoints. Lawson and Cross employ abductive reasoning to derive logical inferences from observed events, with the result that individuals discern patterns through the lens of experience and exemplification. Every researcher gives a conceptual framework for the design process, such as Lawson's (2005) model, which defines a number of sequential phases to thoroughly explain the intricacies of design processes. Cross (2001) provides an iterative description of the design tactics employed by creative designers.

2.2.1.1.4.2 'Design Thinking' within the Management Discourse

Within the management field, design thinking is an endeavor for professionals to gain more practical knowledge of design instead of relying solely on design management discussion rooted in an organizational structure (Johansson-Sköldberg et al., 2013). The theme of 'design thinking' focusing on management originated during the 1970s as an area of academic study. Its purpose was to facilitate an understanding of design, its significance, and its relevance for management practitioners and academics. During that period, designers discussed design from the management viewpoint (Olson et al., 1998). They also approached design as an illustration (Liedtka, 2000) and highlighted outstanding scenarios (Mccullagh, 2006). However, there is still disagreement over the possible counterproductivity of this outcome, as it is considered that this methodology reduces the design's intrinsic constructivist and situational importance.

Over time, there was a gradual increase in interest in design thinking, leading to its establishment as a basic concept of business (Brown, 2008). Kelley (2001), a prominent figure in the design industry and co-founder of IDEO, articulated his knowledge and observations of design thinking and prototyping in his published work, which played a pivotal role in fostering inventiveness. Buchanan (1992) and Johansson and Woodilla (2010, 2009) examined the transformation of design

thinking beyond a discussion primarily centered around design to one that includes management. They claimed that there is a body of literature on developing a design-oriented framework that supports innovation, with a particular emphasis on the ability of design firms to initiate and facilitate the progress of design thinking. In addition, the Stanford Design Academy and the Hasso Plattner Design Institute incorporated the teaching of design thinking as a structured framework for addressing intricate challenges, emphasizing a human-focused and creativity-driven paradigm (Brown & Wyatt, 2010).

Roger Martin, Dean of the Rotman Institute of Business at the University of Toronto, introduced the concept of design thinking in the Management School (Dunne & Martin, 2006). Martin analyzed management discourse by illustrating his arguments using case studies from economically successful firms. He revisited the firms above to present his conceptual framework, the 'knowledge funnel.' Additionally, he actively promoted the application of design thinking to address management issues, effectively incorporating beneficial or relationship-based and mental components. According to him, design thinking is a continuous iterative process encompassing various stages, including inspiration (abduction), reasoning for predicting implications, evaluations, and initiation for generalization. The ability to address ambiguous issues in organizations has emerged as a crucial competency for managers with a strong grasp of intellectual thinking and has become an integral element of management education.

Martin's remark, while welcomed by managers for its clarity, was purposefully free of the embellishments commonly associated with a designer's perspective, and it distanced itself from any links with IDEO. Furthermore, the achievement of Dunne and Martin (2006) of introducing the notion of providing instruction in design thinking to academic institutions specializing in management and business showcased a highly effective approach across multiple fields (see, e.g., Dym et al., 2006; Melles et al., 2012; Wang & Wang, 2011). The sources mentioned above include several themes linked to the management field, such as administration of libraries (Bell, 2008), health and healthcare facilities (Uehira & Kay, 2009),

governance of regulatory procedures (Szabo, 2010), handling of human resources challenges (Birchall-Spencer, 2010), theory of management (Fraser, 2007), institutional development and transformation (Sato et al., 2010).

Overall, design thinking originated in the design discussion. However, it has also prompted the participation of managers in sharing their perspectives, compared to solely relying on input from creators (Cooper et al., 2009). As a very new concept in management, it may be considered less developed and dynamic compared to the initial advancements made by design thinking in the design field, sometimes called "designerly thinking" (Johansson-Sköldberg et al., 2013). Nevertheless, the platform has experienced significant expansion, evolving into a comprehensive hub where professionals from the design industry may actively encourage the promotion of inquiry and the replacement of thoughtful innovation with creative initiatives. Design thinking plays a significant role in fostering inventiveness and supplanting strategic decision-making to navigate effectively in an environment that is both complicated and changing.

2.2.1.2 Definitions

The concept of design thinking has been previously articulated, i.e., originated from Stanford University in an academic context. The engineering field adopted and implemented design thinking as a systematic approach, initially influenced by designers' mental models (Johansson & Woodilla, 2009). The concept was initially identified by Rowe in 1987 with the publication of his book, introducing the methodical utilization of solutions-oriented methods inside architecture, entitled "Design Thinking" (Rowe, 1987).

About twenty years before the term "design thinking" was coined, Simon (1969) examined the fundamentals of design. The phrase has gained prominence recently as a study of design cognition, as demonstrated by the research of Lawson (2005). It is now a course in which students complete real-world design projects that are assigned by business partners. Numerous colleges and design schools throughout the

world are currently using this instructional technique. Its conceptualization is applied in different contexts. Given that different perspectives impact design thinking, it could be further defined in a variety of ways (Dolak et al., 2013). For example, "design-based student learning" refers to a framework used in schools and higher education that tries to foster qualities like creativity, persistence, zeal, and ingenuity (Dym et al., 2006).

Moreover, the focus of design in industrial design and industrial engineering is different—the former lies within the act or progress of designing and designing products (Dolak et al., 2013). The latter focuses on creating new and innovative products and aims for alternative solutions to satisfy performance requirements. In other fields, e.g., informatics and computer systems, the importance of design thinking lies in its capacity to solve the problem's complexity and its iterative design evaluation process. One of the most current and well-known areas is innovation and business management. Here, the importance of design thinking lies in fostering innovation and generating competitive advantages for products, services, and business model innovation.

As seen in Figure 5 earlier, the origins of design thinking might be categorized into five distinct sub-discourses: (1) its conceptualization in creating objects of art; (2) its understanding as a method that encourages reflection; (3) its perception as an endeavor aimed at tackling issues; (4) its recognition in establishing a foundation or comprehending various aspects; and (5) its acknowledgment in generating significance (Johansson & Woodilla, 2009). This classification also extends to prior scholarly works delineating various approaches to clarifying, interpreting, and comprehending design thinking. Please refer to Appendix A for an ordered list of publications.

The research on design thinking in the management field has been ongoing until recently, with a focus on how design thinking is defined and interpreted as a problem-solving, user-centered, and creativity-based approach. For example, Lindberg et al. (2010) expounded upon the core tenets of finding solutions within the context of

design thinking. They introduced two key concepts to elucidate the underlying framework: the issue and its response spaces and "the diverging and convergence" areas (Lindberg et al., 2010, p. 245). The initial information set imparts a foundational understanding of distinguishing and formulating design problems. In contrast, the second pair describes how design thinking leads to creative problem-solving with some relevant experience.

Consequently, knowledge in design thinking is produced through the interaction between diverging (discovering problems and stimulating solutions) and converging (synthesizing and selecting ideas) activities (Lindberg et al., 2010). The design thinking principles generate multi-perspective knowledge in solving "wicked" problems within the two pairs of terms. Even though the traditional problem-solving process typically uses deductive and inductive thinking, design thinking applies abductive, resulting in a value (Luka, 2019). In this case, there are also two forms of abductive – closed problem-solving and open problem-solving. The strategies involve the development of "a frame," or the "creation of a (novel) standpoint from which can solve a problematic situation" (Dorst, 2011a, p.525). Unlike previous traditional analytic thinking, which relied on analysis and big data, design thinking synthesizes analytical and intuitive insights to create new ideas (Martin & Martin, 2009). Martin and Euchner (2012) further suggest that design thinking "includes helping people get a deeper understanding of customers using more quantitative approaches" (p.10-14). Moreover, new ideas come from another process called "abductive logic" (Martin & Martin, 2009, p.25).

Design thinking is an innovative technique of addressing "wicked problems" (Martin & Martin, 2009, p.92), and describing and molding the challenge is a huge component of the problem-solving process. Baeck and Gremett (2011) elaborated those analytical techniques mainly concern with dissecting down concepts and restricting design options. Design thinking prioritizes constructing the user experience and is a more innovative, customer-focused method to issue resolution than standard analytical approaches. Beck and Grementt also argue that design thinking obstructs

the direct path in favor of a more exploratory one. The approach revolves around knowing the users; all thoughts and actions come from that recognition.

Design thinking applies design methodologies to more than just design issues, i.e., by exploring and defining business worlds and problems, and generating novel products and services (Brown, 2008). In this vein, it is a structured approach that involves the alignment of the expert's perceptiveness and proficiency with the requirements of the end consumer. Similarly, Waloszek (2012) associates design thinking with creativity and user-centered approaches as it encourages one to explore "what might be" questions, accustoms users with direct observations, and creates desirable solutions. It also focuses on solutions and actions for inspiring innovations and stimulating systematic reasoning.

In summary, the principles stated above, as well as conceptions of design thinking, often include numerous key parts. This project seeks to create an innovative solution to current or potential problems. The end-user is the center point, and the strategy includes a well-organized and recurring technique. The participation of several organizations with knowledge in various fields is an important component of this project. It has the ability to allow integrating customer-centered approach in recognizing the contextual components of a problem. It also encourages creativity in the generation of ideas and viewpoints while utilizing logic and incorporating user input to analyze and uncover unique alternatives. Applying the basic tenets to the field of management in businesses presents a stimulating and novel approach. However, it necessitates additional investigation into the precise descriptions, applications, toolsets, and recommended strategies for seamless incorporation to facilitate efficient execution and enhance overall efficacy across several disciplines.

2.2.1.3 Characteristics

The characteristics of design thinking are defined by numerous attributes (Waloszek, 2012). Fundamental characteristics include tolerating and embracing uncertainty, perceiving design as a pragmatic investigation, upholding a holistic perspective

through systemic and analytical reasoning, and approaching decision-making as an integral component of a given timeframe (Dym et al., 2006). Additional attributes include convergence-driven, logical, and methodical forms of thinking, in conjunction with distinctive modes of reasoning, to aid the process of design-generative inquiry (Yilmaz et al., 2016). Numerous studies have additionally demonstrated that design thinking facilitates creative people's ability to discern requirements, formulate issue statements, and produce alternatives through a sequence of cyclical loops (e.g., Brown, 2008; Hassi & Laakso, 2011; Owen, 2005, 2007). With the expansion of the commercial process, the modern application of design thinking is applying the design technique to develop new goods, services, and technical advancements. Gaining a comprehensive understanding of the qualities of design thinking and the attributes of design thinkers is of utmost importance in driving breakthrough innovation and attaining an ongoing competitive edge (Brooks Jr, 2010; Cooper et al., 2009; Dunne & Martin, 2006; Martin & Martin, 2009).

The existing body of scholarly work on design thinking has examined the various components and strategies necessary for the successful adoption of design thinking by people in general, enabling them to embody the characteristics of design thinkers (see e.g., Waloszek, 2012; Yilmaz et al., 2016). This body of research also explores the application of design thinking principles within organizational contexts (Sobel & Groeger, 2013). Nevertheless, it is important to note that a rigid collection of traits does not characterize design thinking. Rather, it is contingent upon the specific situation in which it is applied (Yilmaz et al., 2016).

The identification of common ground within various fields of study, such as design thinking, along with the attributes exhibited by design thinkers, has been explored in the literature (e.g., Oh & Nah, 2014; Waloszek, 2012). There is a notable relationship between design thinking and the traits exhibited by design thinkers, as the second group actively engages in the practices of the first (Waloszek, 2012). This idea suggests that design thinkers engage in the practice of design thinking, potentially leading to the extent of convergence between these two domains. Refining the precise comprehension of the features of design thinking and the related individuals

that embody design thinking is a challenging task. Furthermore, the existing literature has outlined many facets of design thinking, frequently relying on personal testimony rather than data from experiments (e.g., Schweitzer et al., 2016).

The five leading 'ideal' design thinking characteristics, followed by the design thinkers' cognitive and behavioral attributes, are identified in the literature and explained below (see Appendix B for details).

2.2.1.3.1 Human-centered and empathetic

A fundamental attribute of design thinking is its emphasis on being centered around people and empathic (Amalia & von Korflesch, 2021b). Using design thinking as a methodological technique commences with adopting a human-centric viewpoint while addressing a challenge (Dolak et al., 2013). The main concern on people and their needs incorporates people, their business components, and the technical factors involved in problem understanding and design solutions (see Cross, 1982; Dorst, 2011a). Design thinkers exercise this attribute by having empathy, focusing on human values, seeing and understanding users' points of view and needs, intensive observations, curious and open interactions with users, and concern about the environment.

Empathic individuals are aware of and sensitive to events going on around them. They have little trouble placing themselves in the shoes of the affected person (Owen, 2006). In addition, they exhibit curiosity in uncommon habits and behaviors as well as matters that have not yet been spoken about or done. Their curiosity about how they completed tasks and unfinished business is even greater (Efeoglu et al., 2013). This makes it possible for them to utilise every aspect of an observation and turn it into an original idea (Brown, 2008). People who are observational demonstrate empathic thinking, feeling, instinct, and discovery (Bauer & Eagen, 2008; Brown, 2008; Jung, 1921). People that are passionate, inquisitive, and compassionate may fully comprehend the social context (Badke-Schaub et al., 2010). These sophisticated abilities can help people focus on the viewpoints and enterprises of their clientele

(Michlewski, 2008). Beyond the business sector, the environment should be the next significant stakeholder in design thinking. As such, every design project needs to emphasize the basic importance of putting people first in order to advance the welfare of both people and the environment (Owen, 2007).

2.2.1.3.2 Collaboration and Communicative Teamwork

The goal of design thinking is to cooperation and communication, and to provide a better working environment (Amalia & von Korflesch, 2021b). Collaboration fosters innovative ideas and options by leveraging individuals' diverse perspectives and expertise (Stanford, 2009). Creativity starts with working with others from different backgrounds and expertise to solve problems (Oh & Nah, 2014). Design thinkers work collaboratively and embrace diversity, work in teams, do cross-disciplinary pollinations, create interdisciplinary teams, visualize ideas, and have proper communication. Finally, they exhibit collective productivity by forming opinions free of biased judgments about the creator or the idea itself.

The concept of a cross-disciplinary effort is predicated upon the belief that collaborative groups comprising individuals from several fields of specialty are more likely to bring about significant achievements than those limited to a single domain of knowledge (Liedtka and Ogilvie, 2012). However, design thinkers and innovation leaders must be aware that people with strong personalities might inhibit rather than nourish ideas (Badke-Schaub et al., 2010; Jevnaker, 2010). As a result, it is critical within the design process of thought to have the knowledge required to effectively address and overcome issues and disagreements that may arise in teams with diverse specialties. Design thinkers and innovator managers understand the profound impact that multiple stakeholders may have on how things work. The promotion of collaboration is prioritized over mastery of specific skills to leverage diverse expertise and knowledge that could address the innovation challenge more effectively. To this end, Liedtka and Ogilvie (2012) argued that individuals with design thinking and innovation management capabilities prefer collaborative work and require proficient communication and listening skills. Additional research suggests that individuals with

strong relationship-building skills and the ability to foster collaboration among different communities are highly valuable assets to innovation teams (Burdick & Willis, 2011; Clark & Smith, 2010; Michlewski, 2008). To foster a collaborative and diversity-oriented work environment, it is essential to cultivate a sense of camaraderie within the team and establish confidence and admiration among colleagues. This can be achieved by promoting cooperative accountability and a commitment to acceptance (Brown, 2008; Jevnaker, 2010).

2.2.1.3.3 Experimentalism and Iterative

One notable attribute of the design methodology is characterized by the inclination for experimentation and its non-consecutive nature (Amalia & von Korflesch, 2021b). Design thinkers have the potential to engage in iterative feedback mechanisms, avoid bias, and integrate feedback with team members and users during the iterative cycle. Design thinkers exercise this attribute by being experimental, pragmatic, and explorative, following the imagination and experimentation phase properly, thinking by doing the process, having experiential intelligence, and nurturing action-oriented behavior.

Experimental, pragmatic, and explorative characteristics are the key features of design thinking (Brown, 2008). These attributes include self-determination for pursuing opportunities (Fraser, 2007) and an eagerness to take risks of failure by challenging both individual and group limitations, technological capabilities, and organizational boundaries (Holloway, 2009). Design thinkers offer ideas and creatively investigate restrictions that lead to completely unexpected outcomes (Brown, 2008).

Design thinking is also learning process in which design thinkers improve their understanding of a specific field by engaging in activities such as monitoring, experimenting, and implementing solutions or prototypes (Dalsgaard, 2014). However, the situation in some industries could be more complicated. For instance, in technology-driven projects, particularly the aviation industry (Tsay & de Lille, 2016),

design criteria need to be more frequently challenged after their formulation by the design departments (Dorst, 2015; Hekkert & Van Dijk, 2011), leading to the development of gradual improvements (Lin & Luh, 2009).

Several research investigations support the claim that artists tend towards pragmatism and a drive-by-solutions mindset, leading them to embrace an expedited workflow (see, e.g., Dorst & Cross, 2001; Lawson, 1980; Wiltschnig et al., 2013). This procedural approach facilitates the quick identification of remedies during the design phase, even before a comprehensive understanding of the challenge (Yilmaz et al., 2016). Kokotovich and Dorst (2016) introduced the notion of problem framing and combined two systems from Altshuller's (1984) TRIZ and Dorst's (2015) Frame Creation to construct a methodical procedure for the design thinking process. This thematic analysis is one alternative solution to facilitate technological innovation by reframing problems and designing situations in a new way.

2.2.1.3.4 Versatile and Broad-Spectrum Thinking Styles

Another key attribute of design thinking is its versatility and comprehensive nature, allowing for extensive introspection and analysis (Amalia & von Korflesch, 2021b). When employing design thinking principles, design thinkers engage in a thorough investigation, employ integrative-holistic contemplation, utilize logical inference, and engage in reflective restructuring. They also methodically approach their tasks, intending to generate creative alternatives. Integrative thinking involves identifying a novel resolution to the inherent conflict inside a more advanced framework that incorporates components from multiple models, surpassing alternative approaches (see, e.g., Brown, 2008; Dunne & Martin, 2006; Hassi & Laakso, 2011) and facing contrasting concepts instead of choosing one over the other. Integrative thinking generates a novel improvement to reconcile the conflict between several models, resulting in a higher form incorporating components from every paradigm (Brown, 2008; Fraser, 2009; Martin, 2010). Martin and Martin (2009) explained decision-making through integrative thinking as consisting of four phases:

- silence (as the first step is determining which traits are significant to the design choice);

- causality (making sense of the numerous components of the challenge);

- architecture (constructing the mental model based on available choices), and

- resolution (the final step is the decision based on final reasonings).

Integrative thinking, which includes divergent and convergent approaches, is a primary cognitive factor in solving problems and achieving a great design (Guilford, 1967). Combining divergent and convergent paths means broadening the breadth and progressing to a preferable result by selecting and synthesizing (Hassi & Laakso, 2011). Design thinking begins with divergent thinking, creating multiple alternatives, and exploring various paths toward a solution (Boland & Collopy, 2004; Drews, 2009). This attribute of divergence in design thinking concerns generating individual ideas and collecting pre-existing data, including data from research, inquiries, and analytic and mathematical data, to enhance comprehension of the overarching challenge (Brown, 2009b). Although divergent thinking may lead to increased creativity (Runco & Acar, 2012), it is not synonymous with creative thought but an essential component of the creative process (Runco, 1991). Another approach is convergent thinking, which utilizes elements and outputs of divergent thinking, collecting them together in a beneficial way using methods, groupings, patterns, or frameworks (Lindberg et al., 2010). Dym et al. (2006) explain that the importance of divergence-convergence thinking, especially in project-based learning, is that it focuses on a specific problem. They observed individuals' natural behavior automatically starting to converge data into patterns once they had collected a critical mass of divergent data. The human brain subsequently recognizes patterns and dependencies.

2.2.1.3.5 Firm Mentality and Personality

The last characteristic of design thinking is a strong mentality and personality (Amalia & von Korflesch, 2021b). The category refers to individuals immersed in the design-thinking task and those reflected by the institutional culture (Hassi & Laakso, 2011).

Optimistic. An essential personality of a design thinker involves consistently demonstrating a steadfast sense of optimism (Efeoglu et al., 2013; Matthews & Wrigley, 2011). The intricate structure of the design methods of thought is attributed to its fundamental nature, mostly to working creatively and iteratively. Design thinkers should also identify their mood swings professionally and build positive and constructive methods of working and training to regulate it. Hence, they balance both peaks and troughs in pursuing integrity and finally capitalize on excitement to follow the users' demands and requests. Optimistic and adaptive design thinkers look for alternatives and find means to reframe problems in a new way (Owen, 2007).

Future-oriented. This personality enables design thinkers to anticipate and visualize new scenarios (Lockwood, 2010). Design is about transforming a condition to become desirable, and design thinkers must constantly deal with development (Junginger, 2007). Because of this future-oriented motivation to create improvements, Drews (2009) describes design thinkers as wanting to create something unusual by confronting typical norms. Also, the overarching idea in design thinking is "what might look like," as the point of departure for the project, and is frequently a more powerful picture than the present state (Drews, 2009). This long-term outlook is guided by the factors influencing the vision-motivated activity (Hassi & Laakso, 2011) consist of intuition (Martin & Martin, 2009; Porcini, 2009) and postulations and future expectations (Martin & Martin, 2009).

Creative. Design thinkers possess a purposeful inclination towards innovation in their field of expertise and exhibit a high level of familiarity with unique methodologies, modes of thinking, and modes of manifestation. They promote and advocate adopting habits that foster and stimulate the process of developing breakthrough concepts. The significance of creativity extends across various domains (Owen, 2007). Design thinking is a cognitive approach that facilitates exploring and expressing complex and perceptual ideas by transforming arbitrary or unfamiliar ideas into combined tangible and experiential forms and enhancing the interpretive substance by vividly portraying amorphous or non-experiential elements while displaying patience in seeing the creative process through (Schweitzer et al., 2016). Creativity

means acknowledging errors, minimizing the organization's ranking, encouraging, inspiring, and motivating people's ideas and imagination, and resisting judging (Cox, 2005; Jevnaker, 2000; Miller & Moultrie, 2013).

Inventive. Creative thinking addresses designers' concern with inventing (Owen, 2007). Design thinkers are more intrigued by 'what' inquiries than scientists are by the 'why' of the issue. Thus, design creativity supplements intellectual curiosity but must encompass more than just creative creation. The design raises the possibility that a good or service is imaginative and within the boundaries of people-centered and environment-centered parameters that control the design thinker's endeavors (Efeoglu et al., 2013).

Generalist. Design thinkers are strong generalists in both planning and realization (Owen, 2007). In a world of specialists, a genuine necessity exists for individuals capable of facilitating the convergence of varied expertise in a synchronized endeavor. A greater breadth of knowledge provides a more potent source of inspiration for originality and creativity. A design thinker is an expert in the design procedure but a generalist in as much substance as feasible (Matthews & Wrigley, 2011).

Essentially, a thorough comprehension of the core characteristics of design thinking forms the foundation for building an innovative model that integrates, recognizes, and supports these aspects throughout the design thinking process. The qualities and traits observed in the current study are consistent with theoretical concepts, including the notion of situated cognition and the essence of design thinking (Lave & Wenger, 1991; Owen, 2007), the theory of development (Piaget, 1972), and the pragmatic approach and the concept of constructivism (Bruner & Bruner, 1990; Dalsgaard, 2014).

In conclusion, although not exhaustive, the characteristics of design thinkers and the qualities of design thinking discussed above might contribute to a deeper understanding of the field of design thinking. This insight may help design thinkers

recognize client preferences, understand challenges, and create solutions more effectively.

2.2.1.4 Process

Efeoglu et al. (2013) explain that design thinking procedures exhibit several distinct elements. Design thinking approaches encompass divergence and convergence throughout all phases while differentiating amongst issue areas, which involve observing and comprehending the issue and cultivating centered around humans' compassion, and the remediation stage involves generating ideas, creating models and visualizations, and constructing prototypes.

The area of concern or focus within a given context. The concept of the "problem domain" was first introduced by Newell (1967, p.5). It was characterized as an analytical domain wherein the issue is situated. Newell endeavored to address and elucidate the intricacies of this analytical domain. Newell's approach emphasizes the problem conditions and processors as key components in problem-solving. Based on the theory mentioned above, the concept of the solution space holds paramount importance concerning the problem space, hence distinguishing it from the design thinking method. In this particular instance, Newell (1979) proposes the endorsement of a team-based strategy that involves simultaneous investigation of both the issue in question and treatment domains. Additionally, Dorst and Cross (2001) propose segregating the problem field from the solution area.

Nevertheless, design thinking concerning the problem domain necessitates a thorough and in-depth understanding of the challenge (Efeoglu et al., 2013). It is distinguished by its problem-centric procedure, in which the problem serves as the rationale for determining the best solution (Simon, 1981; Visser, 2010). After a thorough analysis and a comprehensive understanding of the problem, the design process begins exploring potential solutions (Cross, 1982). A detailed investigation of the suffering and compassion experienced by those affected is necessary (Brown, 2009b; Plattner et al., 2009). Hong and Choi (2011) recommend identifying the

objective, examining the issue, and delineating it inside the problem domain. Research has shown that inquiries have the potential to yield many answers (Cross, 2004; Lindberg et al., 2010; Owen, 2007; Rowe, 1987). Given the inherent difficulties of such challenges, Bauer and Eagen (2008) argue that design thinking is more appropriate for addressing "twisted issues" than merely logical and methodical approaches.

The solution domain. The attainment of a solution's domain is contingent upon a comprehensive understanding of the situation. The solution is determined by forming concepts, conceptual models, and preliminary designs that effectively address the situation. The iteration process facilitates the ability to transition from one to another in different phases (Efeoglu et al., 2013). As a result, it is possible to navigate through the problem area and the solution space (Lindberg et al., 2010). This repetition is particularly valuable when tangible designs are anticipated to generate novel inquiries within the issue domain. Specifically, it is most effective when distinct user requirements arise upon the presentation of the prototype to stakeholders. The design thinker's understanding of each problem area and solution area will progressively expand with each successive iteration, ultimately leading to an appropriate form (Cross, 2007).

Identifying the fundamental components of design thinking necessitates a comparative analysis of various methodologies. Based on the findings of Efeoglu et al. (2013), this study examined the distinctive attributes, methodological procedures, user-centricity, and structural integrity of each design thinking approach. The design thinking approaches described initially follow a looping sequence, but the more recent solutions tend to be consecutive.

The initial iterations of design thinking methodologies were characterized by a looping framework pioneered by Simon (1969). The process encompassed a series of distinct stages: Definition, Ideation, Prototyping, Selection, Implementation, and Learning. In the prototype design process, designers comprehensively understand a problem, generate and refine ideas, and ultimately identify the optimal solution

(Waloszek, 2012). Moreover, Brown's (2008) influential publication in the Business Review of Harvard University established design thinking proposed by IDEO. His work included illustrative instances and delineated the cyclical feature of design thinking. Furthermore, IDEO has conducted additional studies on the strategy, specifically within the realm of education, and the insights gained from this research have been included in their approach.

For pedagogic purposes, some recent design thinking techniques similarly prioritize sequential methodologies (Efeoglu et al., 2013). The shared characteristic between sequential and circular processes resides in the iterative nature of their respective cycles. One illustration of the sequential approach's efficacy in design thinking is evidenced by its utilization by the Hasso Plattner Institute in Potsdam and Stanford College (Plattner et al., 2009). In the realm of education in business and entrepreneurship, Liedtka and Ogilvie (2012) propose a methodology that encompasses four consecutive phases, which will be expounded upon in subsequent sections. The process was designed utilizing their practical pedagogical and consultative experiences.

Design thinking has garnered acknowledgment as a practical methodology for addressing and resolving challenges in various non-design domains, including business and education. The research field encompasses various methodologies for design thinking (Brown, 2008; Liedtka & Ogilvie, 2012; Plattner et al., 2009; Stanford, 2009). These sources provide formal frameworks for understanding and implementing this concept. Its procedure encompasses several phases and can be characterized by either a sequential or continuous progression. Therefore, it can revert to its initial position and commence a fresh cycle. Additionally, diverse feedback channels can exist throughout different phases and simultaneous occurrences in many regions. Hence, conceptualizing process cycles as "models" is more advantageous than as consecutive stages (Stanford, 2009).

2.2.2 Theoretical Foundations

Despite design thinking's reputation as a practical method for fostering creativity and generating new ideas in the design field, it is underpinned by intricate theoretical principles. The methodology has gained widespread recognition as a successful innovation practice and process. However, the exact mechanism and reason for how design thinking works – within academic terms – remains a mystery. The existing literature community has made tremendous strides in clarifying the principles underpinning the effectiveness of design thinking practices in recent years. Simultaneously, the design thinking society demands a complete examination of the history of the design discipline, which could contribute to our knowledge of its essential ideas.

Many of the fundamental ideas that were later refined and enlarged starting in the 1950s came from research conducted by von Thienen et al. (2018, 2019, 2021). The Mechanical Engineering department at Stanford University served as the hub for these ideas. These are the main ideas that will be covered in this subsection. The three main categories of ideas are ambidextrous reasoning, visual reasoning, and creative thinking.

The following is a detailed exposition of the three fundamental thinking theories related to design thinking. The subsequent section begins the discussion with creative thinking (section 2.2.2.1), then visual thinking (section 2.2.2.2), and conclude with the ambidextrous thinking theory (section 2.2.2.3).

2.2.2.1 Creative Thinking Theories

Using the first chapter of von Thienen et al. (2018), "Arnold's Creative Thinking Theories," the section begins with the theoretical foundation of design thinking by going back to the history of the design thinking movement. This first fundamental concept, creative thinking, played an important role in the Creative Engineering Seminars initiated by John E. Arnold at Stanford College in the 1950s and continues

to this day. The chapter goes into great detail about two of the backbones of Arnold's creative thinking paradigm. The first is a comprehensive collection of procedures employed at all stages of the creative process; the second is a collection of methods that are useful only at the end. The latter is a collection of ideas on how to think creatively.

Arnold differentiated between two forms of creative techniques. The first structured creativity is a step-by-step or reasonable method, such as the trial-and-error technique, stage, or logical approach. In contrast to the organized approach, which results in incremental improvement, inspired creativity results in radical transformation. It is based on intuition, imagination, and freely governed cognition - for example, The Big Dream, Flash of Genius, and Insight-based approaches. Combined creativity treatments involve parts of organized and inspired approaches to produce new ideas. However, design thinking seems more comprehensive than the combined approaches that Arnold outlined because it includes all of the approaches discussed systematically.

Furthermore, it can multiply and evolve alongside its host. *Design thinking* is a methodology that thoroughly and effectively combines motivated and arranged creativity processes. As a result, there are six ideas under Arnold's creative thinking framework (see Figure 6).

The present discourse pertains to the theoretical framework of creative thinking, encompassing problem responsiveness, comprehension, adaptation, and novelty.	Theory of thought modes: analytic, juridical, and synthetic.	Theory of Problem Types: analytical, judicial, and synthetic.
Theory of Creativity Blocks (i.e., inhibiting creative effort).	Theory of Creative Process (i.e., similar with problem-solving practice).	The present discourse centers on the theoretical framework for developing innovative thinking and metacognitive thinking control.

Figure 6. Design Thinking in Arnold's Creative Thinking Framework[11]

Following Figure 6, the notion of "design thinking" has been viewed as a contemporary phenomenon, yet Arnold was an early adopter of this methodology. Nevertheless, while his strategy concerning design thinking bears similarities to contemporary methodologies, it also exhibits notable divergences from them. One notable parallel is in Arnold's discussion of design thinking, which pertains to the deliberate process of conceptualizing and creating objects and devising alternatives through human agency. Design thinking refers to the systematic approach of perceiving the external environment through the lens of a designer actively engaged in creating and innovating creative solutions. One notable differentiation lies in Arnold's discernment of many categories within design thinking. He proposes four possible directions for improvement and creativity: enhanced efficiency, higher effectiveness levels, reduced prices, and more flexible scaling. From his point of view, design thinking spans all four domains and incorporates endeavors of diverse scales, ranging from minor to substantial.

The concepts proposed by Arnold have subsequently been embraced and expanded upon by contemporary teachers and supporters of design thinking. The groundbreaking instructors at Stanford University have implemented and further constructed significant issues such as modifying and analyzing collaborative effort, manufacturing prototypes culture, innovative optimism, and process competency

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[11] Author's own figure, referencing von Thienen et al. (2021)

(e.g., Kelley & Kelley, 2013; Leifer, 1998; Royalty et al., 2015). Nevertheless, von Thienen et al. (2018) acknowledged two areas where a significant departure from Arnold's creative thinking concept to the contemporary design thinking approach might be anticipated. Design thinkers are predisposed to taking movement and can manifest frustration in the context of their nomenclature. In contrast, Arnold provides a full conceptual foundation for cognitive processes. His methodology, though, encompasses significant precursors for operational orientation. He is in complete agreement. He is a consistent advocate for individuals with creative thinking abilities to actively implement their ideas. The human mind exhibits a profound level of rootedness and embeddedness. Hence, discerning cognition, behavior, and the surrounding context is a complex task, as there remains a distinction between the thought process of ideas and their tangible execution. Arnold's paradigm emphasizes individuals, although the design thinking community generally thinks creativity is inherently communal. This concept presents an additional challenge. Arnold extensively explores a range of tactics for fostering creative relationships in his comprehensive compilation of approaches. It is evident from the given information that he has adopted a highly personalized approach towards them despite his conceptual framework emphasizing the human being.

One noteworthy remark is that contemporary design thinking emphasizes the acquisition of design expertise for customers by design instructors and students instead of relying solely on philosophical and conventional texts (von Thienen et al., 2016). Design thinking learning facilitates the expeditious resolution of intelligence disparities through substantial involvement and cooperation with experts across several disciplines. Hence, there has been a shift in a fundamental pedagogical premise from Arnold's initial conception (von Thienen et al., 2018).

2.2.2.2 Visual Thinking Theories

In this second part, von Thienen et al. (2019) explicate the principles and concepts behind Robert H. McKim's design idea centered around necessities. The theory proposed by Robert H. Kim in his 1959 publication contributed to the advancement

of design that prioritizes people. Kim's theory offered a comprehensive analysis of the needs of humans, elucidated the significance of styles and designers in the strategies of cultural advancement, and presented criteria for assessing and improving design significance. According to McKim, the ultimate objective of the design process is to enhance the public's welfare by facilitating the fulfillment of their fundamental necessities. The individual espoused a design ideology that endorsed the fulfillment of human requirements and transcended the mere structural considerations of mechanics by including a wider range of human cognitive and mental traits. McKim's thesis constitutes a significant asset for design thinking research.

McKim contemplated many strategies to further the human-focused approach. Following Arnold's fundamental premise of "comprehending individuals," the individual determined that crucial design concepts should arise from a profound comprehension of human necessities. Furthermore, he espoused the "comprehensive designer" concept and envisaged a less fragmented approach to design production. Designers must be able to effectively execute strategies, such as conducting assessments of needs and engaging in prototype activities. Design procedures hold a timeless quality for McKim. McKim provides a clear and concise exposition of the fundamental concept underlying the idea of design grounded in needs. Design refers to "the distinct capacity of individuals to employ various aspects and motions by their mental, physical, and psychological requirements determined by the outside world and social and cultural settings" (McKim, as cited in von Thienen et al., 2019, p. 16). This term elucidates the specific occurrences that McKim effectively highlights in his hypothesis. McKim's focus extends beyond merely discussing created products, as he exhibits a specific passion for their complicated creation method.

McKim posits that individuals employ deliberate and intuitive reactions to address various demands while generating designs. The theory posits that prompted techniques for creativity manifest themselves through a phenomenon known as "experienced design engagement." The individual in question utilizes art theory to

elucidate the strategies employed in creating works imbued with emotive qualities, thereby employing a specific method of creativity. During subsequent years, McKim significantly incorporated concepts and activities from art education into the educational programs he established at Stanford University. This paper's author highlights that creative process analyses rely on subjective emotions.

Despite this, people who adhere to a systematic and methodical strategy within mindful design might only partially establish a strong connection with their emotions and personal circumstances. Furthermore, the measurement of thoughtful design does not need the inclusion of any pertinent emotions. McKim used this finding to differentiate between design strategies prioritizing rationality and organization and those emphasizing emotional and spontaneous aspects. The author proposes that emotions or tangible sensations are significant factors in forming "felt design," a term coined by the author to describe this quality. The idea of felt design is derived from art theory.

A potential approach to addressing people's needs could involve utilizing an experienced design reaction characterized by a non-instinctual and experience-driven manner of engagement (von Thienen et al., 2019). Experience can serve as an indicator of the process of creativity in multiple ways. One aspect is the thoughts and feelings that indicate a sense of correctness, appropriateness, excitement, and potential in a specific course of action. Certain people may have a sense of dissatisfaction or disillusionment, leading them to rely on their personal preferences and desires or what they perceive as being correct. This concept resembles John Arnold's concept of "motivated" innovation. Nevertheless, an alternative perspective exists wherein experience assumes a pivotal function: proactively pursuing circumstances that facilitate the individual's growth and the cultivation of novel hunches. The concept of being influenced by experience, as explored in McKim's (1972) publication titled "Visual Thinking," is a significant theme he underscores concerning its use in managing imaginative and inventive endeavors.

Design reactions encompass both cognitive and emotional aspects. In this manner, McKim presents an illustration derived from the prehistoric era of human civilization. The individual directs attention towards the cave sculptures, symbolizing a notable artistic accomplishment by incorporating emotional expression and necessitating proficient craftsmanship and meticulous planning, incorporating rational elements. Accordingly, there are three theories within McKim's need-based design theory (von Thienen et al., 2021), as seen in Figure 7 below.

Theory of human needs: physical, emotional, and intellectual.	Theory of culture development (i.e., a cycle of developing novel designs, novel culture and situation, and novel needs).	Theory of good design
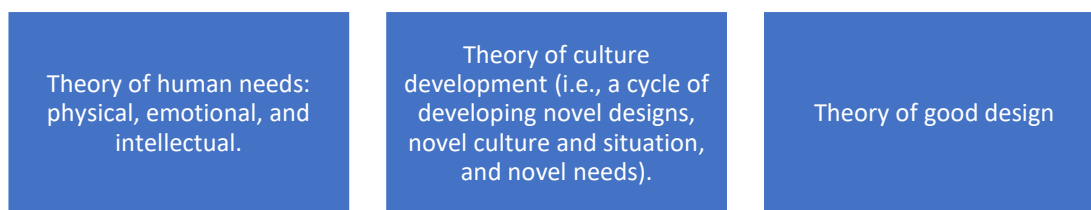
Figure 7. Visual Thinking Theory in McKim's Framework to Design Thinking[12]

Since McKim's tailored-to-needs concept of design was developed in the 1950s, there is a pertinent inquiry regarding its relevance to modern design-thinking methodologies (von Thienen et al., 2019). In this case, it is crucial to emphasize the persistent focus on basic requirements for humans, as shown in Figure 7 above. Incorporating these elements into fundamental design principles will expand beyond their cosmetic use. Objects purposely made by intellectuals are customized to meticulously and consciously fulfill significant human necessities. Due to this rationale, design thinking practitioners acquire the skill of empathizing with users before engaging in the design process. McKim employs an inclusive interpretation of the notion of "need." The term "needs" might encompass culture-specific, situation-specific, or individual-specific necessities and aspirations analogous to the fundamental human issues of survival, sustenance, and acceptance within society. It is through the liberal application of terminology that one can ethically evaluate needs, as exemplified by McKim.

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[12] Author's own figure, referencing von Thienen et al. (2021)

The statement mentioned above holds for the designer's voluntary responsibility of discerning between demands that require attention and those that are intentionally disregarded (von Thienen et al., 2019). This duty of choosing is explicitly outlined in McKim's philosophy and was acknowledged, at the very least, as a subject of consideration by proponents of choice-based thinking at that period. Alternatively, if the notion of "need" were more restricted, exclusively referring to fundamental human objectives like survival, it would render moral assessment unfeasible, prompting designers to prioritize fulfilling all human needs. Due to this rationale, McKim and other modern design theorists employ the term "need" considerably unrestrictedly. The term encompasses a broad range of human concerns, encompassing universal objectives, including preservation ("basic needs") and objectives tailored to society, context, or individuals. The designer's primary responsibility is establishing a hierarchical structure for the demands and arranging them in ascending order from "fundamental" to "specific." The objective, therefore, is to evaluate the design-oriented needs that should be addressed, as inferred from the lenient discourse surrounding the concept of "needs." Design thinking builds upon McKim's focus on humanity's orientation to design by recognizing the underlying fundamental requirements that drive specific goals, whether context-dependent or individual-oriented.

McKim's theories about design span a wider range of perspectives and concepts compared to the prevailing modern design thinking. This comprehensive guide encompasses the entirety of the design process, commencing with formulating a fundamental design concept and culminating in the meticulous execution of all design particulars. On the other hand, contemporary design thinking emphasizes the cultivation of a profoundly significant and pioneering central design concept. The design theory proposed by McKim has significantly contributed to the understanding of design accomplishment. Over time, this premise has given rise to various design methodologies, which have grown with the broader context of design thinking.

2.2.2.3 Ambidextrous Thinking Theories

In the final section of the paper authored by von Thienen et al. (2021), the authors engage in a discussion regarding the narrative "Experiences in Visual Thinking" by (McKim, 1972), highlighting the prominent demonstration of ideas informing practical application. The book "Experiences in Visual Thinking (EVT)" may elicit unexpected reactions. This publication could be misconstrued as a textbook utilized in an illustration course offered by an art conservator. The resource includes a variety of visual representations and practical exercises involving illustrations and sketches. Upon careful examination, it becomes evident that the book is a comprehensive compilation of Design Thinking principles, skillfully integrating essential concepts from diverse sources such as John Arnold's renowned work, Creative Engineering. The author adeptly constructs a cohesive framework that synthesizes these ideas. McKim's visual, ambidextrous reasoning ideas consist of five distinct theories, as depicted in Figure 8. These theories will now be examined and explored in detail.

Creativity theory (including such concepts as self-challenge, efficient data utilization, and adaptability).	Theory of relaxed attention (favorable for creative and productive thinking)	Theory of attention (i.e., forced, immersed, passive, preattention and voluntary attention).
Theory of memory (i.e., improving memory performance for creative capacity).	Theory of representation systems	

Figure 8. The Concept of Ambidextrous Thinking[13]

Following Figure 8, McKim introduced the concept of Ambidextrous Thinking in his examination of visual thinking, a significant aspect of design thinking, which was inspired by the theoretical frameworks by Jerome Bruner, Abraham Maslow, Ulric Neisser, and John Arnold (von Thienen et al., 2021). Subsequently, Rolf Faste, who

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[13] Author's own figure, referencing (von Thienen et al., 2021)

succeeded Robert McKim in Stanford University's Product Design Department, further refined the initial "visual thinking" classes to create a comprehensive "ambidextrous thinking" program. In subsequent years, ambidextrous thinking and its associated pedagogical methods were reexamined and reframed as Design Thinking.

Ambidextrous thinking is the person's ability to employ diverse thinking and constructively integrate them proficiently (von Thienen et al., 2021). Such techniques encompass implicitly "left-handed" techniques, characterized by spontaneity, openness to ambitions, playfulness, and intuition, and metaphorically "right-handed" techniques, characterized by adherence to organized, well-considered, and informed job approaches. The attainment of exceptional creative outcomes necessitates exceeding the mere presence of varied teams. It is imperative for individuals with an innovative inclination to possess the capacity to employ diverse cognitive approaches, hence necessitating the ability to engage in ambidextrous thinking.

Currently, this perspective presented by the works of von Thienen et al. (2021) continues to be adhered to in the realm of design thinking education. Teams are typically formed with the intention of including diversity, although in practice, there often needs to be more differentiation in the allocation of positions. Each team member possesses personal experience in the respective field, fostering cognitive processing associated with the brain's left hemisphere. Everyone on the team synthesizes, frequently employing various structured methodologies that facilitate cognitive processing biased towards right-handedness. The significance of this framework for ambidextrous thinking lies in its direct interaction with McKim's representation concept of systems. As mentioned above, the concept highlights the need to employ visual cognition for a heightened imaginative capacity. When individuals employ the physical conceptual framework, they use their sensory faculties effectively. It has been posited that this particular mechanism facilitates the enhancement of basic imagination or figurative left-brain reasoning.

In reality however, people tend to engage in figurative right-handed thinking since they predominantly utilize calculation systems or written languages. Visual thinking has been observed to be a predominantly figurative cognitive process that is commonly associated with left-handed individuals. It enhances the process of initial creativity, leading to heightened levels of creativity and breakthroughs in creative thinking. Linguistic and mathematical analysis can be considered cognitive processes that involve symbols and are predominantly associated with right-handed individuals. These kinds of tasks support secondary forms of creativity instead of basic forms. These solutions typically entail complex technological approaches inside established paradigms.

Furthermore, settings must facilitate harmonious sensory participation and symbolic understanding integration. The concept described facilitates the development of both main and secondary forms of creativity, which involve ambidextrous thinking. Moreover, it cultivates optimal creative outcomes (von Thienen et al., 2021). Multisensory spaces serve as a valuable supplement to libraries and other venues that primarily rely on textual materials, as they facilitate the development of ambidextrous thinking. The phenomena of creative mastery can be explained through ambidextrous thinking, rooted in the concept of conscious embodiment. There exists a contention that people can attain optimal levels of imaginative achievement alone through the deliberate pursuit and integration of sensory-motor encounters in conjunction with representational science. In this instance, McKim additionally presents the ETC (express-test-cycle) framework to underscore the fundamentally cyclic characteristic of creative endeavors. Figure 9 presents a comparative analysis between McKim's ETC modeling and a contemporary method framework of design thinking. The ETC model only focuses on a certain segment of the overarching creative-thinking process, specifically the idea-generating and evaluating prototyping items phases.

The ETC model is only concerned with the stages "ideate" and "test prototypes" of a recent-day design thinking process model. Graphically, in the ETC model, circular lines connecting different process phases underscore the essentially iterative nature of creative work. The graphic element is used up to the present to communicate the need for iteration in creative process.

Figure 9 The McKim's ETC Model[14]

The ETC model by von Thienen et al. (2021) in Figure 9 exclusively encompasses the stages of an innovative undertaking that pertain to generating ideas and the development of prototypes. McKim's comprehensive body of work encompasses all the process phases recognized in contemporary models generating design thinking processes, from problem identification to generating impactful ideas. In the contemporary design thinking framework, McKim places significant emphasis on the mental processes employed by humans to document ideas. In contemporary times, the ideation process commonly occurs inside collaborative settings, as opposed to solitary instances of social disengagement, wherein teams endeavor to generate innovative and valuable concepts. McKim's analysis aligns with his theoretical framework, as he specifically outlines the practice of generating preliminary creative concepts inside intimate groups that operate in an "in-group" fashion, as observed in this case.

Contemporary discourse frequently posits that design thinking is predicated upon three fundamental elements: innovative methods/process, talented people, and innovative settings/place, commonly called the "3 Big P" (see Figure 10).

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[14] Author's formatting figure, referencing von Thienen et al. (2021)
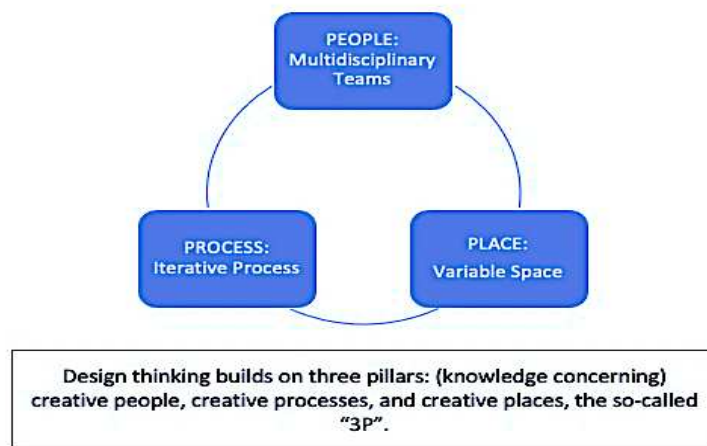
Figure 10. The 3 Big P Model[15]

In light of the abovementioned design theories and basic components shown in Figure 10, it is further imperative to establish conceptual foundations within corporate business management writings to comprehensively elucidate design thinking principles (Dorst, 2011a; Schweitzer et al., 2016). Its rapid popularity has posed new challenges, ranging from its origins in design education and practice to its later uses and repercussions in business management and other sectors. Design thinking has been widely advocated as a panacea for numerous predicaments in the corporate realm (Hassi & Laakso, 2011). Consequently, the significance of the subject matter has experienced a decline (Badke-Schaub et al., 2010), and the topic has even started to erode in terms of its conceptual significance (Cross, 2010; Johansson & Woodilla, 2010). The scenario mentioned above has given rise to a continuous theoretical discourse regarding the fundamental principles and conceptual links between this circumstance and the domains of innovations in goods and services, organizational planning, and its potential for effective implementation (Clegg et al., 2012).

Furthermore, this debate has incited deliberations regarding the correlation between this particular circumstance and entrepreneurship and management education domains within academic institutions (Dunne & Martin, 2006). Design thinking has

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[15] Author's formatting figure, referencing von Thienen et al. (2021)

provided numerous explanations of design tenets and traits, cognitive processes, creativity-driven traits, and ideas associated with those with a design-thinking mentality (Schweitzer et al., 2016). The design-thinking's depictions vary and are frequently characterized by a need for more clarity and reliance on anecdotal observations of the mentalities and actions exhibited by those who employ this method. There remains a need for an exhaustive analysis and correlation of the design thinking mentality and its psychological and behavior-related components (Schweitzer et al., 2016). Any discipline aiming to foster an innovative culture by utilizing design thinking and the accompanying views should possess a comprehensive understanding of the fundamental underpinnings and requisite skills, including the transformative potential inherent in this approach.

2.2.3 Summary and Insight for This Thesis

This section will present the summary and insights for this thesis. Firstly, it will summarize the basic concepts and fundamental theories of design thinking mentioned earlier and bring all points to answer the first half of this thesis research: one: theoretical concepts standing behind design thinking (section 2.2.3.1). It will further connect those 'design thinking' theories with 'entrepreneurship education' and explain how its integration ('entrepreneurial design thinking') is applied in higher education (section 2.2.3.2) to answer the second half of this thesis research question: the theoretical connection between design thinking and entrepreneurship education.

2.2.3.1 Theoretical Concepts Stand Behind Design Thinking

This section now converges from the above comprehensive literature to answer this thesis's first half research question, i.e., the theoretical concepts behind design thinking. This study has created the framework below (see Figure 11) to answer those questions and illustrate the theoretical concepts of design thinking that have been explained earlier.
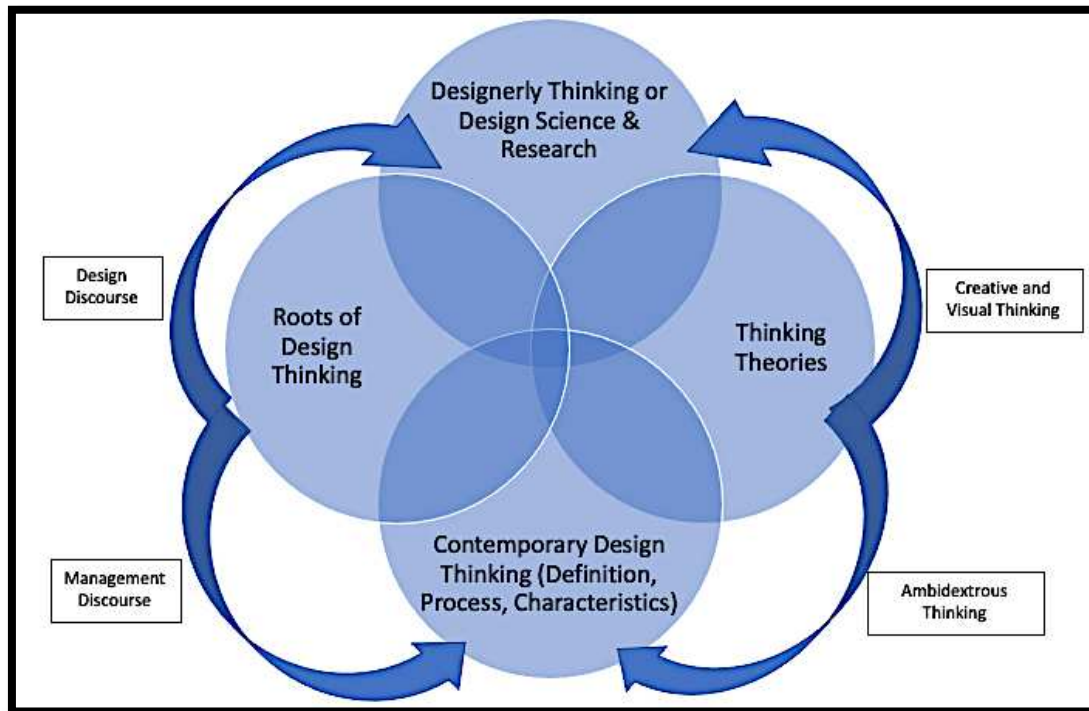
Figure 11. The Theoretical Concepts Stand Behind Design Thinking[16]

Figure 11 shows two major concepts behind design thinking, i.e., its roots and thinking theories. The former indicated that there had been two discourses rooting design thinking. At the same time, the latter consists of three thinking theories (i.e., creative, visual, and ambidextrous thinking) based on the works of Arnold and McKim (von Thienen et al., 2018, 2019, 2021). Concerning the roots of design thinking, the discourse focuses on design theory and the current debate around design thinking. The first two thinking theories (creative and visual thinking) are closely tied to the design discourse ideas (design science and research). However, ambidextrous thinking is largely associated with today's concept of design thinking.

In particular, the theoretical foundations of design thinking as a discipline may date back to Simon's (1969) description of the fundamental character of design as an artificial science. According to Simon's seminal work, the design is pragmatist as the underlying epistemological notion. An essential design characteristic is ideal target systems when defining the initial situation (Romme, 2003). On the contrary, Schön

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[16] Author's own figure

was a philosopher who initially used a pragmatic attitude as his basis for theory. He urged academicians and experts to rethink the function of expertise in his work, "The Reflective Practitioner." The book critiqued Simon's cognitive viewpoint (Johansson-Sköldberg et al., 2013). Despite some disputes, Simon's (1969) pragmatist approach, "The Science of the Artificial," has laid down some fundamental underpinnings and proposed "the science of design" as a basis for research. As making artifacts and contributing to those artifacts' creation and maintenance are essential elements in design (Cross, 2001), some parts of the process are the design knowledge gained through experiencing, engaging, and reflecting on the process and using the artifacts. The fundamental aspects of the process pertain primarily to designers and artists, centering on the cognitive, epistemological, and behavioral characteristics associated with design thought and practice (Cross, 1982; Cross & Cross, 1998).

As for the thinking theory part, the previous sub-section has unveiled the theories of design thinking following the seminal works of von Thienen et al. (2018, 2019, 2021). The three fundamental ways of thinking—creative, visual, and ambidextrous—are the foundation of present-day design thinking. The three abovementioned theories can be summarized and explained as follows (see Figure 12).

Creative Thinking
- Compilation methods in the creative process
- A set of 6 theories building the framework of creative thinking

Visual Thinking
- The creative process culminates not in an abstract concept but in developing tangible designs.
- Enhance individuals' overall welfare by assisting in fulfilling their fundamental necessities

Ambidextrous Thinking
- This theory proposes an in-depth paradigm that explores the relationship between creativity and integrated and implanted cognition.
- Visual thinking is an integral aspect of the cognitive process, and it holds significant importance in the evolution of design thinking throughout history

Figure 12. Summary on Fundamental Theories of Design Thinking[17]

Following Figure 12, von Thienen et al. (2018) introduced the creative thinking theories by John E. Arnold, an MIT professor of mechanical engineering and business administration, in 1957. In his work, Creative Engineering, he described two major pillars in the creative thinking framework. The initial item is a comprehensive assemblage of techniques that may prove useful throughout the artistic process. The next concept pertains to a collection of theories concerning imaginative cognition that John Arnold introduced to Stanford University. These ideas comprise an extensive foundation for understanding creativity. The creators' overarching objective is to fulfill individuals' requirements while also considering the concept of a holistic design and emphasizing the importance of tangible results.

The theory of visual thinking, first introduced by Robert H. McKim in 1959, was presented by von Thienen et al. (2019). This theory presents a conceptualization of advanced human-centered design theory, elaborates the notion of individual requirements, explores the role of design and creators in cultural development, and guides actively enhancing design value. McKim's contributions to this study provide

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[17] Author's own figure

a theoretical framework for examining and contrasting several contemporary design methodologies, including design thinking. In the first part, Arnold explains that design completes the process. McKim elaborates and takes these ideas even further by putting them into reality. His explanation and explanation of commercial design and "rapid visualization" helped design philosophy and practice merge, and it still does. Therefore, McKim builds an environment of well-informed and contemplative creators, characterizing them as "makers" who prioritize experiential learning and prototype construction. This emphasis on engagement and experimenting has remained a defining characteristic of design thinking.

Von Thienen et al. (2021) further summarized the philosophical understanding of design thinking that takes a documentary step to elucidate the present predicament of practical design thinking. Building on the comprehensive works by John E. Arnold and Robert H. McKim, von Thienen et al. (2021) discussed the milestones of design thinking theory and practice development in detail. McKim's (1972) "Experiences in Visual Thinking" presented an inclusive paradigm of creativity as incorporated and rooted perception. In this section, McKim addresses the body's function in creative performance. In particular, he explains that creative thought occurs during contact with the outside environment. In cognitive visualization, McKim expounds on the three fundamental processes of "perceive-think-act," which he further elucidates as "seeing-imagining-idea drawing," are considered to be essential for creative thinking in every depiction system (von Thienen et al., 2021). Comprehensive usage of diverse visualization methods is advised to stimulate creative breakthroughs.

Additionally, McKim adapts theories of creativity into a curriculum that prioritizes incentives for individuals to engage in experiential learning as highly as lectures. He also explores how imagination is ingrained in society and offers detailed guidelines for creating environments that encourage innovative endeavors. Finally, the author presents the concept of "ambidextrous thinking," a precursor to the "design thinking" framework developed through Stanford University's technological advancement department.

The design thinking movement has recently achieved much in both business and industry. The awareness level mainly stems from the management sphere and extensive promotion by design agencies (e.g., IDEO). The innovation literature has also emphasized design as a fundamental and essential competence that fosters invention and facilitates adaptability (Dodgson et al., 2005; Schweitzer et al., 2016). The growing recognition of the far-reaching influence of design and its importance to effective business operations are two causes that have fueled the main interest in design and design thinking at the corporate level (Matthews & Wrigley, 2011). Utterback et al. (2006) point out that the most significant offerings of design and design thinking were their innovative values in recent products, services, and system development. Design thinking has moved from the traditionally engineering-based process and product design to a vital aspect in the organization's strategy (Camillus, 2008; Fleetwood, 2005; Verganti, 2006, 2008).

In addition to engineering and innovation-business settings, design thinking has received much attention in academia because of its capacity to modify individuals' learning approaches and problem-solving methods (e.g., Dym et al., 2006; Fricke, 1999; Nagai & Noguchi, 2003). Today's learners must read and think critically, reason logically, and solve ill-defined problems (Rotherham & Willingham, 2009). Therefore, teachers and lecturers should encourage students to build and nurture globalization skills (such as design thinking, capabilities in systems reasoning, and collaboration). Acquiring these competencies can enhance individuals' capacity to resolve issues and provide them with the necessary preparation for further education at the university level and future development (Razzouk & Shute, 2012; Rotherham & Willingham, 2009).

The academic literature encompasses a range of descriptions, ideas, and perspectives concerning design thinking. Previously, design thinking referred to designers' cognitive processes (Cross, 2011; Lawson, 1980; Rowe, 1987). The phrase is commonly linked to a mentality and a process utilized for addressing intricate and challenging challenges in various situations outside the design realm and a way of thinking about solving wicked problems and promising innovations (Yilmaz et al.,

2016). It encompasses a set of tenets, a systematic approach, and a repertoire of techniques to comprehend the interplay between affective and cognitive motivations in resolving issues (Liedtka & Ogilvie, 2012). From the discussions, all the definitions of design thinking mentioned earlier need to be more specific due to the tension amid the objectivity of science and its application to occupational conduct (Dolak et al., 2013). Some studies (e.g., Clark & Smith, 2010; Kimbell, 2011; Lindberg et al., 2011) further suggest three design thinking domains. They are design thinking as a cognitive way of thinking, a philosophy ingrained in business practice, and a technique for directing design (Dolak et al., 2013).

Design thinking possesses various features in common. Amalia & von Korflesch (2021b, p.100) have summarized them into five fundamental ones: (a) human-centered-empathic; (b) collaboration and communicative teamwork; (c) experimentalism and iterative; (d) versatile and broad-spectrum thinking styles; and (e) strong mentality and personality. Each design thinking characteristic connects with the attributes of design thinkers, both cognitive and behavioral components. They are all significant to ensure the problems are solved and bring innovation into the final solutions (products, services, or systems). Also, it is generally a methodology to find innovative solutions to complicated issues. It has developed increasingly and become a profound feature, even in non-design works. Several publications have described various characteristics of design thinking. This study extracts them into five standard or key features: empathy, integrative-holistic thinking, experimentalism, collaboration in multidisciplinary teamwork, and iterative-communicative process.

2.2.3.2 Theoretical Connection Entrepreneurial Design Thinking

The principles of entrepreneurship and design thinking mentioned above may exhibit perceptual disparities. Numerous scholarly investigations have separately explored the domains of design and entrepreneurship despite the inherent interconnectedness of their underlying concepts. O'Grady (2008) posited the existence of a "cultural collision" when examining the disparities between management and design academic societies. Comparably, Patel and Mehta (2017)

discovered that entrepreneurial thinking focuses on examining interactions solely from an internal standpoint, namely through the lens of entrepreneurs. Conversely, design thinking predominantly considers interactions from a broader point of view. In addition, adopting entrepreneurial thinking fosters a holistic perspective, whereas using design thinking cultivates the ability to address challenges effectively. In this context, an individual with an entrepreneurial mindset employs design thinking principles to identify tangible prospects and undertake prudent hazards. Design thinking is crucial in generating intrinsic value within goods or principles, whereas entrepreneurial thinking facilitates users' recognition of this worth.

Moreover, the expanding recognition of design thinking and entrepreneurship education is indicated in the ever-rising number of scientific publications about their capacity for developing novel methods of thinking, including in the higher education sector. As vehicles to close this research, the surge in interest surrounding design thinking and entrepreneurial education is evident through the rise in scholarly studies discussing its capacity to foster innovative modes of thinking, particularly within college and university education. To fill this investigation's void, comprehension of their ideology and guiding values aids in comprehending and implementing these methodologies. Sarasvathy et al. (2008) argue that distinctions are weakening between the two distinct fields. The design field is transforming over its traditional boundaries, increasing awareness of its nature. At the same time, the concept of entrepreneurship is expanding to transcend its conventional focus on management, embracing a more comprehensive grasp of its essence. Simultaneously, the entrepreneur might be perceived as a creator of organizational structures and the societal fabric. Hence, the emerging viewpoint of entrepreneurship, characterized by its deliberate, methodical, planned, and purpose-driven nature, exhibits significant parallels within design studies (Mansoori & Lackéus, 2020).

Sarasvathy and Venkataraman (2011) further compared the scientific and entrepreneurial techniques, building upon Owen's (2007) prior comparison of the empirical worldview and the design mentality. That design mentality comprises the cognitive style known as divergent thinking. Boland et al. (2008) also discuss the

distinction between a design mindset and a decision-making orientation. Perceiving impediments characterize the decision-making attitude as static and unalterable, while the design mindset approaches problems by producing innovative and creative solutions (Boland & Collopy, 2004; Huq & Gilbert, 2017). In other studies, Sarasvathy et al. (2008) propose the concept of effectuation as a logical framework for entrepreneurial object creation. They compared the Effectuation reasoning proposed by Sarasvathy (2001) and the Double Diamond Design Thinking Process Model introduced by the UK Design Council (2006). Their studies demonstrated that each of these notions support distinct ways of conceptualizing, which is related with the generation of opportunities through innovative research (Sarasvathy et al., 2008).

Additionally, there is a significant similarity in concepts between design thinking and entrepreneurship education since both disciplines strongly emphasize belief systems and the production of innovative solutions within resource-constrained environments. The concept in question was most comprehensively articulated by Simon (1969), who posited that "designing involves formulating strategies to convert current circumstances into desired outcomes" (p. 111). Generating worth is similarly emphasized in entrepreneurship education, where entrepreneurial behavior is perceived as generating a beneficial impact (Sarasvathy & Venkataraman, 2011). The studies mentioned above (i.e., Johansson-Sköldberg et al., 2013; Mansoori & Lackéus, 2020; Sarasvathy et al., 2008) highlight the incorporation of creating worth for numerous parties involved within both ideas. Designers and entrepreneurs employ specific methodologies to address intricate challenges and actualize their envisioned concepts in influencing worldwide (Klenner et al., 2022; Mansoori & Lackéus, 2020).

Furthermore, all fields acknowledge the significance of creativity and creating worthwhile activity within the constraints of limited capacities and an unpredictable milieu. In design thinking and entrepreneurship education, it is well acknowledged that the challenges encountered are characterized as "wicked." Consequently, the iteration process of resolving issues depends extensively on personal attachment and facilitation of individual actions (Klenner et al., 2022; Sarasvathy et al., 2008). As previously mentioned, iteration is a fundamental element in all established

frameworks of rigorous design thinking (Brown, 2008; Neck & Greene, 2011; UK, 2006). In their study, Mansoori and Lackéus (2020) conduct a comparative analysis of the entrepreneurial issue area, drawing parallels to design. They argue that, akin to design, entrepreneurship necessitates the application of specific guidelines, values, heuristics, and approaches tailored to address organized and unorganized problems.

In general, design thinking parallels entrepreneurship since it serves as a means to address intricate obstacles and reveal unanticipated issues. The work settings of both groups exhibit similarities as they engage in the production of artifacts such as design prototypes or institutional merchandise and services. Additionally, both groups employ feelings of compassion and an inclusive approach in their work processes. Furthermore, they demonstrate the utilization of creativity to address and solve various issues encountered in their respective domains effectively (von Kortzfleisch et al., 2013). Entrepreneurial design thinking combines these two ideas (see Figure 13).
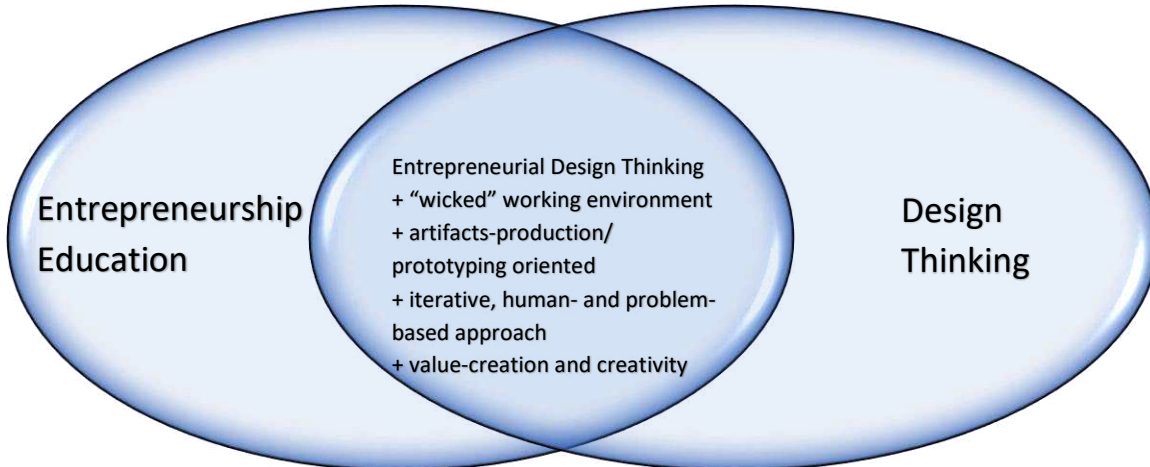
Figure 13. Entrepreneurial Design Thinking[18]

As shown in Figure 13, there is a growing demand for developers of curriculum and school administrators to demonstrate empathy toward children as the primary

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[18] Author's formatting figure, adapting and referencing adapted von Kortzfleisch et al. (2013)

beneficiaries (Lor, 2017). According to studies (e.g., Booyse, 2010; Van Merriënboer & Kirschner, 2017), it is recommended that contemporary pedagogical methods should reduce the reliance on reference content. Comparably, criticisms have been directed towards campuses and other facilities of higher education worldwide for their role in producing a significant number of graduates who lack the essential capacities and preparedness to navigate the rapid and unpredictable business landscape (Bennis & O'Toole, 2005; Glen et al., 2015). This strategy entails utilizing design thinking to transition from content-based instruction to using actual methods to solve issues.

In this scenario, it is imperative to emphasize the necessity of a robust philosophical configuration to underpin the incorporation of design thinking into entrepreneurial education. Design thinking is grounded in the theoretical framework of socially constructed reality as espoused by Lev Vygotsky (1896-1934), as evidenced by several scholarly works (Broten, 2010; Carroll, 2014; Leinonen & Durall, 2014). Scheer and Plattner (2012) claim that "the pedagogical approach of design thinking fosters self-assurance in individuals' imaginative skills by providing a structured framework to rely upon when faced with challenges throughout the process" (p. 18). The idea mentioned above resembles Vygotsky's construct of scaffolding, wherein educators assume the role of facilitators to assist students in attaining their highest level of performance (Lor, 2017). Simultaneously, integrating entrepreneurial and design thinking pedagogical approaches facilitates collaborative support in coaching due to its promotion of interdisciplinary collaboration (Glen et al., 2015). Design thinking is the crucial bridge between the theoretical basis of social innovation training and the pragmatic implementation necessary within business. This methodology facilitates the application of a comprehensive and constructivist perspective while addressing complex issues (Scheer & Plattner, 2012). Consequently, entrepreneurial design thinking can facilitate a departure from the conventional mode of understanding transmission, wherein teachers offer instruction to students and instead foster the cultivation of specific abilities (Nielsen & Stovang, 2015). Table 6 presents a comprehensive overview of the distinctions between instructing entrepreneurship

using a reasonable and traditional scientific method versus a design thinking methodology.

Table 6. Differences between Rational and Design Thinking Approach[19]

	Using rational and traditional approach to entrepreneurship education	Using design thinking approach
Mindset	The notion posits that problems are inherently predetermined, the future can be accurately predicted, and solutions may be approached rationally and well-defined.	The challenges at hand exhibit characteristics of wickedness, chaos, and ill-definition, while the trajectory of future outcomes remains undetermined, and the appropriate remedies remain undisclosed.
Limitations and challenges	The entity, as mentioned above, is deemed undesirable and necessitates removal.	A positive and intellectually stimulating nature characterizes the subject matter.
The process of logical thinking and analysis	There is an excessive focus on meticulous investigation during the initial stages.	There is a growing focus on the importance of quick experimentation and low-cost prototyping techniques.
The methodology employed for solving the problem	Depend primarily on rational-analytical reasoning, frequently disregarding practical application.	strongly inclined towards engaging in extensive training, participating in a co-creation method, engaging in progressive procedures, and doing thorough research and evaluation.
Results	Encouraging learners to seek the optimal solution may result in limited tangible output.	Students are strongly encouraged to seek improved solutions and generate highly concrete outcomes.
The topic of interest pertains to the learning and teaching style employed in educational settings	A heavy reliance on textbooks is observed among pupils.	The students actively engage in experiential educational experiences and can engage in reflective practices to enhance their understanding of their activities and learning process.

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[19] Author's own table

Following Table 6, Schön (1983) condemns the standard entrepreneurship training approach for failing to handle complicated company problems. Rational thinking is important in sensible entrepreneurial situations (Glen et al., 2014). However, this assertion does not hold in the contemporary context. Schön emphasizes the significance of cultivating the abilities to acquire intuitive wisdom and engage in reflective thinking. Dealing with such complexities requires discovery skills, flexibility, openness for feedback and innovation (March, 1991), and the ability to question, observe, experiment, and practice integrative thinking (Dyer & Löytönen, 2011). Hence, the overemphasis on rationality could be ineffective as it may fail to balance entrepreneurship education's 'art' feature, i.e., creative thinking and iterative learning (Mintzberg, 2004).

This situation suggests that the traditional university pedagogy, especially in the context of entrepreneurship, has mostly dominated its teaching methodology, whereas it is incompatible with how entrepreneurs should learn (Gibb, 1993; Harris et al., 2000; Lourenço & Jones, 2006). The traditional pedagogy comes from a rather 'passive' educational learning paradigm (Wright et al., 1994), while entrepreneurship should be through active, experimental, and action learning, teamwork, and learning by doing (Gibb, 2005). Several studies suggest incorporating more modern approaches into entrepreneurship higher education (e.g., Brown, 2009a; Gibb, 1993; Honig, 2004; Jack & Anderson, 1999). Design thinking is one of the available choices. It pertains to a cognitive and behavioral approach that can be employed to tackle intricate challenges within the realm of business, complementing the analytical ability of today's young graduates (Johansson-Sköldberg et al., 2013; Simon, 1969; Wang & Wang, 2011). Design thinking has exploratory phases and prominent characteristics, such as user-centered design, open collaboration, and integrative and iterative thinking (Brown, 2008; Plattner et al., 2009). It could be one of the most feasible alternatives to teaching entrepreneurship in higher education, focusing on how entrepreneurs can predict and proactively develop strategies in preparation for uncertainty (Neck & Greene, 2011; Nielsen & Stovang, 2015).

Glen et al. (2015) further described that the design thinking method emphasizes proactively acquiring knowledge. The concept also encompasses real-world experience (Melles et al., 2012). It promotes self-reflection (Schön, 1983) to provide new college graduates with the requisite abilities in the dynamic contemporary business environment. The integration of design thinking across educational settings and curricula is recognized internationally. The people-focused approach principles usually base the format of most programs on undergraduate and postgraduate studies (Liedtka & Ogilvie, 2010). The goals are to gather learners from various fields to collaborate on prevalent issues, acquire diverse views on challenges or circumstances, and complete teamwork assignments through discussion and collaboration with business associates and end-users.

Consequently, several study endeavors have incorporated design thinking methodologies within college and university teaching. Previous studies have also explored the potential contributions of this phenomenon to several academic domains, such as management and new product development courses (Melles et al., 2012), business curriculum (Glen et al., 2015), and entrepreneurship education (Nielsen & Stovang, 2015; von Kortzfleisch et al., 2013). Table 7 presents a comprehensive overview of the investigations mentioned above.

Table 7. Summary on Literature Related to The Application of Entrepreneurial Design Thinking in Higher Education[20]

	Design thinking in product management course	Design Thinking Scaffold teaching model	DesUni teaching model	Entrepreneurial Design Thinking course & program
Source	Melles et al. (2012)	Glen et al, (2015)	Nielsen and Stovang (2015)	von Kortzfleisch et al. (2013)
For whom and where?	Undergraduate student, Australia	Undergraduate and graduate (MBA) students,	Undergraduate and graduate students in	Graduate students, Germany

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[20] Author's own table

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		USA	Denmark	
Process/ Framework	Following D.School Bootcamp Manual (HPI Stanford University): empathy-define-ideate-prototype-test phase.	The framework comprises identifying the problem, making observations, visualizing and making sense of them, coming up with ideas, prototyping and trying them, and checking to see if they are possible. In an "act-sense-think" loop, each of the six phases is tied to important things to do.	The DesUni model comprises two aspects: inner circle sections, which include creativity, practice, and mentality, and outer sections, which contain expertise, design processes, assisted directions, lifestyle and culture, and evaluation. The Learning Process DesUni Model encompasses several key stages: discovering the current state of affairs, envisioning future possibilities, perceiving probable future outcomes, engaging in collaborative interactions, delving into theoretical frameworks, and ultimately creating novel objects.	The process consists of the following six steps: • awareness (which involves recognizing an opportunity) • comprehension (which involves comprehending an issue) • consideration (which involves generating an idea) • creation (which involves developing a solution) • evaluation (which entails evaluating the solution) • implementation (which involves establishing a business model and a presentation)
How to do?	Coursework includes presentations in	Utilize the "design challenge" framework to	The academic methodologies and techniques	Introduction to Team-Building Initiatives. After prolonged assignments are

	class and online, as well as individual and group assignments, discussions, and readings. On-campus initiatives are carried out in places like the research center, healthcare facilities, and bookstore, all with unique needs that call for creative problem-solving across multiple dimensions.	conceive a novel service, item, or challenge for the broader community. An illustration of the design challenge at the MBA level involves local firms as clients. In undergraduate studies, pupils may be tasked with designing a strategic blueprint for a novel enterprise that caters to the demands of clients whose needs still need to be fulfilled by conventional offerings in the market.	employed in this context include user journey mapping, personas development, visualization techniques, co-creation exercises, prototyping activities, brainstorming sessions, cultural culture analysis, utilization of the business simulation canvas, strategy game design, narrative techniques, sense-making approaches, and the production of academic publications.	completed, participants will rotate to be assigned to new groups. The final projects will involve the development of entrepreneurial company models encompassing many aspects, such as promotional activities, investments, and monetary considerations. Throughout the coursework, participants will be assisted by advisers who will offer valuable feedback and constructive suggestions.
What are the challenges?	Students frequently tend to generate answers that are limited in scope, sometimes referred to as "narrow-minded" approaches. Additionally, students encounter	As students go from one phase to another, they may encounter a growing level of ambiguity.	When considering the DesUni model in contrast to conventional education, it becomes evident that its implementation necessitates a substantial overhaul of various aspects.	It is recommended that learners are accompanied by multiple counselors, each with distinct areas of specific expertise, throughout the coursework.

	intellectual challenges when reading scientific publications and composing literature reviews. Furthermore, time limitations pose a significant constraint during examinations.		These include the curriculum, instruction methods, instruction style, relationships between teachers and students, the physical learning environment, and assessment practices.	

In addition to the above studies shown in Table 7, Matthews and Wrigley (2011) attempted to list a few higher education programs that incorporate design management and strategy in their curriculums, such as:

- University of Polytechnic Di Milano, in Italy. They offer a design thinking course within the Masters of Strategic Design to teach the value of business design.

- Lancaster Institute for the Contemporary Arts, in the United Kingdom – presents two courses in Design Thinking and Design Research Methods in their Master of Sustainability, Innovation, and Design. The aims are to develop design literacy within professionals and contribute to innovation and future sustainability.

- California College of the Arts, in the United States. They specialize in Master's in Design Strategy to bring learners from diverse departments to contribute simultaneously to various design projects.

- Pratt Institute in New York, USA, offers a two-year Masters of Professional Studies in Design Studies for postgraduates and executives' programs. The focus of the curriculum is designing and developing strategic management skills.

- University of Gothenburg (especially its School of Design and Crafts and School of Business, Economics, and Law) has created a two-year Master's degree program in Business and Design for professional students with a shared passion for working strategically with design.

- The University of Technology Sydney, in Australia. The education workshop offers a course on the design strategy for executive business people. The aim is to create creative and strategic innovation using design thinking models and tools.

Other international programs in the schools of business and design now try to partner with courses, programs, and sometimes even universities, supported by involvement with and partnership of Cumulus, a global community of Art and Design Schools majored in art and design education and research (Matthews & Wrigley, 2011).

Those previous studies have investigated how to incorporate entrepreneurship education with a design thinking approach at the university level, a considerably contemporary experience in an entrepreneurial higher-education setting (Amalia & von Korflesch, 2021b). However, most research is from developed countries, i.e., Australia, the USA, and Europe. The discussion has yet to continue to include the reality and practical examples from the Eastern countries implementing the process. More specifically, this thesis explores cultural differences. It seeks insights and practical recommendations on how to achieve the cross-cultural adaptation of this entrepreneurial design thinking methodology from the Western teaching perspective to the Eastern one, in this case, Indonesia. The following is the theoretical understanding of "cross-cultural adaptation."

2.3 Culture and Cross-Cultural Adaptation

This section will comprehensively clarify cross-cultural adaptation's basic concepts (section 2.3.1) and fundamental theories (2.3.2). At the end of this section, it will provide the summary and insight for the thesis, i.e., how the cross-cultural adaptation fits into the research spectrum of entrepreneurial design thinking (section 2.3.2).

2.3.1 Conceptual Basics

This sub-section will begin the discussion by describing the definitions and dimensions of the term "culture" (section 2.3.1.1). It will further discuss the dimensions of culture (section 2.3.1.2) and the cultural differences across the Western and Eastern perspectives (section 2.3.1.3).

2.3.1.1 Definitions of Culture

Numerous scholarly investigations have endeavored to establish a comprehensive understanding of "culture" by conducting thorough explorations and acknowledging its intricate nature (Mooij, 2014). The etymology of the term "culture" has been traced back to the Latin word "cultura," whose meaning is associated with the term "cultus," denoting acts of dedication or devotion (Fang, 2003). From a language standpoint, "culture" refers to the performance of specific actions (Liu, 2012). However, when viewed through an individual's eyes, culture can be considered a broad notion encompassing many facets of life, such as shared troubles, pleasures, preferences, dietary patterns, values, and hurdles (Jandt, 1998). The initial recorded reference to culture in scholarly literature is often credited to Sir Edward Tylor, a distinguished British anthropologist (Kroeber & Kluckhohn, 1952). Tylor (1871) referred to culture as a holistic entity that includes people's different abilities and customs, ultimately identifying them as members of a specific community. The cognitive abilities and practices encompassing information, belief, art, ethical conduct, regulation, and conventions are integral to human cognition and behavior.

Culture is a characteristic shared by many people who have experienced similar educational backgrounds and life events (Mooij, 2014). People are formed by their culture and are prepared to act in "certain attitudes" by their sociocultural environment. In 1983, Hofstede established a set of frequently used concepts that require greater precision. Hofstede (1983) described culture as the common modeling of people's cognitive processes that distinguishes one social population from another (p.25). It includes critical functions such as maintaining societal stability and training people to adhere to societal norms (Liu, 2012). *Culture* can be defined as a communal framework encompassing a set of beliefs that have demonstrated efficacy in previous contexts and are transmitted intergenerationally. The concept encompasses prevalent convictions, dispositions, customary practices, societal expectations, and fundamental principles collectively embraced by individuals who communicate in a specific language and coexist within a defined temporal epoch within a particular geographical vicinity. Triandis (1996) notes that culture evolves through spoken language, duration, and locality. For society, culture is the individual's memory of the social game's unwritten rules.

Becker (2005) offered a more straightforward and uncomplicated definition: culture is everything that individuals have, think, and do as community members, which includes material objects and all humans' ideas, values, attitudes, and beliefs, as well as expected behavior. Similarly, Bodley (2000) proposed examining culture through three dimensions: What are individuals' prevailing opinions or perspectives? (i.e., mental aspect); What do people do? (i.e., behavioral factor); and What do people produce? (i.e., material aspect). The definitions proposed by Bodley and Becker will be the essential guidance in this thesis.

2.3.1.2 Dimensions of Culture

The scheme most frequently used in the available research is Hofstede's (1979, 1980, 1983, 1986) four national culture dimensions. Hofstede presented a set of four categories that distinguish business-connected principles based on an environmental consideration analysis of data obtained from almost 117,000 responses answered by

IBM staff members throughout the United States (Anderson & Hiltz, 2001). Those Hofstede's dimensions are power distance, uncertainty avoidance, individualism/collectivism, and masculinity/femininity. Hofstede and Bond (1988) later proposed a fifth dimension—long- and short-term orientation— after completing a study with 2,200 subjects in 22 countries.

The Power Distance Index (PDI) refers to the degree that people with less authority within societies, such as organizations or entities, are open to embracing a disparate allocation of leadership (Hofstede, 1983, p. 419). The index reflects the roles of pairing individuals in a societal context, i.e., parent-child, teacher-student, boss-subordinate, and authority-citizen. It assesses the interests and views of decision-making managers and the anxiety surrounding confrontation with managers (Hofstede, 1994, p. 25). High PDI cultures accept social inequality (Thoring et al., 2014). In this situation, workers frequently dread arguing with their superiors since the management style is dictatorial. In contrast, high social equality is predicted in societies with a lower PDI. Workers desire more democratic management with greater freedom to make decisions.

High power distance cultures are characterized by obedience and dependency. Design-thinking cultures typically do not embrace rigid hierarchical organizations or elevated PDI societies. This characteristic contradicts many of the acknowledged design thinking tenets, which advocate for democratic teaming and flat hierarchies (Thoring et al., 2014). Generally, most Asian, African, and Latin Americans score high, but, in contrast, the Anglo-Saxon (i.e., North American and European) world scores low on power distance. For example, in Japan, being respectful of social rank is deeply ingrained and instinctive. Organizing and arranging items appropriately is expected with "everything in its place." Robust dependence connections connect families and children, employers and colleagues, lecturers and learners, and government officials.

Low power distance cultures value equality and fairness of opportunity highly. In low power distance cultures, independence is a critical value. During their early formative

years, children are socialized to cultivate independence. Individuals avoid becoming dependent on others and disapprove of others becoming dependent on them.

Uncertainty Avoidance Index (UAI) is "the uncertainty to the degree that the individual gets agitated by ambiguity and develops convictions and structures to avoid it." (Hofstede, 1983, p. 419). Cultures with a higher level of anxiety are usually expressive cultures—societies with a high UAI attempt to cope unpredictability by strictly adhering to written and unwritten rules. People appear busier, more restless, and more anxious. Disputes and competitiveness pose a significant concern. In addition, high uncertainty avoidance can result in prejudice, diminished reliability and rigidity, and a tendency toward dogmatic beliefs.

Societies exhibiting a high UAI demonstrate a strong desire for norms and organizational structure; position of employment possession is expected to be long. This will impact jobs that require experimental design thinking and a creative mindset (Thoring et al., 2014). However, individuals with a high UAI will function well in a well-organized environment with a solid foundation of rules underpinning the relatively stringent design thinking procedure.

Countries with low uncertainty avoidance have relatively low anxiety levels. Aggression and emotional outbursts are frowned upon. People in low-UAI societies feel more at ease in uncertain, unstructured situations. They prefer casual settings to formal ones and despise strict norms (Hofstede, 1979, 1994). Individuals believe that the number of regulations should be minimal and are more concerned with outcomes than with procedures. They depend more on people with vast knowledge and practical judgment and engage in fewer ceremonial behaviors. Disputes and competitiveness do not pose a threat (Thoring et al., 2014).

Differences in Uncertainty Avoidance explain different rates of adoption of innovations, such as the Internet and personal computers, and disparities in trip experiences, international communication proficiency, and interpersonal interactions with individuals from other countries (Mooij, 2014).

Individualism versus collectivism (IDV) represents the cultural stance on a bipolar spectrum. On a personal level, individualism can be characterized as a societal condition when individuals are primarily inclined to prioritize their well-being and that of those closest to them. Conversely, collectivism refers to the social phenomenon when individuals are affiliated with associations and are obligated to fulfill their responsibilities toward the groups in exchange for devotion. In an individualistic culture, work settings that are tough and allow personal success and different working performances are respected (Thoring et al., 2014). In a collectivist society, individuals are incorporated into solid and cohesive organizations that safeguard them throughout their lives in exchange for their loyalty. Group objectives and agreement are more dominant than personal goals (Hofstede, 1994).

Hofstede suggested a correlation between collectivism and the high context in cultures (Hall, 1976). In societies characterized by collectivism, news tends to be implied and is more readily shared among individuals of the collective. The majority of Asian/Eastern cultures are high-context cultures, whereas the majority of Western cultures are low-context cultures. Japan and China (high-context) are at the extreme, while Germany, Switzerland, and the United States are in the middle (low-context cultures).

Masculinity vs. Femininity (MAS). Masculinity refers to a social circumstance in which the common interests are achievement, wealth, and possessions. In contrast, femininity refers to the societal adherence to prevalent ideals prioritizing the nurturing of people around one and the overall well-being of individuals (Hofstede, 1983). Men are perceived to be domineering, competitive, and challenging. On the other hand, women are obliged to look after the home, the children, and people in general, with a preference for assistance, self-effacement, looking after the children and parents, and household conditions (Hofstede, 1979). Communities with a high MAS index are more competitive than those with a low MAS index. Communities with a low MAS index are like-minded-oriented (Thoring et al., 2014).

Long-term vs. Short-term Orientation (LTO) is Hofstede's fifth dimension, focusing on Morality instead of Facts. This feature was identified by administering a survey created by Chinese scholars rather than a questionnaire prepared by Western scholars. This vision alludes to "the long-term or current hard work of the person" (Hofstede & Hofstede, 2001, p. 29). In long-term civilizations, people believe that the situation, circumstances, and time determine reality (Hofstede, 1994). The capacity to adjust to different settings, a strong proclivity to save and spend, an industrious attitude, and perseverance in achieving achievements are all obvious (Hofstede, 1994). Consequently, individuals are more likely to engage in future strategic thinking, be frugal, persevere, and embrace practicality. Moreover, those who reside in cultures with a long-term orientation tend to exhibit higher tolerance toward their offspring than those residing in communities with a short-term orientation.

In short-term-focused civilizations, there is a strong commitment to demonstrating the reality of normative thinking, a high reverence for rituals, a low tendency to spend in the time to come and an emphasis on getting current outcomes (Hofstede, 1994). In addition, people tend to be more interested in religion. Anglo-Saxon, Latin American, and African societies have a low level. European countries' levels vary quite widely (Minkov & Hofstede, 2012).

Hofstede's long-/short-term perspective component distinguishes patterns of interpersonal behavior in collectivistic civilizations. Cultures that prioritize immediate needs tend to rely more heavily on oral communication. In contrast, cultures prioritizing long-range objectives tend to place more emphasis on literacy. Cultures prioritizing the long-term exhibit superior performance in education and literature comprehension while demonstrating a greater reliance on written documentation. Individuals residing in communities with an interim (short-term) approach tend to depend heavily on sources such as the screen, acquaintances, and family members to distribute knowledge.

Hofstede's study achieved standard status due to its considerable backing from several quantitative and qualitative investigations conducted across different fields

and its substantial reproducibility efforts (Søndergaard, 2002). Nevertheless, other scholars also express skepticism toward Hofstede's findings. In the opinion of McSweeney (2002), it has been argued that Hofstede's investigation was founded upon incorrect presumptions regarding assessment and that his categorizations of national cultures were inaccurate and potentially deceptive. These incorrect presumptions encompass the notion that analyses conducted on subnational communities may accurately portray the entirety of national culture and the view that the overall characteristics of national civilizations are likely to be unveiled through the aggregation of people's judgments derived from particular situations. Furthermore, Baskerville (2003) argued that nations are not appropriate for cultural study because every nation often comprises many cultures. Fang (2003) also contended that the fifth dimension of Hofstede's interpretation of Chinese culture is conceptually defective; hence, the value of this new aspect is questionable. However, Hofstede (2003b) commented, "any nations are generally the only unit type and better than nothing" (p. 812). There are numerous perspectives on culture in a variety of contexts. Educators, researchers, and practitioners must be aware of these various cultural approaches and develop models to pertain to and evaluate these facets in their contexts.

2.3.1.3 Differences in Culture

> Cultures do not keep unchanged throughout time. They transform as humans adapt their behaviors in response to shifting environments, conditions, and influences. In a very social context, the relationships between ethnic communities and, therefore, the dominant culture alter and differ considerably (Ramsey et al., 2003, p. 68).

In general, the cultural context significantly impacts an individual's patterns of interpersonal interaction and mental inclinations. Each culture's way of life is represented in social relationships, position ambition, religious beliefs, political affairs, technology, and economic process rates (Liu, 2012). According to Mooij (2014), cultural diversity can be examined and categorized in three ways. The first

way is to look at the institutions that societies have established. The second way is to observe and compare how people behave. The third, most common approach is to ask people, employing questionnaires, what they think. These methods measure beliefs or values. As a result, cultures may be divided into value categories or facets of national identity or characterized using descriptive features.

There are two primary cultures from a geographical perspective: Western and Eastern (Liu, 2012). These entities originate from distinct origins. The principle of "independence" may hold significant importance for individuals from Western cultures, who often prioritize it over other values. In a broad sense, individuals from Western cultures exhibit a desire for personal liberty and autonomy. They desire autonomy in decision-making processes, aiming to minimize outside pressure from other parties. Individuals of Asian descent, however, tend to prefer communal living arrangements and place a high value on collective-oriented contexts. It is crucial to remember that the cultural characteristics of Eastern and Western societies exhibit significant disparities. The current study's primary objective revolves around examining the variations mentioned above.

Woodrow (2001) has also highlighted the disparities in cultural norms and ideas around social conduct and preferences, which in turn influence the fundamental ideas underlying the concept of educational pursuits in Eastern and Western ideologies. The interpretation of the term "learning" might vary across diverse social frameworks. The interaction dynamics between students and educators within educational institutions vary significantly across cultural contexts.

For instance, Liu (2007) noted that in Asian countries, the educator holds a position of complete power. Azimi and McCauley (2002) also illuminate the relationship between educators and learners within the educational institutions of Afghanistan, where educators are regarded with reverence and pupils should stand up when their teachers enter the room. In the developed world, particularly in America, there is a prevailing belief that instructors ought to view pupils as colleagues and, in turn, demand to be accepted as peers by their pupils. Both learners and educators in

Western colleges and universities can engage in discussions on contentious subjects. Learners can engage in argumentation, express dissenting opinions, and offer critiques in the presence of their instructors. It is also customary for an educator to respond by saying, "I have not got the answer yet," when faced with a query from a pupil (Azimi & McCauley, 2002).

In contrast, educators who employ such a communication style risk diminishing their standing among academic circles within Eastern culture. It is uncommon for students at Eastern educational institutions to pose questions outside of formal lecture settings. Additionally, Liu and McClure (2001) provided an illustrative instance where "a Korean undergraduate actively participated in class discussions primarily to demonstrate their familiarity with the required reading" (p. 71). Kuwahara (2005) identified a comparable issue: the challenge faced by Asian students in expressing their inquiries within the school setting due to concerns of potentially offending the lecturer.

Furthermore, the significance of cultural settings concerning cognition and education is underscored by Bourdieu and Passeron (1977) and Kelley (1973), who highlight the varying cultural resources bestowed onto individuals by various cultural groups. In Eastern cultures, a strong emphasis is placed on young people's academic achievement, as it is seen as a symbol of dignity and familial respect. Individuals from Chinese and Japanese cultures tend to encounter more social limitations than Westerners do. Kaneko (2004) stated that a key responsibility of the Japanese family is to pressure children to acquire knowledge, a practice driven by the intense aspiration and competitive nature prevalent in Japanese society. Moreover, school accomplishment in Eastern/Chinese societies is intricately associated with familial honor. Asian families perceive academic performance and societal progress not as mere individual pursuits but as essential responsibilities for young people to ensure that they support and aid their guardians (Shen & Mo, 1990). Many of these parents believe their children's achievement in class is directly proportional to the amount of respect or humiliation their family receives within the community.

Each family member works for the entire family's well-being, not for personal gain. Eastern students are required to adhere to the fundamentals and memorize course material. People with Chinese or Japanese roots are renowned for their accuracy and attention to detail. They put forth a lot of effort to earn good grades. Poor academic performance is seen as culturally unacceptable behavior, and parents will take any measures necessary to prevent failure. Eastern students typically focus on the assignments or project requirements; they rarely initiate activities independently. They will participate actively in learning activities only if required to do so and if the activities are awarded credit. For Asian pupils, some classroom activities seem to be a waste of time. They feel that these activities are less rewarding than lectures, yet cooperation and collaboration are valued more in Western countries. Western students and instructors, especially those in business schools, value innovation and originality.

However, the validity of research comparing instructional approaches has been questioned owing to their dependence on subjective evaluations of how students acquire behaviors in various cultural contexts (Salinger, 2004). It is critical to comprehend the educational approaches used by those students while also taking into account their prior knowledge and cultural considerations (Biggs, 2001; Ramburuth, 2000). Table 8 presents the evaluation of the educational behaviors among pupils from Asia and Australian cultural origins.

Table 8. A Contrast Between the 'Asian' and 'Australian' Educational Philosophies[21]

Asian	Australian
Repetitive learning is customary	Evaluative learning is favorable
Non-judgmental response of information	The anticipation of thoughtful reflection is expected
Learners exert maximum effort in order to receive comprehensive instruction	Learners engage in a discerning process of acquiring knowledge, wherein they deliberately acquire basic principles

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[21] Author's formatting table, referencing Phillips, (1990) and Ramburuth (2000)

It is common for students to look for explanation actively	Learners are eager to actively pursue support as an integral component in their study
A limited number of efforts have been undertaken	Engaging in self-directed and independent study is duly recognized and incentivized
Being open to embracing a single perspective	It is strongly recommended that pupils employ overarching concepts when confronted with particular circumstances and verify multiple meanings
In general, notions are viewed as crucial for comprehension	Critical thought is a source of inspiration. It is anticipated that pupils will provide sound reasoning to substantiate their beliefs.

Based sources shown in Table 7, Asian students exhibit tendencies such as "being diligent memorizers, engaging in surface-level learning, relying heavily on prescribed curricula, demonstrating passivity, exhibiting a reluctance to share their thoughts, and displaying a limited sense of autonomy" (Gatfield & Gatfield's (1994) study quoted in Ramburuth & McCormick, 2001, p.4). However, these broad statements have the potential to be deceptive. In Ramburuth's research, children of Asian heritage demonstrated a propensity for profound comprehension, implying that these pupils employed surface and profound learning strategies. Thus, this present study argues that it may prove necessary to adapt teaching methodologies to facilitate the attainment of profound learning among learners from different cultural backgrounds.

Dunn and Marinetti (2002) subsequently presented a comprehensive analysis of the principles and points of direction proposed by Hampden-Turner and Trompenaars (1997) and Trompenaars' (1993) uncertainty prevention aspect. Their objective was to highlight the cultural differences among individuals from diverse backgrounds and facilitate the development of strategies for adapting to cultural differences in a global educational setting. For a detailed summary, please refer to Table 9.

Table 9. A Summary of Trompenaars' Standpoint on Values and Hofstede's Component of Avoiding Ambiguity[22]

Universalism	Particularism
Universalist societies prefer to adhere to societal norms and refrain from making exemptions for certain reasons.	Particularists espouse a subjective worldview, emphasizing the specific situation at hand and exhibiting a sense of responsibility towards connections that are not of the general kind.
Individualism	**Communitarianism**
Individualists prioritize their identity as independent thinkers, strive for excellence independently, and place great importance on private accountability.	Communitarianism is a philosophical perspective that identifies individuals as integral members of society, emphasizing the significance of collective accomplishments and the inclination toward shared accountability.
Neutral	**Affective**
In societies prioritizing neutrality, communications are typically characterized by objectivity and emotional detachment. The disclosure of emotions ought to be avoided, and individuals who exhibit self-control are held in high regard.	In societies characterized by affectivity, conveying feelings and ideas is often regarded as appropriate in society, both through verbal and nonverbal channels.
Achievement	**Ascription**
Achievement-oriented societies evaluate individuals based on their ability to meet predetermined goals and objectives. Restricted usage of names is implemented, and the allocation of authorized seniors is contingent upon their expertise and competence.	In societies geared towards ascription, status is attributed based on factors such as birth, familial ties, gender, age, relationships, and record of education. They make frequent use using positions.
High Uncertainty Avoidance	**Low Uncertainty Avoidance**
Cultures characterized by a high rating in avoiding uncertainties tend to evade situations involving conflict actively. In educational settings, it is commonly assumed that instructors are responsible for possessing comprehensive knowledge and providing responses to pupils' inquiries. Conversely, pupils tend to feel at ease in well-organized	In societies characterized by a low fear of uncertainty index, individuals exhibit greater confidence when confronted with infrequent learning scenarios, broad inquiries, and interactive debates, particularly within educational contexts.

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[22] Author's formatting table, adapting and referencing Dunn & Marinetti (2002); Hampden-turner & Trompenaars (1997); Trompenaars (1993); and Hofstede (1997).

educational settings that follow a systematic approach.	

Several characteristics presented in Table 9 are crucial for effectively teaching entrepreneurship across Eastern and Western cultures. The presence of cultural variances also significantly affects how local instructors assist pupils. Consequently, any help offered should duly acknowledge and consider these variations rather than merely endorse e a singular strategy.

2.3.2 Theoretical Foundations

This extensive sub-chapter is the basis of cross-cultural adaptation's theoretical foundations. The discussion will be divided into two components: humans (i.e., theories of cultural shock and adjustments) (section 2.3.2.1) and non-humans (theories of knowledge transfer and distant/teaching methodology learning) (section 2.3.2.2). Each component will be explained the fundamental ideas followed by their prominent models in the literature.

2.3.2.1 Cross-Cultural Adaptation Theories and Models on Human

It is generally believed that cross-cultural communication will wear out an individual or a company when they first enter a new setting with varied cultures. Some maintain their traits (standardization) under pressure, while others alter their characteristics to fit into the new environment. In the last 40 years, substantial debate has occurred about whether or not to embrace global educational competition (Mooij, 2014). Bartels (1968) proposed standardization to emphasize the fundamental commonalities rather than disparities, which would generate a more suitable comprehension of the essence of foreign marketing for American corporations. He created a framework for researching uniformity in marketing product attributes, business conditions, and regulatory constraints. The public's needs and desires have been utterly homogeneous (Levitt, 1983). Bartels and Levitt's advocates contend that technological progress, social media, and consumer freedom are prompting

consumer demands throughout the world to converge, allowing businesses to utilize identical promoting methods in foreign markets.

Additionally, Mooij (2014) and other experts in the cultural studies contend that uniformity is neither possible nor desirable because of societal, cultural, and environmental variations. The adaptability issue should still be considered, even with the widespread use of mass customization approaches. Several other studies have also emphasized the significance of considering cultural differences (e.g., Cleveland & Laroche, 2007; Hofstede & Bond, 1988; Schuiling & Kapferer, 2004) so that "foreign products" appeal more to local consumers and meet their requirements.

Although the debate on standardization and adaptation continues endlessly, neither absolute adaptation nor absolute standardization is feasible (Akaah, 1991; Buzzell, 1968; Douglas, 1987). Consequently, several studies suggest that external factors (companies, organizations, methods) must strike a balance in places where different cultures coexist if they are to fulfill the various groups of users in these new environments (Firat, 1997; Ghantous & Aix-Marseille, 2008).

2.3.2.1.1 Theories

The concept of cross-cultural adaptation encompasses the ongoing and transformative journey experienced by people upon being transferred to a different cultural context (Zhou et al., 2008). Fitting into the local culture involves changing native ways of thinking and acting. *Cross-cultural adaptation* is a concept that has been postulated and investigated by numerous academics. For instance, Ady (1995) explained that cultural adaptation is the process through which a person adapts his or her routines and practices to fit into a specific culture. It can also mean the series of slow changes in a culture or civilization when people from different places join that culture and share ideas and customs. More specifically, the definition of accommodative conduct includes age-suitable conducts needed for individuals to exist freely and do things sensibly and correctly for their age and social group. It generally refers to the tendency to transition from one community to another by

mastering aspects of the new culture, such as its regulations, customs, language, and habits.

Acclimatizing to a different culture necessitates surmounting a substantial barrier and acquiring the ability to navigate a different type of social convention within a certain societal group (Waldron, 1994). People's cross-cultural adaptation encompasses three primary dimensions: functional fitness, emotional wellness, and creating cross-cultural individuality (Shafaei & Razak, 2016). Kim's (1988, p.31) theory posits that "cross-cultural adaptation is an evolving phenomenon wherein people develop or restore solid, mutually beneficial, and effective connections with this setting upon transitioning to a different cultural milieu." The concept also highlights the notion that individuals new to diverse cultural contexts experience an event of cross-cultural adaptation (Akhtar et al., 2015). Within the present framework, adaptation pertains to "the complete developmental progression experienced by a person when confronted with a completely different situation" (Kim & Gudykunst, 2005, p. 379).

In the same spirit, Gudykunst (2003) articulates the notion of adaptation as a transforming mechanism for acclimating to a wholly unfamiliar cultural milieu. This process entails a profound personal transformation for individuals raised within a particular cultural context and navigating to a different one. Adaptation pertains to the abilities of individuals new to a certain culture, allowing them to connect with the host culture and comprehend its established standards and ideals (Gonalves & Castro, 2003). LaFromboise et al. (1993) conducted a study that suggests persons with high cultural and interpersonal skills are more likely to successfully attain their objectives in a novel setting, positively impacting their overall well-being.

Beiser et al. (1988) note that acculturation influences one's capacity to transition across different cultures. Two modifications have been categorized as "immediate" and "prolonged" in nature. The earlier phenomenon may exhibit infrequent adverse effects, but the latter produces good outcomes, facilitating adaptation. Regarding the former, Kim and Gudykunst (2005) highlight various factors that might facilitate or

impede cultural adaptation among individuals temporarily residing in foreign societies. It is asserted that the presence of a substantial social network comprised of individuals from the nation of residence significantly influences the facilitation of the cognitive advancement process of a guest. In addition, Berry (1997) asserted that ongoing changes in the last category exhibit high variability, including a spectrum from inadequate adaptation to effective adaptation.

Furthermore, a frequently examined perspective on individual adaptation posits that adjusting to another culture can be categorized into two main domains: emotional and social and cultural factors (Ward & Kennedy, 1993c). Ward (2001) states that a comprehensive understanding of mental restoration can be achieved by examining pressure and its means of coping. Alternatively, social and cultural aspects of adjustment are contingent upon cultural assimilation. Furthermore, other variables exert an influence on both psychological and sociocultural integration. Various factors influence mental adaptation, including individual traits, recovery methods, interaction with others, and environmental conditions. Other elements include the duration of the individual's sojourn in the foreign culture, their degree of cultural awareness and comprehension, and their proficiency in the spoken language of the culture they are staying in (Ward & Kennedy, 1996).

Overall, existing research substantiates the various aspects contributing to the contentment or discontentment experienced by individuals from various cultural backgrounds in an unfamiliar setting (e.g., Miglietta & Tartaglia, 2009). Various aspects can affect a person's capacity to adapt to a novel cultural environment, including

- linguistic competency,
- the extent of their social networks,
- the duration of living in an unfamiliar cultural context,
- prior experiences in foreign settings,
- the perceptions held by individuals regarding the unfamiliar setting, and
- the level of information they possess about the nation they are staying in prior to their arrival.

The ideas and contributions of these individuals retain significant value and relevance within the context of this study, as they furnish the writers with a robust conceptual framework and methodologies to facilitate the research. Although the primary focus of these researchers was on the adaptations of individuals in novel and unaccustomed cultural environments rather than organizations with different teaching methods, it is nevertheless valid to assert the truth of this theory.

2.3.2.1.1 Humans' culture shock and adjustment

The expanding body of recent scholarly work concerning the gradual acculturation of individuals highlights the various challenges they encounter, such as anxiety and challenges in adapting to a different culture (e.g., Chavajay & Skowronek, 2008; Lee et al., 2004; Misra & Castillo, 2004; Ying, 2005). Throughout history, scholars have been impacted by conventional perspectives on migration and its effects on mental well-being (Zhou et al., 2008). The initial perspective posited that there are triggers that can contribute to the occurrence of selective migration, including:

- people in general, despair, and tragedy,
- fatalism, which involves either surrendering control or reacting by attempting to regain regulation, and
- some particular standards people hold regarding enhancing their daily existence, which can vary regarding realism.

The second argument posits that alterations in psychological health can be attributed to migration, encompassing adverse life occurrences, insufficient social assistance systems, and the ramifications of divergent values (Zhou et al., 2008). Table 10 presents the theoretical aspects of these two broad areas, specifically focusing on their variations in sources and theoretical presentation. The previous elements also indicate an alternative formulation, "social competencies and cultural acquiring knowledge," which extends beyond experiencing culture shock and could be viewed as an intermediary method closely connected to contemporary concepts.

Table 10. Conventional Methods of Approaching Cultural Shock from a Philosophical Standpoint[23]

The topic of discussion	Theory and its epistemological origins	The conceptual formulation refers to developing a clear and concise description of a concept or idea
Grief and mourning is a significant area of study within psychology and sociology. It pertains to the emotional and psychological responses individuals experience	The psychoanalytic tradition refers to a theoretical and therapeutic approach to psychology developed by Bowlby (1984)	Migration occurs as a result of the profound experience of loss.
The point of origin serves as the control.	The field of social psychology, with an emphasis on practical application, originated from Rotter (1966)	The phenomenon of migration can be anticipated through the utilization of control beliefs.
Selective migration refers to the process by which individuals or groups migrate based on specific factors or criteria.	Sociobiology, often known as Neo-Darwinism, such as: Wells (1907)	The prediction of adaptation is contingent upon an individual's level of fitness.
Conjecture	Applied social psychology encompasses applying psychological principles and theories to address social issues and promote positive social change, such as: Feather (1982)	The concept of expectancy-value pertains to the process of adaptation.
Adverse life experiences	The field of clinical psychology within psychology is concerned with the evaluation, identification, and management of mental illnesses and psychological suffering, e.g.: Brown et al. (1975); Holmes and Rahe (1967)	Social skills have a crucial role in mitigating the impact of life events on an individual's susceptibility to depression.
Support, supplies, and psychological solace from their social networks—		The acquisition and application of social skills can serve as a protective factor, mitigating the impact

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[23] Author's formatting table, referencing Zhou et al. (2008)

friends, family, and acquaintances		of unforeseen circumstances on the development of depression.
The concept of value difference refers to the variations or disparities in the perceived worth or importance of different entities, ideas, or principles	Social psychology is a field of study that examines how the presence of others influences individuals' thoughts, feelings, and behaviors, e.g.: Argyle and Kendon (1967); Merton (1937)	Divergent values lead to suboptimal adjustment.
The acquisition of social skills and cultural knowledge		The absence of adequate social skills can give rise to challenges in cross-cultural interactions.

Following Table 10, examining the phenomenon known as 'culture shock' has increasingly drawn upon the fields of behavioral mental health and education in the last few years, as opposed to medicine (Zhou et al., 2008). The conceptual frameworks of "cultural acquisition," "anxiety," and "dealing" have achieved a solid foundation in academic literature (Furnham & Bochner, 1986), while notions of "social recognition" have garnered significant recognition. These three contemporary theories provide a more holistic perspective by considering the many components of the reaction, namely affect, actions, and mental processes, that individuals experience when encountering a new culture. Table 11 provides a comprehensive overview of the distinctions between these entities, focusing on their theoretical foundations, conceptual frameworks, aspects that impact adaptation, and the potential consequences of treatment.

Table 11. Three Modern Conceptions of Cognitive Interaction[24]

Theory	Theoretical origin	Theoretical structure as a foundation for understanding & analyzing the phenomenon	The present discourse revolves around the theoretical assumption.	Various factors that can influence an individual's adjustment process.	Guidelines for intervention
Effects of Stress and Attempts to Cope with It	Social psychology encompasses the study of stress, the cognitive evaluation of stressors, and the various strategies employed to manage and adapt to stress. (Lazarus & Folkman, 1984); life events (Holmes & Rahe, 1967)	It is imperative for those engaged in cross-cultural travel to cultivate effective coping mechanisms to manage stress effectively.	The process of life transformations is necessarily accompanied by stress.	Transition elements encompass individual factors such as life changes and character and contextual factors like companionship.	The objective is to provide individuals with the necessary tools and techniques to cultivate stress-management abilities.
Acquiring Knowledge of Other Cultures (Behavior)	The field of social and psychological experimentation encompasses the study of one's social abilities and interactions between individuals. (Argyle & Williams, 1969)	To adapt and flourish in unfamiliar environments, cross-cultural interaction migrants must acquire culturally pertinent social competencies.	Interaction with others can be characterized as a collaborative and proficient display of interpersonal abilities.	Culture-specific elements include familiarity with a different culture, proficiency in the language or abilities to communicate, and the degree of cultural divergence.	The act of learning new information, abilities, and perspectives to navigate and adapt to a new environment, particularly through acquiring behavioral-based interpersonal abilities.
The cognitive	The field of psychology	The process of cross-cultural	Being oneself holds significant	Cognitive factors, such as	This research contemplates

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[24] Author's formatting table, referencing Zhou et al. (2008)

process of social identity	encompasses various sub-disciplines, including culturally diverse cross-cultural, and social psychological research. One prominent area of study within this domain is the concept of self (Deaux, 1996); another significant theoretical framework that contributes to our understanding of social aspect of psychology, e.g., (Phinney, 1990)	adaptation includes potential shifts in societal identities and between groups dynamics.	importance for individuals engaged in cross-cultural journeys.	familiarity with the recipient's culture, the reciprocal attitudes between recipients and sojourners, cultural resemblance, and cultural belonging, play significant roles in cross-cultural interactions.	to investigate the potential effect of various strategies on enhancing self-esteem, conquering hurdles to within-group peace, and emphasizing interpersonal commonalities.

Overall, Zhou et al.'s (2008) analysis in Table 11 deduced that instead of passively succumbing to the stress induced by an unfavorable occurrence, individuals in cultural migration are perceived as proactive individuals who actively navigate and cope with the difficulties arising from societal transformations. The concept of 'cultural shock' has evolved into stress associated with contact between different cultures. The presence of skill impairments, which can be effectively managed and alleviated, was observed. The terms 'adaptation' and 'acculturation' have been employed in multiple investigations.

2.3.2.1.2 Culture learning

Generally, it is imperative for individuals engaging in travel to familiarize themselves with the constraints of the novel social and cultural framework, as well as learn the requisite sociocultural competencies essential for successful adaptation. The cultural

learning paradigm emphasizes the behavioral dimension of interaction between cultures and underscores the significance of interacting with others as a proficient ability (Argyle & Williams, 1969).

The two schools of thought on the mechanism of cultural accommodation—communication theory and behavioral learning—are the classic theories around the cultural learning curve (Anderson, 1994). The primary focus of the initial educational institution lies in cultivating the aptitude for efficient interpersonal relationships by imparting the essential abilities to communicate, enabling individuals to overcome any potential obstacles arising from verbal and nonverbal communication failures. At the same time, the second educational institution emphasizes the significance of individuals in perceiving their surroundings and adhering to the established norms of conduct within that environment. The primary sources of anxiety in a new setting are the absence of social skills, challenges in navigating conventions, customs, and values, and verbal and nonverbal communication, which arise from cross-cultural disparities (Masgoret & Ward, 2006). Cultural learning emphasizes mitigating cross-cultural misinterpretation, with the establishment of links between persons and both hosts and locals being of paramount importance (Shafaei & Razak, 2016). The phenomenon mentioned above arises from individuals acquiring culturally pertinent competencies through their contacts with the country where they are staying, enhancing their mental health and societal achievements (Furnham, 2004).

The process of acquiring cultural knowledge within the framework of the human adaptation theory is subject to the effect of numerous factors (Zhou et al., 2008). The factors that have been identified as influencing the process of acculturation involve the following:

- an in-depth understanding of the new society (Ward & Searle, 1991),
- the amount and type of time spent in the culture of the destination (Ward et al., 1998),
- language proficiency and abilities to communicate (Furnham, 1993),
- the amount and type of interactions with individuals from the nation of destination (Bochner, 1982),

- the formation of relationships with others (Bochner et al., 1977),

- previous exposure to cultural adaptation (Klineberg & Hull IV, 1979),

- the cultural differences between the home and host countries (Ward & Kennedy, 1993a, 1993c),

- a sense of artistic propriety (Ward & Searle, 1991),

- the different ways in which individuals acculturate (Ward & Kennedy, 1994),

- the short-term or long-lasting nature of residency in the culture of the new country (Ward & Kennedy, 1993b), and

- the provision of cross-cultural education (Deshpande & Viswesvaran, 1992).

2.3.2.1.3 Stress, coping, and adjustment

Individuals in cross-cultural relationships must possess resilience, adaptability, and ways to handle stress due to "shock" resulting from significant and inherently stressful life alterations (Shafaei and Razak, 2016). Individual and situational adaptation involves actively coping with stress across different physiological stages. Lazarus and Folkman (1984) proposed a stress and resilience hypothesis that conceptualizes "stress" to categorize diverse situations. Based on the theoretical framework presented, psychological stress can be conceptualized as the result of the dynamic between human beings and the world around them. This interaction is characterized by individuals perceiving their resources as strained and their overall well-being as threatened. The assessment of circumstances is crucial in determining their potential to induce stress. The stress process exerts a distinct impact on the dynamic interplay between a stimulus and an individual's cognitive and behavioral responses as they attempt to assess and manage it.

Anderson (1994) proposed a recuperation model that takes recovery from the shock as adjusting to life in foreign cultures. This model has culture shock as its focal point. The U-shaped version by Adler (1975) clarifies the cultural crisis to pave the direction for identity and individual development. The adjustment consciousness change brought about by cross-cultural encounters negatively impacts the person's preconceptions and may even cause the "disintegration" of their persona. However,

creating a better integrated building from old ruins requires disintegration. The extent of one-condition's alteration (Lin et al., 1979), individual characteristics (Ward & Kennedy, 1992), and environmental elements such as community encouragement are all pertinent variables in this stress-coping-adjustment approach.

2.3.2.1.4 Social identification theories

According to Zhou et al. (2008), relations between in-groups and out-groups, as well as the perceptions people have of them, can alter drastically. Social identity theories employ two main conceptual strands: acculturation and Social Identity Theory. The primary emphasis lies on the cognitive aspect of the interaction between cultures, drawing upon ideas of social cognition and social identity (Tajfel, 1974). The significance lies in individuals' racial and cultural backgrounds and their patterns of interaction inside and outside of social groups. How individuals perceive their cultural identity and engage with hosts and fellow citizens can significantly influence how they assimilate. This theory is founded upon the fundamental principles of intellectual, emotional, and mental processes, encompassing attitudes, perceptions, and expectations. Three distinct models of acculturation exist: the category model, the bi-dimensional model, and the uni-dimensional model.

Following Zhou et al.'s (2008) study, three distinct models of acculturation exist: the category model, the bi-dimensional model, and the uni-dimensional model (see Table 12).

Table 12. Three Models of Acculturation[25]

Uni-dimensional	Bi-dimensional	Categorial model
Immigrants progressively abandon their affiliation with their home culture in favor of engagement with the 'recent' culture they have to deal with.	Immigrants, sojourners, and refugees eventually form bi-cultural personalities/identities.	Immigrants 'categorize' native and host identities as integrating, segregation, assimilating, and marginalizing phase.

[25] Author's formatting table, referencing Zhou et al. (2008)

The idea of acculturation as uni-dimensional suggests a process of absorption (Olmedo, 1979). Immigrants tend to gradually disengage from their original culture and develop a stronger affiliation with the way of life of the host society. This concept posits a perspective in which homelands and host societies are perceived as opposing one another, as opposed to existing in a state of balance.

The bi-dimensional approach represents a harmonized framework for understanding acculturation and identity. Immigrants, migrant laborers, and refugee groups are known to cultivate bicultural personalities (Ramirez III, 1984). 'Cultural mediation' refers to the process through which certain immigrants integrate and reconcile elements from their native and host cultures, developing bi-cultural or uni-/multicultural identities (Bochner, 1982).

The categorial model was proposed by Anderson (1994) as a similar approach with the equally linear model. The procedure of conceptualizations see what happens as a gradual mental drive from the periphery to the core of a foreign culture (i.e., integration), from a position of rejection or confusion (or separation) to a condition of comprehension and compassion (or assimilation), grounded on the proposition of psychological conflict (Gochenour & Janeway, 1977; Stewart, 1982). Bennett (1986) explains that the progression symbolizes the cognitive "sensitivity" journey with expanding exposure to a culture. The several sensitivity phases show sojourners/immigrants' responses to changes in cultural distinctions. The initial adaptation stage can be characterized as "ethnocentric," wherein individuals tend to disregard or reject distinctions between cultures (i.e., marginalization). However, as immigrants progress, their awareness of 'cultural categorization' develops toward a state of "ethno-relativism," wherein they actively include and assimilate perceived aspects of divergence from the culture they have just arrived in into their worldview.

Social psychology gave rise to the second conceptual framework, "social identity" (Tajfel, 1974). It highlights two elements and examines how private identity is influenced by group membership. One is how social-member comparison and

classification affect one's sense of self-worth, in-group favoritism, and out-group contempt. The other is the diverse impacts of particular cross-cultural variations on group membership, attitudes, and interactions (such as individualism-collectivism). Another study area is the avoidance or decrease of uncertainty (Gudykunst & Hammer, 1988), which calls for anticipating and explaining one's conduct and that of others. The study shows how important it is to comprehend host tradition (Gudykunst & Kim, 1984), how hosts feel about visitors, how visitors think about recipients (Gudykunst, 1983), and how similar the two cultures are.

2.3.2.1.5 Models

Several theoretical cross-cultural adaptation models on humans exist in the literature. Some of the prominent ones are briefly discussed below: Kim (2001) (section 2.3.2.1.1); Anderson (1994) (section 2.3.2.1.2); Zhou et al. (2008) (section 2.3.2.1.3); and Shafaei and Razak (2016) (section 2.3.2.1.4).

2.3.2.1.5.1 Kim (2001)

Kim (2001) formulated an all-encompassing theoretical basis for communication and cross-cultural adaptation, widely regarded as one of the foremost comprehensive models for understanding the course of human adaptation. It centers on the process of transition that occurs when an individual changes to a novel and culturally foreign setting. Hamad and Lee (2013) described the concept of cross-cultural adaptation as an evolving phenomenon resulting from a continual relationship between oneself and one's surrounding environment. Consequently, when they are exposed to a new cultural setting, people must acknowledge and embrace the disparities between their ethnic and host society's cultures. This process could give rise to many difficulties and obstacles (Shafaei & Razak, 2016). Kim's theoretical framework conceptualizes cross-cultural interaction readjustment as a dynamic process involving interaction at the intersection of oneself and the environment around one. Therefore, individuals must actively participate in their neighborhood's social and civic communication processes and develop a comprehensive understanding of the host community's

communication medium (Hamad & Lee, 2013). The pursuit of personal balance or consistency compels people to engage in an endeavor of cross-cultural adaptation.

Similarly, Kim and Gudykunst (2005) posit that persons are conceptualized as wide, intricate, and dynamic systems that consistently strive for consistency through constructing, re-constructing, and sustaining comparatively secure and functioning interactions with their shifting surroundings. The inherent tension amid acculturation and deculturation gives rise to an ever-changing course characterized by anxiety, adjustment, and personal development. Figure 14 illustrates the stress-adaptation-growth cycle, which gives a thorough picture of the temporal progression of cross-cultural interaction change. Kim's thesis primarily focuses on the manner and rationale behind people's adaptation rather than simply questioning if transformation occurs.
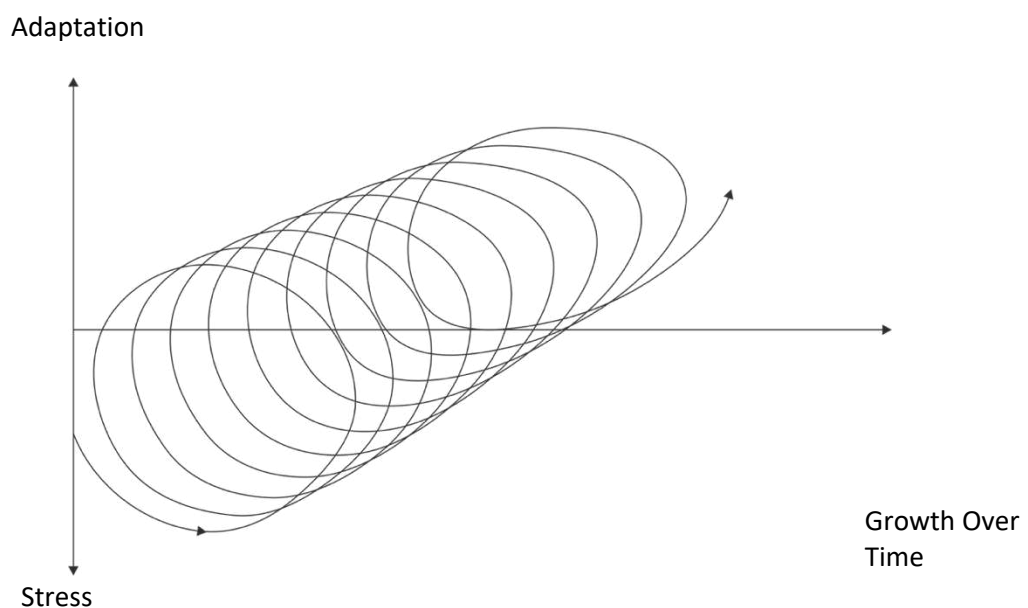
Figure 14. The Stress-Adaptation Dynamic of Human's Cross-Cultural Adaptation[26]

As shown in Figure 14, Kim's work provides a complete description and explanation of the progressive transformation among immigrants/sojourners from being perceived as "outsiders" to becoming fully integrated "insiders." The phenomenon

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[26] Author's formatting figure, referencing Kim (2001)

of cross-cultural adaptation is understood by considering the structural aspects of the social setting and the behavioral patterns individuals exhibit. The interactions between each component and the resident environment constrain the adaptive behavior of the outsider. Accordingly, effective adaptation leads to a steady self-transformation (Shafaei & Razak, 2016). While it is acknowledged that replacing the old character with a new one is not entirely feasible, it is possible to reframe the existing personality to foster a broader outlook and greater tolerance toward individual diversity (Kim, 1988, 2001). Expanding upon the progressive and developmental knowledge of cultural adaptation within the process approach, Kim formulated the complex or multilayered framework (refer to Figure 15) as a comprehensive approach to comprehending the diverse levels of cultural exchange adaptation over time. Various factors influence cross-cultural adaptation, including interactions, circumstances, personal predisposition, and cross-cultural changes.
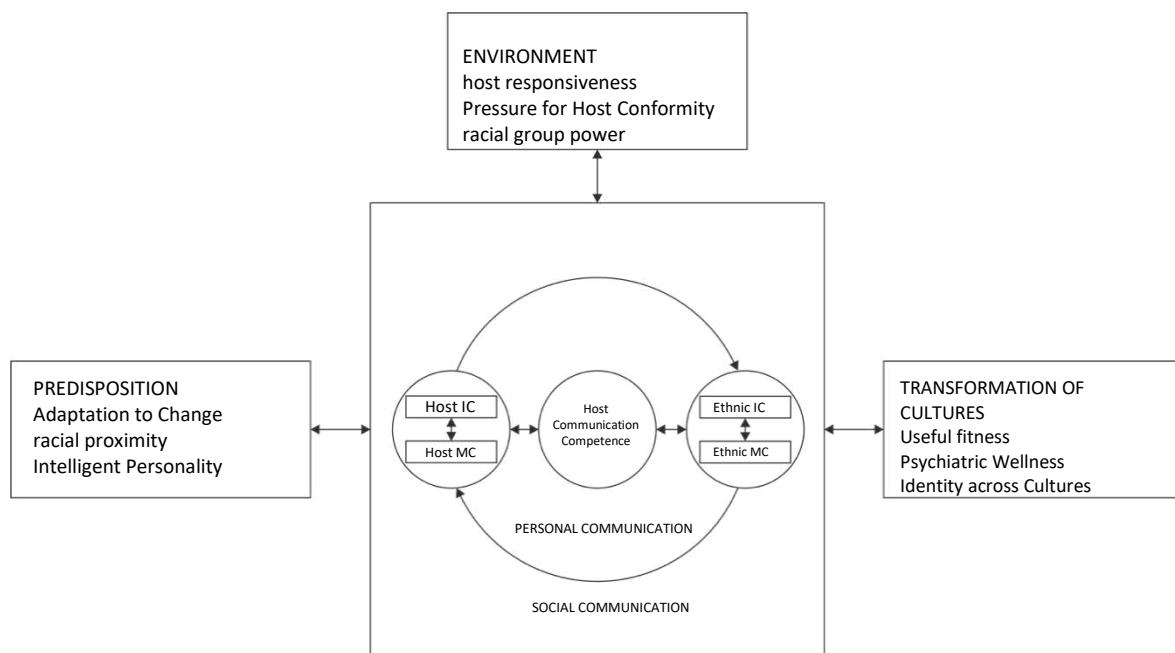
Figure 15. The Structure of Cross-Cultural Adaptation[27]

The interlocking bilateral interactions between and among these parameters are depicted in Figure 15 and aid in predicting the success and failure of cross-cultural adaptation. The engine that propels the person through the adaptation process is

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[27] Author's formatting figure, referencing Kim (2001)

their host communication skill (Dimension 1), including its cognitive, emotive, and operational components. The dimension of host social communication (Dimension 2), which allows newcomers to engage in host friendship and social interaction, is inextricably tied to host communication competency. Adding ethnic social communication (Dimension 3) highlights the importance of the unique, subcultural interactions that strangers have with their fellow ethnicities. The three primary factors of the new environment (Dimension 4) encompass the host's level of openness, the host's inclination toward conformity, and the potency of their ethnic background. These factors interact with the individual dimension and mass-interaction ones. The individual's predispositions (Dimension 5) concerning adaptability, ethnic closeness or distance, and readiness to embrace change set the foundation for the consequent growth of intimate and community activities. Individual strangers' adaptive adjustments have an impact on these five characteristics, both individually and collectively. To create an intercultural identity, they progress toward intercultural change (Dimension 6).

The components above, proposed by Kim's study, collectively provide the framework of cross-cultural adaptation, promoting or hindering how people gradually adjust to a particular host setting. The Integrative Theory of Cross-Cultural Adjustment (Kim, 1988, 2001; Kim & Gudykunst, 2005) was intended to be created by integrating several disciplinary viewpoints and approaches to cross-cultural adaptation into a complete and universal framework of description and elaboration. By viewing adaptation as a perpetual and progressive evolving cycle of internal alteration, the theory unifies the two previously distinct and dissociated areas of investigation: the long-term adaptation of immigrants and the short-term adaptation of temporary sojourners. The two concepts use generic and broad enough notions to support additional ideas with more specific definitions. For instance, cross-cultural adaptation is the entirety of the phenomena rather than a particular analytical element (or factor). The phrase pertains to the process experienced by an individual when confronted with a different and unaccustomed culture. It contains various distinct concepts, such as assimilation, cultural adjustment, acceptance, and adaptation.

2.3.2.1.5.2 Anderson (1994)

According to Anderson (1994), cross-cultural adaptation is an ongoing process that can be thought of as either environmental or dialectical. Following this concept, each adjustment entails a continuous and repetitive procedure of surmounting barriers and identifying resolutions from the day-to-day challenges in the current context. The person adjusts by determining how they will react and then carrying out those reactions.

Anderson modeled cross-cultural adaptation using sociopsychological adjustment theory to distinguish between adjustment and adaptation (see Appendix C for the graphical explanation). Adjustment involves suppressing or satisfying short-term goals, while adaptation aids long-term survival. Adjustment decreases the barrier-removing response(s). Motivation is needed to achieve a goal. Instabilities motivate people to act. Six essential principles underpin the suggested model: adjustments, learning, a stranger-host connection, cyclical, continuing, interactive, relative, and personal development.

Similar tendencies to reject the concept of adjustment and associate assimilating into a culture with learning may be seen in the publications on cross-cultural adaptation (cf. Guthrie, 1975). Learning and adjustment in this process are mutually dependent and extensive. Once the culture has been assimilated, the sojourner is expected to have adapted, which frequently entails changing oneself to alter the coping situation's boundaries. They must study and adapt to some of the key components of the (majority) culture to function as a minority. The dynamic and interactive adaptation process involves the individual and the environment's influence and change. The process is a complicated and unitary phenomenon that is nonlinear and considerably more discontinuous (Chow et al., 1987; Punetha et al., 1987). All people adjust along the three dimensions of affective/emotional, cognitive/perceptual, and (overt) behavioral adjustment. These three factors can work together to mediate, increase, or support one another during adjustment.

Anderson further explains that the process starts when the sojourner recognizes the hurdle circumstance and chooses a uniform approach of fundamental results (refer to Appendix C). However, whether in familiar or novel contexts, it is hard to pinpoint a precise endpoint in adaptation to a changing environment. Creating an identity through cross-cultural adaptation is not a final, static accomplishment but an ongoing revision. Because of this, the final stage of the adaptation journey is referred to as "overcoming," highlighting the action's progressive nature. Adjusters approaching the finish line of their journey are in the home stretch at this point, but each person's finish line is different. The point at which acclimatizers reach competency in a different culture is when they feel at ease in their surroundings. Each individual defines fitting differently, just as each individual's adjustment is unique. Not every individual fit perfectly within their community/culture.

2.3.2.1.5.3 Zhou et al. (2008)

Zhou et al. (2008) explain that the existing body of published works on migration frequently highlights the adverse consequences associated with cross-cultural encounters, and this pattern persists within the research of student domicile. In the past, for example, Ward et al. (2001, p.36) observed that "the initial theories used to examine overseas learners were primarily focused on clinical aspects and heavily influenced by medical frameworks for understanding the adjustment of temporary employees." However, there has been a shift from these medical conceptions over time. Others, such as Bochner (1986), initiated an inquiry into the underlying idea that intercultural interactions were inherently distressing to the extent that medical intervention was warranted. During the 1980s, a novel perspective shifted the perception of sickness from merely an unavoidable inconvenience to being recognized as a beneficial learning experience. The optimal course of action would involve undertaking preparatory measures, acquainting oneself with the locality, and acquiring valuable proficiencies within the novel setting. The "affect-behavior-cognition" model (ABC), which was formulated by Furnham and Bochner (1986), is grounded in the fields of social and educational psychology. This model serves as a

framework for individuals to navigate how they act and their interpersonal skills after exposure to a different cultural context.

The cognitive perspective of social recognition hypotheses is a complementary component to the behavioral analysis of the cultural immersion approach and the emotional component within the anxiety and response framework (Zhou et al., 2008). These three perspectives form the basis of a comprehensive cultural adaptation paradigm. Nonetheless, being a current theoretical framework, the ABC framework introduces inherent complications and obstacles in analyzing and separating the specific consequences of its many components. Furthermore, there is still a dearth of full integration of theories and studies on the neurobiology of cross-cultural contacts across many populations of cultural migrants.

Ward et al. (2001) considered another modern hypothesis, i.e., the model of acculturation. Acculturation and cross-cultural adjustment share similarities, as both concepts encompass adapting to an unfamiliar cultural setting. Cross-cultural adjustment can be roughly categorized into two distinct groups. One aspect of the anxiety and response framework pertains to the emotional dimension, while the other relates to the sociocultural adaption dimension within the culture structure for instruction (Searle & Ward, 1990; Ward & Kennedy, 1992). This acculturation model integrates the anxiety and responding framework with the learning about cultures approach (refer to Appendix D). The paradigm differentiates between mental, social, and intellectual results, particularly emphasizing their interplay.

Zhou and the partners eventually incorporated Ward's team paradigm by introducing cognitive arrows connecting the reaction sphere to emotional, social, and cultural variable effects within the result box. Nevertheless, the precise nature of the correlation involving mental, social, and cultural circumstances adjustment remains under investigation. Incorporating cognitive elements into the broader means of acculturation necessitates further integration. Further clarification regarding the association between pupils' educational adjustments and their mental, social, and cultural adjustment is required.

Ultimately, Zhou and the team suggest that students from abroad studying in Western nations be encouraged to engage in academic discourse and analytical thinking instead of simply taking in the information provided by their teachers. In line with Jin and Cortazzi (1998), there is a concern that placing the burden of adapting to the host country solely on international students may harm their cultural identity. Alternatively, a suggested approach involves implementing a concept known as 'cultural synergy,' which necessitates reciprocal endeavors from host professors and foreign pupils to foster comprehension and appreciation of one another's cultural backgrounds. While it is insufficient to only advocate for respect and understanding of one another without comprehending the entire process, Zhou et al. proposed the need to elucidate the expectations of professors and students, identifying the causes of mismatches and outlining strategies for their resolution. Furthermore, it is imperative to acknowledge that the phrases "match" and "mismatch" used in the context of the requirements, for example, for learning of British instructors and Chinese students, should be interpreted as referring to a degree of similarity rather than complete correspondence (see Appendix E). The extent to which educators and pupils engage in a collaborative adjustment to optimize academic performance may need to be more symmetrical. The pairing process may be influenced by specific variations among educators and pupils and contextual problems on students collectively or individually. The study of Zhou and team's primary relevance "match-and-mismatch" simulation of cultural integrative aspirations is that it offers a chance to proactively prepare for and enable reciprocal adaptations involving educators and learners before and after educational programs.

2.3.2.1.5.4 Shafaei and Razak (2016)

Shafaei and Razak (2016) developed a theoretical foundation drawing on field and cross-cultural adaptation theories. Their framework proposes to elucidate and assist the adaptive responses exhibited by students from other countries as they navigate their continuing pursuit of steadiness or a stable state. The proposition was made that adaptability's causes and results hold equal significance. The incorporation of

field theory and cross-cultural adjustment concepts is mutually beneficial. This framework facilitates the examination of the various elements that influence cross-cultural adjustment and results achieved by students from other nations in a novel setting.

Shafaei and Razak propose a conceptual framework for understanding the cross-cultural adaptation of foreign learners to a novel setting. This framework encompasses two key aspects: the beginnings, which contain individual and situational elements, and the outcomes that arise from this transformative process. Nevertheless, as suggested by contemporary field theory (e.g., Lewin, 1951; Neill, 2004) and cross-cultural views of adaptation, a more explicit specification of the person and situational components involved in the adaptation process may be required (e.g., Kim, 1988, 2001). They proposed stress management and coping concepts (SCT), cultural approaches to learning (CLT), and social recognition concepts (SIT) as frameworks to examine the various individual and contextual factors that can impact mental, social, and cultural factors adjustments. Following Ward et al. (2001), the abovementioned three theories offer a thorough and expansive theoretical framework for examining cross-cultural encounters and their associated transformations. However, the researchers categorized and recognized the factors put forth by Social Cognitive Theory (SCT), Cognitive Load Theory (CLT), and Social Identity Theory (SIT) as separate and contextual variables analyzed through the lens of the theory of fields. Figure 16 depicts the theoretical framework that has been put forth.
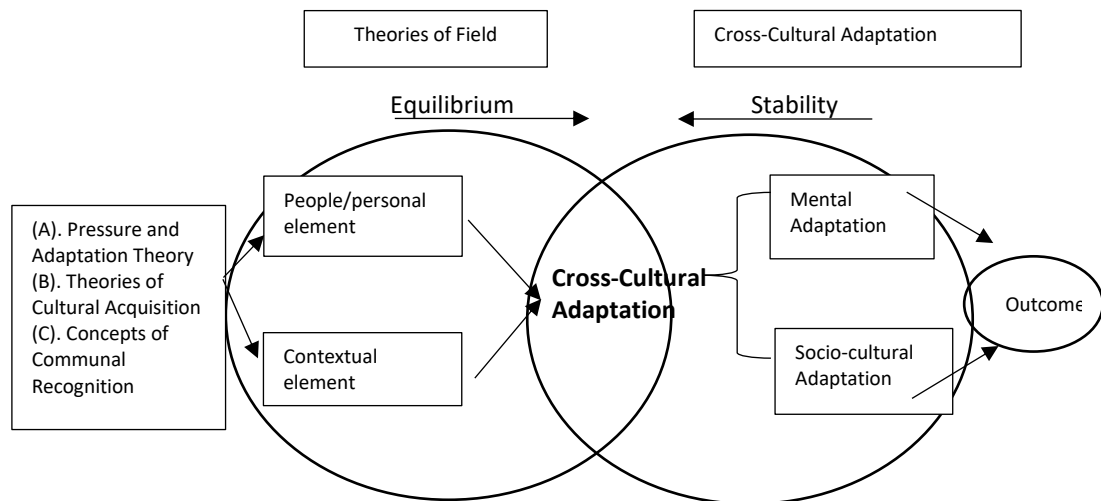
Figure 16. Conceptual Framework on Cross-Cultural Adaptation[28]

Following Figure 16 by Shafaei and Razak's study, an in-depth assessment and comprehensive examination of contextual and personal variables typically necessitate the inclusion of multiple components. The inclusion of the stress-related response principle, cultural understanding concept, and the idea of social identity in this study are justified due to their ability to offer a complete, longitudinal, fluid, and holistic framework for analyzing the impact of various factors on cross-cultural adjustment. One of the primary justifications for their provision is the comprehensive, sustained, and dynamic setting it affords for the pursuit of investigation. Furthermore, these findings are significant for pupils' mental and sociological adaptations while studying overseas. Figure 17 depicts the theoretical structure suggested within the framework of international students.

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[28] Author's formatting figure, referencing Shafaei and Razak (2016)

Comparison of Field Principles and Theories of Cross-cultural Adaptation

Individual factors
-Factors of the English language
-Media use
-Intentions after graduation
-Attitudes toward acculturation

Situational factors
-Valued social assistance
-Valued stereotypical image
-Valued complicatedness

Cross Cultural Adaptation
-Mental adaptation
-Socio-cultural adaptation

Outcomes
-Valued academic performance contentment

People recommendation
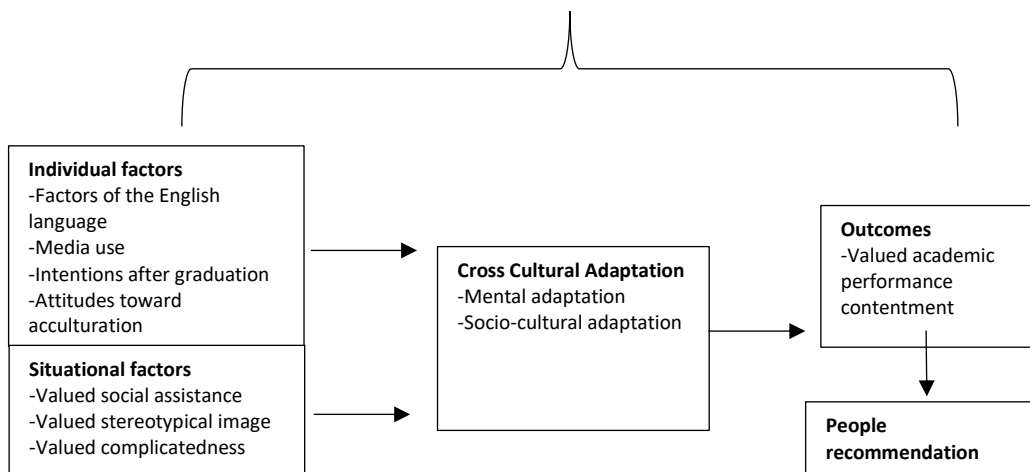
Figure 17. Conceptual Model on Cross-Cultural Adaptation[29]

Figure 17 by Shafaei and Razak's study has promise for investigating the phenomenon of cross-cultural adaptation in the milieu of foreign learners and its associated consequences. The model presents illustrative instances of the aspects that have been put forward in the existing research by the Social Cognitive Theory (SCT), the Cognitive Load Theory (CLT), and the Social Identity Theory (SIT). Shafaei and Razak further classified these attributes as contextual and personal variables in their study. The suggested theoretical framework incorporates two guiding hypotheses, field theory and cross-cultural adaptation theory, to elucidate the interplay between history, transformation, and outcomes. The variables are obtained using the Sampling and Central Limit Theorems (SCT and CLT) and the Statistical Inference Theory (SIT). The suggested idea tries to create a relationship connecting individual and environmental factors concerning the cross-cultural adaptation of international students.

Additionally, Shafaei and Razak's study aims to establish an association between the cross-cultural adjustment process and the level of learning contentment experienced by foreign learners. The attainment of pleasure plays a crucial role in achieving equilibrium between an individual's attributes and their surrounding milieu. The concept of cognitive happiness holds significant importance within the realm of

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[29] Author's formatting figure, referencing Shafaei and Razak (2016)

students from other nations as it pertains to their general contentment with their educational accomplishments in the university's host country (Goštautaitė & Bučiūnienė, 2010). Furthermore, empirical evidence indicates that a strong academic performance has the potential to augment the influx of students from abroad in host countries, primarily due to the dissemination of good feedback from word of recommendation.

This investigation conducted by Shafaei and Razak has developed a theoretical structure that provides an example for understanding the cultural adaptation process among international learners. Their academic establishment, which centers on the population of overseas learners, aligns with previous frameworks (Arends-Tóth & Van de Vijver, 2006; Berry, 2006; Safdar et al., 2003; Ward et al., 2001). However, it has undergone expansion. Social Cognitive Theory (SCT) is employed in the postulated philosophical structure, together with the previously utilized models of Cognitive Load Theory (CLT) and Situated Learning Theory (SIT). In contrast to prior models that predominantly emphasized the challenges encountered throughout the integration process of immigrants and refugees, the present study introduces an innovative theoretical framework and approach. The primary emphasis of their research lies in the realm of international students, wherein they analyze the factors contributing to and consequences arising from their process of cross-cultural adaptation. This investigation is conducted through the application of field alongside cross-cultural adjustment hypotheses. Furthermore, prior studies in scholarly journals have examined acculturation results by considering mental and societal transformations. Nevertheless, the framework proposed by Shafaei and Razak defines "adjustment outcomes" as the supplementary components that arise from managing mental and adjustment to society.

2.3.2.2 Cross-Cultural Adaptation Theories and Models on Non-Humans

After reviewing human cross-cultural adaptation theories, this section explores cross-cultural adaptation theories to non-humans (i.e., foreign teaching/learning knowledge, educational system, and method) in this section. This process has been

explained in the literature by two approaches, i.e., knowledge transfer and online learning theory.

For the former approach, there is increasing scholarly literature on cross-cultural topics in management and organizational psychology. In the literature on national or business culture, the central claim is that every entity has evolved a distinct perspective of its people, organization, management, and educational system throughout history (Retna & Bryson, 2005). The influence of culture on national or organizational knowledge, system, or method comes through societal structures (for example, educational, economic, and political factors) and the values and behaviors of organizational participants (Adler et al., 1986). The widespread impact of culture on human behavior has prompted several scholars to create investigations and categorized cultural knowledge (e.g., Hall & Whyte, 1960; Hampden-Turner & Trompenaars, 1993; Hofstede, 1980; Hofstede & Bond, 1988). However, much of the existing research rests on recognizing that ideas, thoughts, and methods are products of Western cultural knowledge and they are not ubiquitous. Therefore, it may not apply directly in other countries (Pauleen & Murphy, 2005; Smith et al., 2001). It must be adjusted when transferring them to various groups involved in culture or nations.

The second approach pertains to the global availability of "Western" educational materials facilitated by the growth of information and communication technology. Thus, distance learning is carried out regardless of time and place with online educators and students in different regions who have never met before (Salinger, 2004). The substance of a cross-cultural element can be added to this teaching-learning method to be recognized. On-site faculty support recognizes students' learning styles and preferences. However, Mason (1999) argued that students in this distance or online program only learn 'job-related courses,' and the program does not include courses that can be done on-site using Internet-based materials initiated in one country (Salinger, 2004). In this case, Brown and Duguid (2001) asserted that the centralized nature of creating a course may "deliberately ignore the importance of place and location of knowledge" (p.228).

As mentioned earlier, those two approaches are connected in the management-cultural discussion (Hofstede, 1980). In his groundbreaking research, Hofstede compared country-based cultures concerning general value distinctions (Hofstede, 1980, 1983). In particular, Hofstede (1983) noted that some pertinent aspects help understand managerial and organizational knowledge and methods and analyze their style, dialogue, and experimentation. As previously discussed, these cultural dimensions are the key elements of the learning organization theories or principles (Retna & Bryson, 2005).

One of the challenges of exploring cross-cultural dimensions for non-humans is that juxtapositions are "comparative" and "limited" to two cultural communities or areas (Olaniran, 2007). Nonetheless, as noted above, these dimensions can be pioneering for global educators in the context of cross-cultural learning. Undoubtedly, Hofstede's investigation emphasized the distinctions between collectivist or Western and Eastern cultures, even though others may disagree with parts of its findings. Hofstede's findings are frequently cited in academic works on cultural investigation (Bing, 2004; Hope, 2004; Triandis, 2004), and his conceptions give an understanding of the mechanisms of national culture.

2.3.2.2.1 Theories and model on transferring knowledge cross culturally

The first approach to exploring cross-cultural adaptation theories to non-humans is through the information/knowledge exchange theory.

In general terms, organizations and nations shape knowledge. People form their values, beliefs, and goals in that culture. The bigger culture hosts the organization's culture. According to management studies, cultural management knowledge is tacit versus explicit and individually carried versus group-embedded (see e.g., Holden & Von Kortzfleisch, 2004; Zhou et al., 2008). Management education, especially in the West, is based on theoretical frameworks, models, tools, and processes. Explicit knowledge is the key focus when transferring managerial expertise from Western to Eastern cultures. The primary objective of Western management courses is to

cultivate proficient managers with the knowledge, skills, and dispositions to fulfill their professional responsibilities effectively. Hence, it emphasizes relevant practical experience. Tacit knowledge is based on action and involvement in a specific situation and involves cognitive and technical components. Thus, codifying and transferring tacit knowledge between people or countries is harder.

The issue is that management knowledge compiled by Western academics and practitioners and translated and transmitted to the East must be easily applicable because relevant knowledge from another person or country requires a shared code or mental model to grasp, value, and accept it. Knowledge can only be shared between persons who share a meaning system. The concept that tacit and explicit knowledge are independent occurrences is excessively simple. Even when well-articulated, tacit and explicit knowledge is hard to use organizationally or nationally.

The learning organization and tacit (cultural) managerial knowledge are still being theorized. According to Holden (2002), the knowledge management literature operates in a unitary vacuum where language, combined with regional and ethnic background, gender, and occupational association, form a massive distinct factor that is ignored. He uses knowledge management to understand the culture. The international company relies on cross-cultural knowledge, learning, and networking; hence, Holden suggests rebuilding cross-cultural management as a knowledge domain.

It is similar to the initiation of disseminating Western management concepts and expertise to Eastern cultures and nations, as argued by Newell (1999). Chinese students exhibit notable cultural and contextual disparities when comparing their experiences in China to those in Western countries. Hence, Chinese students require assistance in comprehending the theoretical and managerial frameworks established by Western scholars, which serve as the basis for their educational pursuits. The instruction is rendered in Chinese, and assistance is sought in comprehending or implementing it. A Chinese learner studying management in an academic setting may engage with Western-authored management literature that has been similarly

translated into Chinese. Passing on expertise from Western contexts to China poses challenges due to the inherent disparity between the implicit understanding of Chinese pupils and the explicit information being conveyed.

Collective learning can impart cultural management knowledge. As indicated above, tacit knowledge is a collective knowledge (Zhao et al., 2004) that comes from discussions of firms' knowledge, which includes their beliefs and skills. Spender (1996a, 1996b) called this tacit and entrenched intra-firm group knowledge collective knowledge. Cook and Brown (1999) employ organizational genres similarly. Collective knowledge involves coordinated relationships among knowledge community members to perform routines or solve problems. Thus, more than transferring group-embedded knowledge through joint projects or individual learning by doing may be required to transmit collective knowledge. This mechanism alone must overcome the problem of transferring group-embedded knowledge.

The transfer of group-embedded and tacit knowledge is complicated because the knowing entity is a community, not an individual. Transferring tacit and group-embedded knowledge involves intercommunal learning via doing. Zhao et al. (2004) also recommend group teaching for tacit and communal knowledge transfer. Groups of teachers can better define or show a source community's common and interpersonal knowledge while helping students notice and appreciate the institutional and cultural conditions that shape it. Individual instruction by origin group members strives to transfer collective knowledge to the target community.

In conclusion, unlike information, knowledge must be "re-created" and "re-constituted/re-constructed." This concept emphasizes interpersonal communication over linear information transfers. Cultural theorists have studied how societies transmit and reinforce organizational and national cultural knowledge. These mechanisms include education, political structures, books, journalism, media outlets, the press, familial and social discourse, and employment.

Some of the prominent models on cross-cultural knowledge transfer are as the following Newell (1999) (section 2.3.2.2.1.1); Holden and Von Kortzfleisch (2004) (section 2.3.2.2.1.2); Hong Thanh (2007) (section 2.3.2.2.1.3); Retna and Bryson (2005) (section 2.3.2.2.1.4); and Napier (2006) (section 2.3.2.2.1.5).

2.3.2.2.1.1 (Newell, 1999)

Newell (1999) presents a hypothesis that addresses the transmission of managerial expertise from Western civilizations or nations to Eastern cultures or regions.

Newell's analysis focuses on the requirement for enhanced transferability of the understanding foundation from Western sources for managerial training in the Chinese context. This worry arises due to the inherent characteristics of the information (tacit) and the cultural factor, which may require adaptations to facilitate effective knowledge transfer. Tabak et al. (1998) argue that as China's significance in education in management from Western countries grows and its connections with the US and other Western-influenced educational institutions improve, it is necessary to reconsider China's global position as a disseminator of American business theory. Nevertheless, applying Western management skills to China through a cognitive paradigm presents certain challenges.

According to Newell, the acceptance of Western expertise in management as the prevailing "best practice" seems improbable within the context of China. The basis for this phenomenon might be attributed to the philosophical presumptions that underlie Chinese collectivist culture (Hofstede, 1980). Hence, the system must adopt a more objective approach to addressing the intricacies and contradictions inherent in information and advancement (Li, 1998). Furthermore, a fundamental aspect of Chinese culture is the concept of "face." The Chinese cultural value of preserving one's reputation implies that individuals are less inclined than their Western counterparts to assert their superior knowledge or expertise (Dodd, 1995). Jaeger and Kanungo (1990) emphasized the occurrence of "cultural imperialism" when Western managerial principles and procedures are applied without sufficient

consideration of the ideals and premises inherent in the local culture. So, Newell argues that there is a strong argument that Chinese students may face challenges in assimilating Western information when it is given as absolute management information that relies solely on the intellectual or immediate translation paradigm.

Due to the cognitive theory, humans possess cognitive abilities that enable them to think analytically and acquire knowledge. Hence, learning can be documented, preserved, and transmitted. Translating and transferring Western management expertise to China would occur before its storage and dissemination. The one with knowledge can impart knowledge to another individual, referred to as the recipient of knowledge. Newell further believes straight transmission is contingent upon the shared definitions of words and convictions between the knower and learner. The Western epistemological framework, characterized by the concept of the "knower," and the Chinese instructional approach, described by the notion of the "learner," do not cross over or engage with one other.

Additionally, the mental viewpoint posits that expertise is static, emphasizing an extra facet. Therefore, managerial expertise is a comprehensive collection of practical techniques and methodologies applicable in American and Chinese settings. The concept is firmly grounded in the principles of "best practice." This approach needs to acknowledge the social and political dimensions inherent in knowledge. According to Newell, adopting the communal information approach might be more effective in facilitating the exchange of knowledge between Western and Chinese perspectives on management learning, resulting in reciprocal advantages. Table 13 illustrates the disparity in disseminating Western expertise in management to China, specifically using intellectual and interpersonal approaches.

Table 13. Two contrasting views of management knowledge[30]

The conscious mental/intellectual model	The community model
Knowledge can be understood as a collection of concepts and facts that are defined objectively.	The acquisition of knowledge is a process influenced by social factors and reinforced through experiential learning.
The acquisition and formalization of knowledge is a fundamental process.	Information acquisition is facilitated by fostering a culture of knowledge exchange between various collectives and individuals.
The concept of "best practice" information is commonly acknowledged and implemented globally.	The concept of "best practice" is not universally applicable, as the appropriateness of ideas depends on the specific context in which they are implemented.
The transmission of knowledge occurs via formal mechanisms, wherein written materials and books/lessons are very important.	Knowledge acquisition is facilitated by active engagement within groups of people who work together for a common purpose.
The prevailing conceit employed in this context pertains to human memory.	The prevailing metaphor pertains to the human community.
The translation of Western materials is identified as a crucial determinant of success.	Trust is identified as a crucial determinant of success.

Newell's community concept for knowledge development, as exhibited in Table 11, must support the contention that information sharing between China and the West is unfeasible. Interpreting and disseminating management concepts and ideas employed in Western MBA courses to Chinese MBA schools may be considered excessive, notwithstanding the incorporation of pertinent Chinese examples as a functional basis. The primary objective would be to cultivate educational networks wherein Western concepts might be deliberated, re-portrayed, and amalgamated with Chinese concepts have been employed to create a unique framework for managerial practices and expertise firmly grounded in the particular Chinese political, cultural, and socioeconomic milieu. The community knowledge approach places a greater priority on fostering conversation and exchange between Eastern and

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[30] Author's formatting table, referencing Newell (1999)

Western perspectives. This observation suggests that Western countries stand to benefit significantly from their relationship with China. Establishing educational networks that facilitate dialogue among those living in China and the Western world is a far more impactful endeavor than using Western managerial procedures in the Chinese context without considering the cultural context.

2.3.2.2.1.2 Holden and Von Kortzfleisch (2004)

Like Newell (1999), Holden and von Kortzfleisch's (2004) work is about transferring and translating Western management knowledge.

Translation as an activity is a helpful comparison for information transfer. According to the authors, translating information from one domain (i.e., a language group) to another is the oldest universal process. It would be extremely challenging intellectually to develop a knowledge transmission system employing that idea (such as a management training course). However, conveying knowledge without interpreting it is unlikely to persuade locals of the benefits of Western knowledge in the long run. As a result of the interchangeability of translation and international information transfer, the authors are convinced of their relationship.

However, in their study, Holden and von Kortzfleisch argue that ambiguity, interference, and ignorance remain in the worldwide (cross-cultural) transfer of information. The recommendation of "tolerance of ambiguity" as a cross-cultural competency is common in works on culture and international management. Guirdham & Guirdham (1999) stated that tolerating ambiguity entails handling the feelings connected with unpredictability. It implies the capacity to respond to novel, diverse, and perhaps unanticipated states with little obvious distress (Harris & Moran, 1996). According to Hofstede (1994) and his supporters, ambiguity tolerance is linked to uncertainty avoidance, based on a desire to steer clear of undesirable future events. Uncertainty avoidance is crucial in differentiating (national) cultures.

Additionally, the authors explain that "interference" in the theoretical analysis of translation theory refers to the transmission of distinctive usages from the original speech to the recipient translation. It occurs when words appear the same in multiple languages yet have diverse meanings. Cognitive, pragmatic, and linguistic equivalence exists between the knowledge's source and destination language. The authors further clarified that they see the transfer of information as a form of communal participatory translation. It follows that identifying cross-cultural equivalency is the goal of international knowledge transmission. Harmonization of viewpoint, goal, and priority is achieved in this way. The researchers tried to "translate" Western management expertise into the Russian frame of reference.

Finally, Holden and von Kortzfleisch conclude that knowledge transferability is analogous to translation and conversion. The final phrase is not merely a feature of the text. It also refers to its recognized usefulness and the accessibility of subject-matter specialists (among whom the translator would be one) to explain its significance to the target user in a different country. The more expansion conversion into users' current knowledge fields, rather than just the process of translating, makes tacit knowledge explicit. Using the analogy from Nonaka (1991), knowledge transferability results from convertibility. An effective knowledge transfer performance may demonstrate the knowledge's transferability in how the knowledge management community generally understands it. However, how well the process is implemented determines its convertibility (see Figure 18).
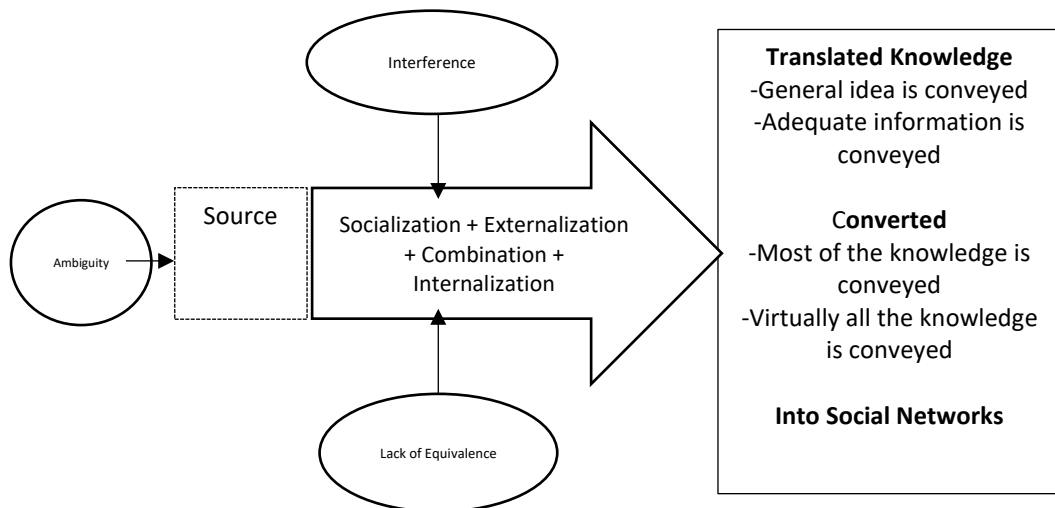
Figure 18. Extended model of knowledge as translation[31]

After defining the differences between those two terms, Holden and von Kortzfleisch introduced Figure 18 as the modified knowledge transfer model. Socialization, externalization, combination, and internalization are all included in the paradigm. These steps make up the core of the knowledge transmission process, which is influenced by factors including obscurity, obtrusion, and lack of equality. The ramification of the translated knowledge is subsequently disseminated through social media with content ranging from broad concepts to complete disclosure.

2.3.2.2.1.3 Hong Thanh (2007)

Hong Thanh (2007) found that Eastern nations and cultures could not adopt all Western teaching and learning techniques. Vietnamese higher education institutions are still unable to stop using the conventional method of instruction and study because Vietnamese teachers are reluctant to transition from serving as knowledge transmitters to serving as learning facilitators, as required by a Western teaching strategy for cooperative learning (see Table 14).

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[31] Author's formatting figure, referencing Holden & Von Kortzfleisch (2004)

Table 14. The Significance of Educators in Cooperative/Participatory Learning and Typical Classroom Settings [32]

Cooperative learning	Conventional learning
Choose a lesson for group work and divide it up	Keep up with the course profile
Develop kids' cooperation abilities	Ignore the worth of teamwork
Set up the classroom and assign roles	Make an effort to keep students seated
Observe and take action	Ignores how a gaggle works
Play more in-depth educational roles	Give comprehensive directions
Evidence of a Brain on Stage	Evidence of a Brain on Stage
Being an educational facilitator	Being a transmitter of information
Evaluation of student work	none
Analyze group effectiveness and give groups feedback none	none

The Vietnamese population has been significantly influenced by Chinese culture for over a millennium, resulting in the enduring presence of Confucian thought (Hofstede et al., 2005). According to Park (2000), this expectation establishes a significant framework for daily relational conduct, encompassing actions, mindsets, and habits that require individuals to engage in contemplation, adapt to changing circumstances, demonstrate perseverance, exhibit humbleness, comply with authority figures, and maintain a calm reaction to adversity. Consequently, Vietnamese learners belonging to the Confucian Heritage Culture (CHC) are inclined to perceive information imparted by their teachers as absolute truth (Lee, 1996). Students in this context lack independent reasoning. They do not challenge the knowledge presented by teachers or formulate their own conclusions (Bradley, 1984; Ladd & Ruby Jr, 1999), in sharp contrast to the characteristics of cooperative learning practices commonly associated with the 'Western' educational approach. Consequently, education emphasizes facilitating the pupil's capacity to generate and build knowledge rather than the most effective and efficient methods of transmitting and internalizing established knowledge (Brick, 2004; Jin & Cortazzi, 1995). These impressions present a potential contradiction to the fundamental tenets of cooperative learning, in which supervision

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[32] Author's formatting table, referencing Hong Thanh (2007)

is typically limited to instances where learners require elaboration on guidelines or whenever the educator perceives a lack of comprehension among the learners (Hong Thanh, 2007).

Moreover, Vietnam has a high power distance index (Hofstede et al., 2005). Generally, countries with high power distance scores prioritize powerful connections to a greater extent. Along with Confucian teaching, students must demonstrate reverence and adhere to the directives of authoritative people (Confucius, 1949) and their teachers because they are the students' role models of righteous behavior. The factors mentioned above pose challenges for Vietnamese educators and learners in embracing instructional strategies that promote equality between instructors and students, hence diminishing the control of educators. Specifically, it is contrary to Vietnamese cultural norms to employ an instructional approach that may cause lecturers to experience a loss of social status. The fundamentals of cooperative learning enable learners to develop their understandings and afterward engage in discussions about topics among their cohort, acquiring shared expertise that may surpass the instructor's. Ultimately, the notion of questioning the competence of an instructor may need to be more practical.

Vietnamese pupils do not have the courage to criticize, critique, or dispute their professors' knowledge, considering them their sole role models. They adopt the role of passive listeners in the classroom and consider teachers as the ultimate sources of knowledge. They believe that it is through exemplars (teachers) rather than oneself that one can discover the truth. Therefore, deliberations and conversations are unimportant. Teachers might incorporate these activities into their courses instead of enhancing students' knowledge or abilities to change the learning environment. Consequently, Vietnamese students face limited opportunities to engage in discoursing activities, resulting in potential apprehension toward broadcast speeches, as heavily stressed in cooperative-participative teaching. Additionally, because learners require more communication skills than before, they might excel in argument and discussion, which are key components of Western cooperative learning.

According to Hong Thanh, Vietnamese educators consider themselves masters of a deep body of knowledge. Therefore, teachers are presumed to have sole authority over and accountability for assessing pupils' development. They frequently harbor misgivings about peer review because they consider peers unqualified to correct others' work. Peer assessments, one of the concepts promoting active cooperative learning in Western education (Persons, 1998), are impossible to apply in Vietnamese schools in light of these expectations.

Finally, because the beliefs about teaching and learning are deeply ingrained in Vietnamese instructors and students, it is difficult to change them. Hong Thanh contends that educational policymakers should exercise caution when implementing their "educational system" changes. She points out that it would be difficult to integrate Western teaching-learning approaches if the local instructors refused to adopt and support the movement. To avoid forcing local educators to alter their duties and responsibilities radically, it is, therefore, necessary to culturally adapt and adjust any foreign teaching approaches.

2.3.2.2.1.4 Retna and Bryson (2005)

In their research, Retna and Bryson (2005) observed how Singaporean national culture conceives the local companies, institutional community, and all the occurances within busineses/institutions. Knowledge management projects in non-Western cultures need Western companies to understand and carefully consider the local workforce's cultural norms and practices. Before attempting to integrate cultural norms in an institutional setting, it is crucial to grasp the complexities of those norms. Institutional reform should consider the significant impact of national culture on organizational culture. As a result, Retna and Bryson concluded from their research that many traditional ideas and practices of Singaporeans are at odds with the principles of corporate and business learning, which were many formed in a North American context. Pauleen and Murphy (2005) also clarified that models for managing knowledge and expertise could focus more on how national and regional

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traditions affect them, as this could limit their potential applications, particularly for worldwide applications.

Along with the common findings of Hofstede (1980), Singaporean cultures are high power distance, low individualism (a collectivist culture), and Confucian dynamism. Similarly, Hong Thanh (2007) explains that Singaporean employees feel that expressing sympathy for new ideas is another way to maintain their public image and an important driver of behavior. They generally fear and hesitate to say anything that would upset or contradict the opinions of higher-ups inside the company. Protecting oneself against any deterioration of esteem for oneself or reputation acquired in one's position or standing within the firm is ingrained in Singaporean workers. As such, this cultural behavior may endanger the success of Western learning and management strategies that encourage more openness and equality.

Retna and Bryson concluded that it is important to consider the national culture of an organization while researching management and organizational change. This idea becomes especially salient when a foreign culture provides the inspiration and direction for the transformation. Appreciating national culture can be a robust analytical resource for building models and conceptions. As a result, conducting in-depth comparative research across nations on knowledge management strategies and learning organizations is recommended. Much of the management research, and HR in particular, has criticized the idea that there is "one best way" or "best practice" over more flexible, "best fit" methods. The contemporary academic discussion about the challenges of implementing management and organizational ideas is important for the knowledge management literature to take note of and use.

2.3.2.2.1.5 Napier (2006)

In his study into the cross-cultural adaptation structure of knowledge and education reversal in Vietnam, Napier (2006) highlighted the strong focus in the literature on cross-cultural information exchange involving Western multinational corporations and non-Western enterprises. Comparatively little attention was paid to non-

multinational entities (such as colleges and universities, governmental bodies, or government entities) or to emerging nations. This reflects the widespread view that Western or international experts transfer understanding, abilities, and skills to domestic trainees. However, the scenario could be reversed, with the indigenous learners possessing more valuable knowledge than the foreign trainees. Such a perspective was hypothesized by Holden (2002), who regarded exclusively unidirectional transfer as unrealistic and impracticable, especially if the information originated from prominent Western developed nations.

Napier's work involved establishing a preliminary structure for reverse data exchange derived from an anthropological investigation conducted within the Vietnamese College of Business. Napier postulated that a number of factors, including notable changes in the economy and the increasing complexity of local management responsibilities, foster an atmosphere that encourages the sharing of knowledge and education. He also predicted that cross-cultural adaptability, especially for immigrants/sojourners, and information interchange would become more important in helping international and local populations achieve common goals. He broadened the concept of reversed expertise to enhance the educational experience for individuals from different cultural backgrounds. Additionally, he hypothesized that individuals in a particular locale had access to unforeseen information, extending beyond their routine occupational responsibilities, of potential benefit to individuals from other cultural backgrounds.

Instead of solely depending on educational materials from their homeland, expatriates could benefit from the assistance of the host country's staff in acquiring cultural and context-specific skills upon their arrival (Napier, 2006). Reverse learning or expertise exchange could boost cross-cultural awareness and adaptation of foreign workers. The host country's personnel could also offer helpful recommendations regarding the organization and substance of the program. Individuals already present in the host country are best placed to provide support throughout crucial occurrences and supply cultural and context-dependent guidance to guarantee that international assignments are tailored to suit local requirements. Training local employees helps

expatriates better facilitate their cross-cultural adaptation, which leads to a better organized and more productive exchange of knowledge and educational opportunities.

Nevertheless, one of the most significant obstacles lies in the Vietnamese culture, which is characterized by a strong emphasis on power distance (Hofstede, 2003a). When an expatriate with high status, generous pay, and deep ties to the head office is assigned to a learner's position, both foreign trainees and local supervisors face a significant obstacle. Executives with high social status or in positions of authority are hesitant to participate in reverse mentoring as it could expose shortcomings or gaps in their expertise (Baugh et al., 1996; Erlandson & Ludeman, 2004; Feldman & Bolino, 1999; Pijpers, 2002; Vance & Ensher, 2002). Therefore, this factor peculiar to the culture could lead to a sense of unease among employees in the host country when advising a supervisor from a foreign background. Feldman and Bolino (1999) explain that the effectiveness of foreign mentorship may be enhanced in countries characterized by individualism and low fear of uncertainty.

Napier also states that the existing literature on information transmission breaks down different factors that affect the above mechanism. The following are:

- the scholarly literature has examined various aspects related to the state of the surroundings (Feichtinger & Fink, 1998; Kornai, 1992; Michailova & Husted, 2003);
- the distinctive features of information users and transmitters (Gupta & Govindarajan, 2000; Wesley & Daniel, 1990), including the dynamics of collaboration between foreign and local participants (Napier et al., 2004);
- the social context of the sender and receiving party's respective companies (Holden, 2002; Michailova & Husted, 2003); and
- the communication procedure encompasses networks and circumstances (Glisby & Holden, 2003; Gupta & Govindarajan, 2000; Holden & Von Kortzfleisch, 2004; Napier, 2006) (see Appendix F).

2.3.2.2.2 Theories and model on cross-culture and (online/ distant) learning

The second approach to investigating cross-cultural adaptation theories to non-humans is the hypothesis of online/distance learning as a Western or foreign learning method. Bentley et al. (2005) used the example of the Internet or online/distance learning to describe the eight educational value differentials for comprehending cultural challenges based on their literature research and cross-cultural educational experience. Language differences, high-and low-context differences, social context differences, learning style differences, reasoning pattern differences, technical infrastructure differences, and local versus global differences are among them.

Language distinction. Following Bentley and the team, culture and language are intertwined. Understanding one is simpler than understanding the other. In this situation, using basic language and avoiding slang are recommended when creating an online learning environment for students from varied cultural backgrounds. According to Joo (1999), educational materials and multimedia should emphasize cultural sensitivity and diversity in language usage among other cultures. The primary reason is that language is a key component of cultural problems in globalized or online learning. For instance, people who do not speak English well could believe that technology-based learning is useless since they cannot comprehend the material.

Additionally, academics agreed that studying a second language at school differs from studying a foreign language. Furthermore, up to 36% of online users preferred a language other than English. It is essential to offer localized teaching and learning materials and services. Due to the language barrier, local businesses or educational institutions reluctant to adopt English increasingly request "native language" content production. The challenge is that some Westernized technology and innovation methods must fit certain cultural and technological contexts.

Low- and high-context differences. Culture permeates education (Bentley et al., 2005). Therefore, it is crucial to consider the characteristics of cultural diversity. Kim & Bonk (2002) discovered that the communication styles of Eastern and Western

pupils differ in their study. A strong emphasis on contextual factors often characterizes Asian cultures.

In contrast, Western cultures are typically characterized by a relative lack of emphasis on the setting, favoring simple, clear, and straightforward forms of expression. According to Gudykunst and Matsumoto (1996), individualistic cultures frequently communicate in low context. People from collectivistic societies, however, mostly communicate in high context.

The needs for physical versus abstract information differ across high- and low-context cultures, which could lead to issues when interacting online. Many cultures (such as those in Africa, Japan, and South-East Asia) remain in high context and power distance, as explicated by Hofstede's (1983, 1997) earlier studies. High-context cultures internalize information into the individual or circumstance, whereas power-distant cultures acknowledge or accept that power is not dispersed equally. A recurrent theme used as a selling factor for technology adoption is people's desire to stay in touch with family and friends in a collectivistic culture.

In addition, Kim and Bonk's (2002) research revealed that student communication preferences affect their collaborative behavior, for example, when using the online learning technique. They say that social interaction activities are advised to encourage learners from high-context communication cultures to participate in early online collaboration. In order to promote involvement, Bannon (1995) recommended social interaction between students to discuss their worries. Slavin (1995) posited that enhancing relations among pupils from diverse ethnic backgrounds is contingent upon fulfilling role-equal treatment prerequisites. Learners would derive significant advantages if professors assisted them in discerning salient distinctions across Eastern and Western cultures concerning social contexts, cultural standards, interactions with others, and divergent perspectives. Students will be conscious of the distinctions and ready themselves beforehand.

Differential social-cultural context. Following Bentley and the team, learners' social and cultural background influences how they react to new information. Hofstede's cultural variability framework encompasses several factors useful for analyzing cultural variations. These dimensions include distance from power, aversion to uncertainty, individuality, and manhood. It is imperative to consider the interaction between students' cultural upbringings, namely their differing context orientations, and the social environment. In societies characterized by individualism and low context, where students desire greater autonomy in their educational process (Brussee et al., 2003; Salinger, 2004), the instructor's position needs to evolve into that of an educator and counselor for learning. This concept entails those educators engaging in intervention only when necessary.

On the contrary, within an authoritarian, low-context, power distance cultural environment, instructors must establish the initial framework and assume a more proactive role in elucidating the content of online instruction (Hofstede, 1983). Subsequently, students can collaborate in groups to tackle demanding tasks. In an authoritarian cultural context, it remains imperative for teachers to be present to provide guidance and facilitate people or organizations in accomplishing their objectives. While it is true that certain class structures persist in Western societies, there is a growing awareness of the significance of equitable and impartial treatment among individuals. In the context of cross-cultural learning environments, these distinctions pose a significant challenge for pupils from Eastern cultures, impacting their capacity to accurately assess others and their level of involvement in the educational setting. This concept affects their interpersonal dynamics, verbal and nonverbal exchanges, and connections with educators and peers.

Cultural differences in education. Education is valued differently in different cultures (Bentley et al., 2005). Pupils who are schooled, tutored, and at ease studying under various circumstances are produced due to cultural variances caused by speech and the many global institutional and societal structures. Therefore, a lack of cultural sensitivity frequently hampers efforts to succeed in business and school. Solano-Flores and Nelson-Barber (2001) asserted that society and culture impact mental

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functioning. People have preconceived ideas about how to answer questions and resolve issues. These biases impact how learners explicate, react, and intellectualize. Young students learn to conceptualize and act in a particular way inside a specific culture and language as they age. Mature students have established clear notions about the types of learners they are and what, from the perspective of their society, constitutes an acceptable, comfortable manner of learning. It will take some reeducation on the part of both the instructional designers and the students need to align the curriculum options for adult students around the world. There is no universal method for instructing in a language or culture. Instructors and course designers should consider these variances when creating courses for adult learners worldwide. Although intercultural sensitivity is not innate, intercultural communication training enables people to transcend and overcome conventional ethnocentrism.

Other than the disparities above in cultural features and value systems, it is noteworthy to highlight the substantial educational inequalities among Eastern and Western nations (Nisbett, 2004). This idea can be attributed to the long-standing divergence in thinking methods among Westerners and East Asians throughout the millennia. Schooling in most Asian countries is subject to governmental supervision and centralization. The primary governmental body responsible for school-related matters, sometimes called the national government or education divisions, assumes the role of designing education programs, allocating materials for different levels of education, and formulating educational policies. Achieving high grades on tests is a prevalent objective that educators and learners consistently endeavor to attain. The pupils engage in studying in preparation for the upcoming test. Educators primarily focus their instruction on preparing students for assessments. Learners of Eastern backgrounds require assistance in adapting to a worldwide educational setting, as they are expected to effectively engage and work with other pupils from diverse cultural backgrounds.

Additionally, since the beginning of written history, the social hierarchy in Eastern culture has been important enough to be documented (Hofstede, 1983). For instance,

Confucius' educational philosophy is a key component of the value system in China. Those who use their hands to work will serve, while those who use their heads will reign. Confucius advocated a just education because it opened a path to the top for anyone who could endure the rigors of study and examinations. Since then, exams have served as stepping stones to success. Westerners occasionally ridicule Asian students' exams' great status and significance.

The autonomy to select and modify academic disciplines is highly esteemed by learners inside Western colleges and university institutions (Bentley et al., 2005). In Eastern schools, pupils are typically allowed to set their chosen field of study, which becomes their lifelong academic pursuit. Higher education institutions usually admit individuals based on their desired concentration. Typically, employers will only employ candidates who have majored in a particular field. Teachers in colleges only teach courses in their specialties. The benefit of this technique is that students can focus intently on one key area and gain extensive training. The system's weakness is that students must focus more on other topics and restrict their knowledge to a small range. Their learning style and the requirement for further reading to catch up with knowledge surrounding their key field will be their biggest problems. Western societies allow teachers to choose the materials they teach at will. The content and delivery of instruction need to be more consistently consistent overall. Every instructor has a distinctive teaching style that reflects his or her personality and interests. For instance, a teacher might give a brief presentation with many connections to relevant fields. Another might do a very focused presentation that goes in-depth on his or her expertise. Another would only scratch the surface, providing neither breadth nor depth, while a third might present some connections to related disciplines while providing considerable depth. The propensities of teachers must be known by students so that they can make informed decisions. Asian or Eastern students must adapt to this flexible Western (American or European) teaching style.

Varying learning styles. Depending on their cultural background, students pick up learning strategies (Bentley et al., 2005). For instance, certain competitively oriented

American training programs do not accommodate other cultural learning preferences. Additionally, Eastern and Western pupils' learning styles, social interactions, and communication methods vary. In contrast to Western individuals, who generally exhibit a lesser inclination to establish substantial distinctions between their peer- and out-group, Nisbett (2004) has discovered that individuals from Eastern cultures tend to have a higher level of trustworthiness toward individuals of their in-group, such as close companions. According to research by Freeman and Liu from 1996 (cited in Liu, 2007), Asian students are less likely than Western students to ask questions of the teacher or other students. There is a higher propensity among Asian students to depend on printed guidance throughout their virtual classroom interactions, unlike Western pupils who exhibit a greater inclination toward understanding from fellow students. They think that student interactions are important. Western students are more outspoken than Eastern students, who tend to be silent learners who fear making mistakes and being teased by their peers (Tsui, 1996). In order to contrast Westerners and Easterners, Nisbett (2004) presented four key comparison points:

- the preference for collective action versus the insistence on individual freedom of action;
- the inherent inclination toward personal differentiation instead of the tendency toward seamless integration within a collective entity;
- the inclination toward valuing egalitarianism and attaining rank as opposed to embracing authoritarianism and allotted position; and
- the conviction that moral standards should be universal.

Nisbett further suggests that cross-cultural courses should incorporate collaborative learning within virtual learning environments as a pedagogical approach to enhance student learning outcomes. This would:

- help to improve intercultural competence;
- optimize the educational benefits for the worldwide population;
- heighten students' comprehension of the international mentality;
- inspire students to transcend cultural boundaries; and

- enable students to engage fully and benefit from diverse cultures

Classroom activities should incorporate a core of interactions, collaborative team-based exercises, and effective communication strategies (Nisbett, 2004). It is very important that faculty members make it clear to students how to properly participate in collaborative learning activities, explaining the aim, job, particular assignment, timeline, standards, and involvement.

Furthermore, because Eastern students lack experience of collaborative learning, its significance and importance should be particularly emphasized (Bentley et al., 2005). By promoting and facilitating "reflective engagement," it is possible to foster and uphold communal learning approaches within the Western context. The dismantling of cultural obstacles might occur through students' comprehension of the significance of cooperation and the inherent characteristics of collaborative endeavors (Bannon, 1995). Collaborative learning within a virtual community of learners can mitigate student fears. This is particularly important for individuals who are engaging for the first time in Internet-based learning since their level of irritation may make them lose interest and they may not be able to participate fully in the lessons.

Differential patterns of reasoning. Individuals from diverse cultural backgrounds may exhibit varying perspectives and methodologies while addressing problem-solving and striving for impartiality (Bentley et al., 2005). The primary emphasis on intercultural communication lies in the cognitive aspect, which is rooted in the ideas of cognitive science and identity within society (Tajfel & Turner, 1986). Individuals' racial and cultural self-perceptions and interactions within and with other groups hold significant significance. How individuals see their ethnic background and engage with host and fellow citizens can significantly influence how they assimilate. This theory is grounded in the fundamental principles of mental abilities and psychological and subconscious functions, encompassing beliefs, perceptions, expectancies, and aspirations. Thus, Easterners and Westerners have different cognitive processes. Mental effort alters perceptions through concentration, recall, speech, and figuring

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out solutions and judgment. Important aspects include self-versus-other mental processes, confidence, and knowledge interpretation.

Cross-cultural differences exist in one's capacity to accept the viewpoint of people, and these variations are directly related to individuals' perceptions of the self-concerning group and their predominant form of self-construal. The ability of individuals from the two societies to differentiate between their viewpoint and that of others contributes to the traditions of mutual dependence, which emphasizes considering the viewpoints of others. Consequently, East Asians are more apt to adopt alternative perspectives than Westerners. Westerners, however, commit more egocentric mistakes when analyzing other people's motivations and reactions. As a result of the prevalence with which they compare that group to others, Americans place a greater emphasis on the degree to which others are like them than on the degree to which they are like them (Holyoak & Gordon, 1983). According to Cohen and Gunz (2002), Chinese participants describe the event in the third person. In contrast, Americans recall and describe when they were the focus of attention in the first person.

Research on how individuals formulate choices, which can be categorized as circumstantial or temperamental regarding the causes of events, found that cross-cultural disparities may also exist. The Fundamental Attribution Error (FAE) is a form of cognitive prejudice defined by individuals' inclination to attribute the actions of others to personality traits while disregarding environmental factors (Bentley et al., 2005). It is more prevalent in persons from Western cultures than the Eastern counterparts. In Western cultures, where competitiveness is valued, and self-reliance, independence, and self-encouragement are encouraged, the FAE is pervasive. On the other hand, Eastern cultures often exhibit lower levels of FAE due to collectivist norms that place a higher value on togetherness and inter-reliance and prioritize collective objectives above personal ones. This propensity is inextricably linked to individual's ability to accept other people's perspectives. If someone can adopt a wider perspective, they should be less likely to attribute dispositional traits to others. Self-serving bias is a common attributional bias. The problem is when people believe

that positive outcomes come from internal traits (such as working hard and getting good grades) and that unfavorable outcomes come from external circumstances. Research indicates cultural variances, even if prejudice was once considered universal. For instance, compared to Western learners, Asians attribute more situational factors to their exam performance.

Research also demonstrates causal thinking variations, affecting predictions (Lee et al., 1996). While Westerners see actions as a direct reflection of an individual's disposition, Asians interpret behavior as the outcome of the intricate interplay between dispositional and other environmental or contextual elements. The former uses an integrated way of thinking. It emphasizes the area where an object is situated and assigns links with causation. They favor analytical thinking and concentrate on the object and the field. The latter prefer logical thinking, which centers on the item, groups its characteristics, and immediately assigns causality. This distinction does not suggest that Eastern civilizations lack dispositional thinking. Numerous ethnographic and psychological studies have shown that "dispositionism" is common across cultures (Choi et al., 1999). Alternatively, rather than neglecting endogenous influences, there is a chance that significant "situationism" among Asians is the root reason for the East-West divide in attributions. When discussing similar incidents, Morris & Peng (1994) note that English-language media create more dispositional features than Chinese-language newspapers, underlining language's influence on causal reasoning.

Differential technical infrastructure. In general, only a few international students can access the same technical resources, such as phone, internet, and broadband. It is erroneous to assume that students from other cultures, particularly non-Western ones, will have as easy access to challenging simulations and streaming movies as many Americans have (Bentley et al., 2005). Therefore, the implementation of e-learning will be hampered by a lack of essential technological infrastructure. Hence, it is imperative to consider many aspects, including limited computer accessibility, transportation constraints, and the availability of technology infrastructure, to ensure the effective execution of Internet-based education initiatives.

Bentley and his team further suggest that pupils and educators alike must acquire novel proficiencies that surpass the capabilities of existing educational programs. Western educational programs or approaches should be "transferred" and partnered with to avoid unnecessary hurdles. One of these abilities is working with a diverse team in in-person and remote settings to accomplish various tasks and goals. Making technology and its technological infrastructures accessible to students and teachers would aid in their development of the specialized expertise and proficiency required for today's globalized economy (Dede, 2000).

Difference between local and global. While certain cultural groups prioritize the significance of their surroundings, others advocate for a broader, worldwide perspective (Bentley et al., 2005). Planners and instructors must comprehensively understand the viewpoint held by their target demographic. Acknowledging the constraints of technology advancements, such as electronic learning, and the challenges posed by conventional (culturally specific) methodologies is of paramount significance. Despite the inherent constancy of change in the human experience, individuals continue to harbor apprehension about it. Furthermore, individuals may regard technology as a potential menace to their conventional educational practices within certain cultural contexts. Concerns over technology and negative reactions influence the consequence of the alleged threat.

The primary consideration lies in determining how instructors and other pertinent parties can effectively address the needs of pupils from diverse cultural backgrounds in light of the five cultural obstacles faced by diverse learners in those mentioned above "Western" online learning technologies, as proposed by Bentley and his partners. The cultural classifications mentioned possess significant ramifications for the utilization of technology in the context of worldwide education and electronic instruction, as well as the inherent and explicit inclinations toward communication. Incorporating respect for cultural factors is of utmost importance while engaging in classroom instruction, online teaching, or a blended instructional approach. Protheroe and Turner (2003) assert that the primary objective of education that is

culturally appropriate is to facilitate the attainment of rigorous educational goals by all pupils while considering their individualized requirements. The participants also discussed the significant attributes a culturally aware classroom should possess. In other words, no single instruction methodology can effectively and equitably cater to the needs of every student.

As a result, the instructor must adjust their instructional methods following the individualized requirements of the student (Bentley et al., 2005). Culturally responsive education does not seek to replicate the educational atmosphere of the learners' culture. Instead, the focus is cultivating a sense of common comprehension and admiration for many cultural backgrounds to attain scholastic accomplishments.

One of the foremost concerns for scholars and practitioners in Internet-based education as explained in Bentley et al.'s (2005) study is the instructional choices made by teachers and developers. The alteration of pedagogical approaches represents a crucial and pivotal measure in migrating from conventional educational facilities to virtual classroom settings. The mindsets and perspectives influence the effects of emerging technologies inside educational settings. The process of education in an Internet-based environment is significantly influenced by instructional elements that are inherently interconnected. The factors to be considered encompass the type of work being undertaken, whether it is of a professional or genuine character, and the teacher's role in facilitating the learning process. Cultural factors significantly impact individuals' utilization and interpretation of communication technology and the significance they attribute to the received communication.

Some prominent models on cross-cultural online/distant learning methods are as follows: Edmundson (2006) (section 2.3.2.2.2.1) and Parrish and Linder-VanBerschot (2010) (section (2.3.2.2.2.2).

2.3.2.2.2.1 Edmundson (2006)

The cultural adaption process model (CAP) proposed by Edmundson (2005) was designed to evaluate the suitability of digital educational tools for learners based on their previous cultural experiences. According to his assertion, this approach would enhance the development of open and readily available online educational programs that cater to learners from different cultural backgrounds.

The model created by Edmundson's CAP is based on his comprehensive integration of academic and commercial research in anthropology, specifically focusing on culture and its constituent aspects. Nevertheless, the efficacy and optimization of the framework remain to be proved. The presented model (see Appendix G) depicts an arrangement that considers the lesson's degree of difficulty horizontally while vertically displaying the various stages of customizing an online learning program to suit a certain cultural context. The features from level 1 to level 4 encompass a wide range, similar to the cultural dimensions examined in the existing literature. The cultural components and themes defined by organizational anthropologists facilitate the comparative analysis of diverse cultures, encompassing aspects such as social interaction patterns, temporal perspectives, social hierarchy, and environmental self-perception.

These 14 dimensions were reduced to nine in Edmundson's research, yielding the simplified multiple cultural models (SMCM):

- Model of instruction
- Significance of experience
- Pose as a teacher
- Importance of mistakes
- Learning drive
- Permitting for variations in individuals
- Take command like a pro with this learning strategy
- The user took action
- Collaboration for education

The CAP model, Edmundson (2005) highlights the cultural features of cooperation against individualism and their impact on enthusiasm. These factors affected the selection of electronic learning; his study involved 50 students representing Eastern and Western cultures who utilized the SMCM platform. In the realm of statistics, three variables exhibit an indeterminate impact, namely the role of the instructor, student authority, and the significance of errors. Nevertheless, these traits are significant and warrant consideration until further studies provide conclusive evidence to the contrary. The possible importance of the other elements, namely behavior among users, experiencing value, and adapting variations among people, was not ruled out by the findings of a single study. Therefore, these factors were considered to be valuable cultural dimensions. None of the groups espoused a contrasting pedagogical framework. Incorporating the expression into the framework instead of presenting it as an independent feature is justified because it is fundamentally rooted in the academic framework, which serves as the foundation for the remaining eight elements.

2.3.2.2.2.2 Parrish and Linder-VanBerschot (2010)

In general, teaching and learning are becoming more prevalent in cross-cultural and multicultural situations due to several interrelated causes. Cross-cultural connections are more common than ever in society today, particularly in education. A broadly scattered participant for focused education and training is also the result of the growing specialization within many professions, even if this necessitates migrating abroad or using a distance/online learning approach. However, cultural variation among learners (i.e., Eastern versus Western) still stands out, possibly due to profoundly ingrained cultural principles and ways of thinking that make it hard to divide them from the learning process. Additionally, so-called millennials are more appreciative of their cultural identity because of their increased cultural awareness. Nevertheless, this form of cultural persistence could pose a challenge in a global learning community.

According to Parrish and Linder-VanBerschot (2010), it is crucial that teaching professionals and institutional designers, especially those in online learning contexts, acquire the necessary abilities to provide culturally aware and adaptable education, as was previously mentioned, given the increasingly multicultural nature of education and training environments. In this regard, the authors investigated those cultural variances that might influence instructional circumstances for teaching and learning. They suggested the Framework of Learning and Cultural Dimensions (CDLF), which outlines eight cultural criteria about social interactions, epistemological convictions, and temporal perspectives. It also shows the range of variability they might display in teaching scenarios (see Appendix H). They also discussed using the extended CDLF version as a questionnaire to draw attention to the diversity of interests among students and reveal the possible strategies and approaches that might be useful for a certain set of students.

The authors subsequently made adaptations to the Cultural Components of Learning Foundation (CDLF) based on the research conducted by Nisbett (2004), Ribuffo & Levine (1997), Hall (1983), and Lewis (2006). The theoretical framework facilitates comprehension of how cultural disparities impact the pedagogical and educational processes. They also reference the work of Hofstede et al. (2005), who highlighted the distinction between ideals and practices as components of culture in presenting their cultural dimensions model. In this scenario, the culture's deepest and most persistent parts are cultural values learned early in life. On the other hand, cultural practices are specific rituals and standards that are simpler to follow. Although practices may represent cultural beliefs, they are more flexible. The most superficial practices are frequently only trappings that can alter without undermining underlying principles; they are not always the inevitable results of ideals. The eight cultural aspects in this paradigm stand in for values.

As a result, the indicated revealed learning behaviors go beyond simple routines. Instead, as they are a clear representation of underlying values, criticizing them could be in opposition to them. Before this claim can be fully affirmed, more study explicitly

centered on cultural characteristics of learning environments is necessary. However, an intense study has already been conducted on many topics.

2.3.2 Summary and Insight for This Thesis

This thesis defines culture following Becker (2005), Bodley (2000), and Hofstede (1983) as the individual attitude of collecting programming on what they think, do, and produce in a way that sets them apart from members of other communities. Value categories, national identity components, or defining traits can be used to categorize cultures. Cultural traditions and ideas influence assumptions about learning methods, and the meaning of learning may vary depending on the social setting. This idea is in addition to affecting social actions and interests. Because of this, Easterners and Westerners have different knowledge cultures and learning styles. Teaching methods must be adapted to support students from various cultural backgrounds in achieving deep learning (Bentley et al., 2005).

Hofstede (1983) categorized the various facets of culture into five main categories. These dimensions include separation of power, uncertainty defiance, individualism or communal masculinity/femininity, and long- and brief-term focus. Hofstede (1997) says that culture significantly impacts various aspects of human existence, including learning, individual identity formation, cognitive and behavioral patterns, and responses to the immediate surroundings. The value of orientations (Hampden-Turner & Trompenaars, 1997) and the uncertainty avoidance dimension (Dunn & Marinetti, 2002) to show how people from different cultures differ and to aid in making plans for cultural adaptation in a context of global learning. Universalism against particularism, individualism versus collectivism, neutrality versus effectiveness, achievement versus ascription, and high versus low uncertainty avoidance are among them. Some of these factors must be considered when teaching entrepreneurial design thinking across cultures, from the Western to the Eastern. These cultural differences also impact local instructors' support of pupils. Thus, any advice should consider these variations rather than promoting a certain strategy.

Moreover, this thesis has profoundly summarized and contributed the literature and theoretical background of "cross-cultural adaptation." The field can be categorized under two distinct domains: human, which encompasses cross-cultural stress and adjustment, and non-human (see Table 15).

Table 15. Summary on Theoretical and Literature Background on Cross-Cultural Adaptation[33]

Theory	Summarized explanation	Contribution to this thesis
Kim (2001)	Sojourners confront new challenges. Communication, environment, predispositions, and intercultural change affect cross-cultural adaption.	-The capacity to manage learning disparities depending on culture is essential.
Anderson (1994)	Sojourners wanted to change to fit in. Affective/emotional, cognitive/perceptual, and behavioral adjustments occur in humans. Sojourners are adjusting to their new habitat after completing the hurdle response generation loop. Fit and adaptability vary.	-Individuals define and practice adaptation in many ways.
Zhou et al. (2008)	Positive action follows adaptation, such as preparing and learning new abilities for the new culture. Expecting international students to adjust immediately may threaten their ethnicity. 'Cultural synergy' requires host academics and overseas students to understand each other's cultures. Student and teacher mismatches must be identified and corrected. Educator, student, and situational factors may affect adaptation. After teaching-learning, educators and students must be prepared and assisted in reciprocal adaptation.	-The three levels humans adjust to are affective/emotional, cognitive/perceptual, and behavioral. -Cross-cultural acculturation aids migrant students in settling in and adjusting.

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[33] Author's own table

Shafaei and Razak (2016)	Cross-cultural adaptability helps international students settle in. Contextual factors and adaption effects explain it. Psychological and social adaptability causes transformation.	-Cross-cultural adaptation, which calls on instructors and students to understand one another's cultures, is said to result in cultural synergy.
Newell (1999)	Most Western management education knowledge bases have implicit and cultural aspects that are difficult to translate into Chinese. Decision-making managerial information will not penetrate Chinese pupils' intellectual or direct transfer paradigm. The Western "knowledge maker" and Chinese pupils do not share word meanings and beliefs, which prevents linear knowledge acquisition. Community model knowledge could bridge Chinese and Western management learning. The community model of expertise emphasizes ethnic, political, historical, and economic dimensions, creating learning communities where Western ideas were investigated, reinterpreted, and combined with Chinese ideals.	-The typical (implicit) management knowledge and education originated in the West and may be difficult to apply to Eastern nations or cultures. -Learning groups may need to be developed to study, reinterpret, and combine Western knowledge with Eastern ideals. -Ambiguity, interference, and ignorance limit cross-cultural knowledge transfer and adaptability. -Instead of requiring local teachers to dramatically alter their duties and instruction methods, Western educational approaches (teaching pedagogy, course topics) must be culturally adapted.
Holden and Von Kortzfleisch (2004)	Translation and intercultural knowledge transmission are interchangeable. Ambiguity, interference, and ignorance limit cross-cultural information transfer. Intercultural expertise seeks cross-cultural equivalence. Intercultural knowledge transfer needs cultural literacy—understanding and leveraging cultural differences. Verbal, intellectual, and pragmatic	-When transferring foreign academic or management expertise, the national or native culture of the Eastern communities/organizations must be considered.

	components must coincide with cross-cultural knowledge, beliefs, and experiences. Knowledge transferability is like convertibility. Social media shares translated knowledge, from general ideas to full revelation.	-The environment is set up for the reverse knowledge flow and learning, which results in cross-cultural comprehension and, eventually, adaptability, thanks to changes in the economy and the complexity of the local students and educators.
Hong Thanh (2007)	The East can adopt Western teaching and learning approaches. Vietnamese teachers and students value education. Instead, then asking local teachers to change their roles, foreign methods should be culturally adapted.	
Retna & Bryson (2005)	Organizational culture affects national culture. Global knowledge and information management techniques depend on national and regional cultures. When foreign ideas drive transformation, management, and organizational change, research must consider the organization's national culture.	-Communication, environment, individual predisposition, intercultural change, differences between educators and students, students' circumstantial factors, environment, the relationship between domestic and abroad students, workplace factors, and communication are all factors that affect cross-cultural adaptation.
Napier (2006)	Western/foreign professionals used to instruct local students. However, the scenario may change. Natives may outperform foreigners. Knowledge and learning reverse due to economic changes and local manager complexity. Reverse knowledge flow aids cross-cultural adaptation. Local employee training helps foreigners adjust. Environment, workplace, relationships, and communication affect knowledge transfer. Both sides can learn passively. Observing and subconsciously absorbing Vietnam's	-When adopting proposed Western-adapted teaching methods to Eastern cultures, curriculum designers should investigate, test, assess, and evaluate them.

	and other developing nations' work patterns is possible.	
Edmundson (2006)	Using the CAP model, curriculum designers should investigate, pilot test, generate, assess, and re-evaluate learner and e-learning cultural attributes. CAP simplifies e-learning for other cultures. Globalizing e-learning requires the model or its essential features.	-In order to solve the cross-cultural difficulties that educators of multicultural education face, there are cultural dimensions of learning that serve as recommendations.
Parrish and Linder-VanBerschot (2010)	In this age of globalization and technology-influenced cross-cultural engagement, culturally-based learning gaps must be addressed. The paper examines how culture affects education-learning. The proposed rich tool for studying learning preferences can help instructors succeed in cross-cultural situations.	-Culture preservation is a moral concern in education and learning.

As seen in Table 15 and discussed earlier, within the broader context of human adaptation, it is widely acknowledged that the cross-cultural adaptation process can induce significant stress levels among people. While certain individuals may opt to retain their features, such as uniformity, some may adjust and conform to the novel surroundings. The concept of cross-cultural adaptation, as proposed by Kim (2001), is widely recognized as a prominent theoretical framework for understanding the transformative process individuals undergo when transitioning to a different cultural milieu. The author elucidates that the successful adaptation of individuals is contingent upon several essential elements, including physical wellness, mental health, and a sense of culture, which pertain to both the receiving country and the immigrants. In the last few decades, examining the phenomenon of culture shock and the subsequent process of adjustment in individuals has seen a transition in focus. Previously rooted in disciplines such as psychological sciences, training, and medical care, psychology has now gravitated toward modern ideas about cultural understanding, stress-coping simulations, and social belonging.

The examination of cross-cultural characteristics has the potential to enhance the exchange of information and education among non-human entities. The prevailing viewpoint suggests that most management information originates from Western sources, limiting its applicability to Eastern cultures or societies. Consequently, educators and instructors must adjust their instructional approaches and content to accommodate diverse cultural contexts or nations when imparting this knowledge. Concerning the aspect mentioned above, it is imperative to engage in cross-cultural adaptation to modify the method used toward learning and instruction, particularly in light of the widespread accessibility of Western intellectual competencies and programs facilitated by technological advancements. Hence, traditional education must transform and adjust to align with the contemporary century of learning via the Internet.

The research presented here posits that there is an expectation among Western academics, managers, and educators for Eastern pupils to adopt a specific model of understanding that these individuals have codified. This concept posits that the comprehension and application of knowledge, particularly in the context of pedagogical approaches, is improbable when it is translated and transferred to Eastern culture and language. The scenario mentioned above would hold if an Eastern student were to engage with business literature written in their native language by a Western instructor. The implicit information that Eastern students possess differs fundamentally from those who can articulate their knowledge. This basic difference poses a barrier when it comes to transferring knowledge from Western contexts to Eastern contexts.

Furthermore, imparting tacit or collective (management) knowledge or "foreign" teaching methods through a group project or individual study could be difficult. The main problem is that a community, not a single person or a collection of people, is the knowing entity of group-embedded or collective knowledge. It takes intercommunal learning by doing to convey collective knowledge because it is tacit and group-embedded. Therefore, the most crucial factor will be how educators and

other relevant parties can accept students from various cultural origins. Collaborative learning can be a beneficial strategy for first-year online students who experience irritability that hampers their motivation and engagement in classroom activities. This approach has the potential to alleviate the considerable anxiety experienced by students. Educators must modify their instructional strategies to cater to the diverse demands of their students. The educational setting incorporates cultural sensitivity instruction to align with the learners' home culture. Instead, the goal is to foster respect for diverse cultures and mutual accommodation to achieve academic success.

A good instructional design must also consider the learners' cultural background and the designers. However, difficulties arise in this ideal scenario when the fundamental instructional principles of one culture are inappropriate in another. Others have attempted to include cultural issues in the current instructional design frameworks, while some researchers have only explored the significance of cultural variables in instructional design.

Furthermore, this study conceptualizes the integration of cultural adaptability within the framework of entrepreneurial design thinking to theoretically adapt the prevalent Western method to provide instruction to a distinct cultural entity, and some of the following conceptualization from this thesis has been published recently (see Amalia & von Korflesch, 2023). The primary source utilized in the present work is the research conducted by Shafaei and Razak (2016), which focuses on the theoretical framework of cross-cultural adaptation among international students studying in Malaysia. A model of thought was developed to elucidate the fundamental principle of cross-cultural adjustment. At the same time, a conceptual framework was devised to visually represent the interconnectedness between various elements, along with the overarching notion of cross-cultural adjustment. Furthermore, the present investigation draws inspiration from the renowned research conducted by Kim (2001) on the factors influencing cross-cultural adaptation among individuals, in addition to the seminal works of Hofstede (1986) and Hofstede and Bond (1984) on the social and cultural aspects of countries. The current study analyzes the potential influence of variables connected to context,

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specifically the college environment, and personal factors, such as Eastern teachers and pupils, on the cross-cultural adaptation of foreign teaching methods. The factors encompassed in this study are the educational institution's responsiveness and adherence to adaptation and modification, the capacity of learners and instructors to embrace and adapt to alterations in their approaches toward education, classroom instruction, and interpersonal interaction, and the aspects of culture (Hofstede, 1986).

This investigation has also considered Holden and von Kortzfleisch's (2004) analysis of information transference ideas to demonstrate how the transcultural adaption of entrepreneurial design thinking could occur. This thesis contends that rather than being "transferred," as described by Holden and von Kortzfleisch, entrepreneurial design thinking is instead being "adapted" to various cultural contexts. However, this study accepts that certain theoretical components are important when attempting to cross-culturally adapt a Western teaching strategy to an Eastern culture or nation. They are internalization, combining, externalization, and socialization. Socialization in class may facilitate the process. After that, externalization can be carried out with the necessary parties. Then, it may use conventional and modern teaching techniques and internalization through the curricular system. Figure 19 is shown.
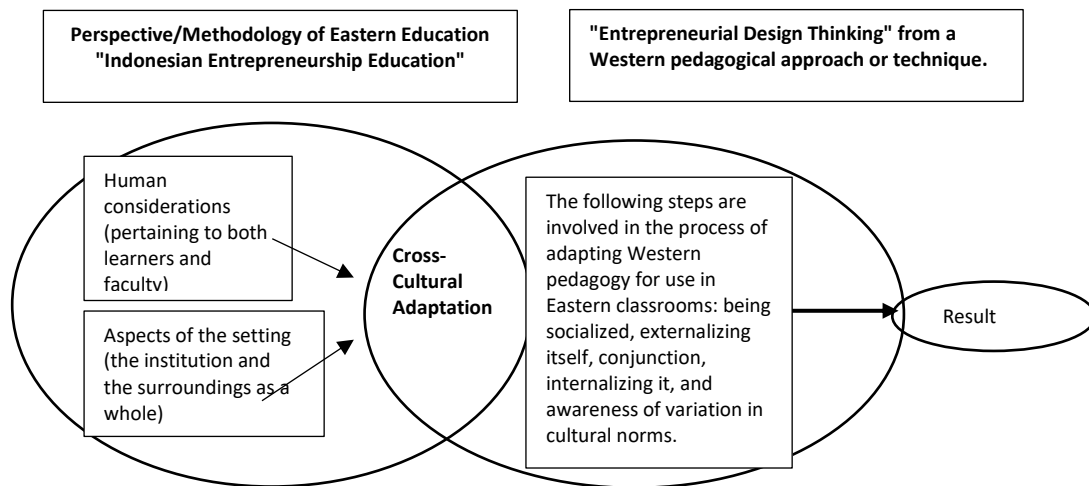
Figure 19. Conceptual Framework on How Cross-Cultural Adaptation Fits in the Research Spectrum of Entrepreneurial Design Thinking[34]

When considering the fundamental principles of entrepreneurship education and design thinking (as outlined in Sections 2.1.3 and 2.2.3) it becomes apparent that the notions and hypotheses around cross-cultural adaptability align with the scope of research on entrepreneurial design thinking.

Figure 19 presents a conceptual depiction illustrating the potential application of Entrepreneurial Design Thinking in Eastern countries, as outlined under the framework of thinking proposed by this thesis. The perception of entrepreneurship training among Indonesian university politicians, professors, and learners may be shaped by contextual and personal variables on the left side of the spectrum (Hofstede, 1986; Hofstede & Bond, 1984; Kim, 2001). Applying entrepreneurial approaches from Western to Eastern contexts exemplifies the broader phenomenon of cross-cultural adaptation.

Furthermore, it is important to consider the eight principles of learning mentioned above when introducing a novel method of instruction from Western to Eastern

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[34] Author's own formatting figure, adapting and referencing from Bentley et al. (2005); Hofstede, (1986); Hofstede and Bond (1984); Kim (2001); Shafaei and Razak (2016), has been recently published in Amalia and von Korflesch (2023)

cultures or nations (Bentley et al., 2005). Cultural variations should be considered. The following is a breakdown of those values:

- The difference between English-speaking and non-English-speaking countries
- Difference between high- and low-context communicators: cultures that emphasize direct versus indirect speech patterns
- The difference in social context: Hofstede's cultural dimension
- Distinctions in the pedagogical cultures, which include disparities in schooling and instructional practices
- Distinctive pedagogical approaches, social habits, and verbalization techniques
- The difference in reasoning patterns entails a new perspective on objectivity and thought
- Disparities in the Use of Technology Caused by Differences in Technical Infrastructure
- Traditional ways of life versus forward-thinking concepts of globalization

Previous research collectively indicates the theoretical viability for cross-cultural adaptation of the "non-human" feature, particularly the instructional strategy of "entrepreneurial design thinking," discussed earlier. The method offered in this investigation is innovative due to the incorporation of both the societal theory of constructivism and the theoretical framework of cross-cultural adaptation. The present study utilizes the theoretical framework of societal-constructive theory and cross-cultural adaptation theories instead of frameworks or conceptions that emphasize imparting knowledge and electronic-based and global training. This thesis investigates the potential adaptation of Western pedagogical approaches for application in Eastern settings, intending to address the knowledge disparity. It introduces a conceptual framework that examines the process of cross-cultural adaptation of instructional techniques that are not specific to humans, specifically focusing on teaching style. This paradigm considers the perspectives of learners, staff members, and the immediate university community. It offers the potential to acquire

an additional significant understanding of the practical implementation of this cultural adaptation.

The subsequent Chapter 3 gives a case investigation that employs the abovementioned perspective.

CHAPTER 3: CROSS-CULTURAL ADAPTATION FOR ENTREPRENEURSHIP HIGHER EDUCATION IN INDONESIA – CASE-STUDY APPROACH

According to Schwandt (2007), research methodology is a way of thinking about how to conduct an inquiry. It examines a particular field's underlying assumptions, guiding theories, and research techniques. Methodologies specify and provide evidence for the groups of topics that need further study (Creswell & Tashakkori, 2007; Teddlie & Tashakkori 2011). The phrase also refers to what makes a problem a testable hypothesis, how to framing a topic so it can be studied using certain designs and procedures, and to choosing and creating suitable data collection methods (Easterby-Smith et al., 2012).

This chapter discusses how the research for this thesis was done (see Figure 20). Then, what the results were, and how the thesis was discussed. The next section, 3.1, shows the research's overall design. In Sections 3.2 and 3.3, the case study elucidates its objective and rationale, encompassing ensuring quality, selecting the sample, collecting data, and analyzing, respectively. The subsequent section, Section 3.4, presents the overarching analysis process and its findings. The main results from the complete analysis are thoroughly discussed in Section 3.5. Finally, Section 3.6 summarizes and provides insights and recommendations for future research.

CHAPTER 3: CROSS-CULTURAL ADAPTATION FOR ENTREPRENEURSHIP HIGHER
EDUCATION IN INDONESIA – CASE-STUDY APPROACH

(1) Research Design
(2) Objectives of the Case Study
(3) Techniques and Procedures: Data Collection and Analysis
(4) Analysis Process and Results' Presentation
(5) Discussion of the Results
(6) Summary, Insights, and Recommendation

Figure 20. The Structure of The Thesis' Case Study.[35]

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[35] Author's own figure

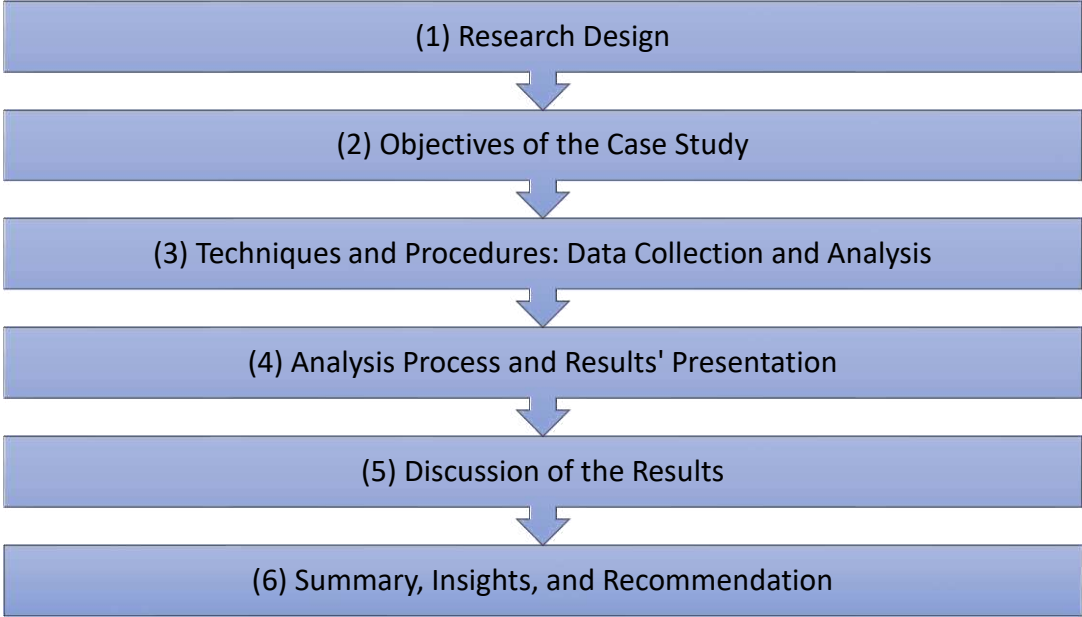CHAPTER 3: CROSS-CULTURAL ADAPTATION FOR ENTREPRENEURSHIP HIGHER EDUCATION IN INDONESIA – CASE-STUDY APPROACH

3.1 Research Design

Any research's quality can be improved by solid knowledge of the research design, which outlines the methods and processes for choosing, gathering, and interpreting the data needed to solve the research topic. As a result, Leedy and Ormrod (1997, p. 195) described "research design refers to the comprehensive framework of a study that serves as the basis for acquiring evidence." In order to handle the investigation's issue, it is also defined as an approach for selecting subjects for study, sites, and data gathering procedures (MacMillan and Schumacher, 2001). They also demonstrated how a sound investigation strategy aims to produce results accepted as reliable. Durrheim (2004) asserted that the investigation's design serves as a framework for strategic action that links the inquiries being investigated to the strategy's performance or application. Therefore, a research design's main purpose is to help researchers predict the best study options and increase the final results' validity.

This thesis aims to be a descriptive study, that is, to accurately portray a picture of individuals, occasions, or circumstances by the study's goals (see Chapter 1, section 1.3). This goal could be a progression from exploratory research, which entails finding out what is taking place, looking for fresh perspectives, posing inquiries, and assessing events from different angles. Before gathering data, it is essential to thoroughly understand the phenomenon the author seeks to study. To address the first research question of the thesis, extensive literature reviews and research were conducted for this section. The goal of this thesis would be best served by using a descriptive study to answer the second research question about how one might cross-culturally transfer design thinking as a teaching methodology from Western culture to Indonesian entrepreneurship higher education.

The current thesis research uses a case study. Robson (2002) defined a *case study* serves as a scientific examination of a current event inside its genuine contextual framework, employing a variety of sources for analysis. The boundaries between the phenomena and the context of the investigation need to be more

obvious (Yin, 2003), which also emphasizes the significance of context. A case study is helpful if a researcher wants to comprehend the research setting and procedures. The "why," "what," and "how" questions can all be successfully answered using this particular means. It could help this thesis by addressing the research question and objective, notably the second research question.

Case studies are viewed as a method by some authors and qualitative research type by others (e.g., Easterby-Smith et al., 2012; Morris & Wood, 1991). The case study is considered in this thesis as more than merely a methodological option. It is a qualitative research method that stresses subjective experiences and their meanings. An interpretative/constructivist paradigm also defines it. The study's findings heavily depend on the researcher's opinions of a given circumstance. Quality case-study research also includes a graphic that carefully examines an ongoing event. It seeks to achieve precise results over a predetermined period. This specific approach is widely employed, particularly in the context of research on teaching and education.

Yin (2003) also separated four case study methodologies according to two unique aspects: single case, multiple cases, and holistic case vs. embedded case. The first dimension, a single case, frequently represents a critical, extreme, or special situation. It enables the researcher to watch and examine a less-popular phenomenon. It concentrates on the requirement to determine whether the findings of the first instance occurred in other situations. As a result, the necessity to extrapolate from these findings for many cases. The unit of analysis is discussed in the second dimension, holistic vs. embedded. The researcher studies the organization as a whole case study if the investigation is limited to the organization. On the other hand, imagine that the researcher wants to look at several logical sub-units within the organization. In that situation, the case will unavoidably incorporate multiple analytical units and be referred to as an embedded case study.

The particular research topic of "cross-culturally adapting the teaching technique for design thinking to entrepreneurship education in Indonesia" still resides in the early

stages of theory. The circumstance recommends open-ended questions and a qualitative case study method to examine the subject fully. In addition, a few instances of design thinking are still being used in entrepreneurship teaching in Indonesian higher education. One can apply a case study strategy that only uses qualitative data. As a result, a case study is important for thoroughly examining the Indonesian entrepreneurship education teaching practice and the potential cross-cultural adaptation of design thinking. This thesis, therefore, used the following:

- a single case (one specific Indonesian university);
- embedded dimensions (two specific classes/course programs for observations and interviews),
- involved intrinsic interest, i.e., a case in which the researcher has no interest in generalizing his or her findings; and
- cross-sectional "snapshot" of time horizon, highlighting an examination of a specific incident (or phenomena) within a certain period of time frame.

Finally, the researcher should consider the case-study approach's benefits and drawbacks. For instance, Brewerton and Millward (2001) stated that a researcher may become lost if not extra vigilant, the research may take a lot longer, and the participants can only accept the researcher's attempts to generalize the results.

Nevertheless, a case study does offer certain benefits. For instance, it enables the researcher to accurately and precisely describe events. Additionally, it allows the researcher to uncover insightful facts or pose new queries that previous approaches could not. A case study would be the best approach for this thesis because it can offer in-depth analysis and depict the situation in a sophisticated way.

3.2 Objective of The Thesis' Qualitative Case Study

According to Braun and Clarke (2006, p. 85), qualitative research has three distinct categories of inquiries. These include:

(A1). The central quest serves as the foundation for the entire project.

(A2). The specific questions were posed to the respondents and their subsequent
responses.

(A3). The query directs the process of coding and interpreting the collected data.
The three inquiries presented in this context do not exhibit any inherent connection,
and it is frequently advantageous to maintain a clear demarcation among them.
Notwithstanding the three inquiries mentioned above pertain to the current study,
they exhibit notable distinctions, which will be expounded upon in the subsequent
analysis.

(A1) The overarching research question that serves as the basis for this thesis was
derived in section 1.3. It questions the following:

- what theoretical principles underlie design thinking, and how is design
  thinking theoretically connected to entrepreneurship education?
- Is there a potential for design thinking to be culturally adapted for
  entrepreneurship education in Indonesian higher education?

(A2) The inquiries that were posed to this study's case respondents (i.e., students,
lecturers, and program coordinators).

- For students: to discover, understand, and explore the perceptions, mindsets,
  and experiences of design thinking as a teaching methodology and the
  learning process/activities of entrepreneurship education and design thinking
  in their related university.
- For lecturers: to discover, understand, and explore the perceptions, mindsets,
  and experiences teaching design thinking and entrepreneurship, as well as the
  teaching philosophy, objectives, tools, contents, roles, and assessing
  students' learning process.
- For training/course program coordinators: to assess the state of
  entrepreneurship education in Indonesian universities. Specifically, it seeks to
  examine the implementation of entrepreneurship education programs in
  schools and colleges, the roles of teachers and students in the classroom
  instruction and learning of entrepreneurship and design thinking, the

challenges encountered in this process, and the potential and prospects of
entrepreneurship education and design thinking as a novel teaching
methodology influenced by Western countries.

(A3) These are the guiding inquiries that lead to the code structuring and evaluation
of this case study's qualitative data thematic analysis:

- What can happen during the teachings of entrepreneurship education and
  design thinking in Indonesian higher education institutions (i.e., possible
  potentials and challenges)?

- What components of Indonesian entrepreneurship education could
  contribute (or even not contribute) to the cross-cultural adaptation process
  of entrepreneurial design thinking teaching methodology:

  - Students' and educators' factors (possible cultural dimensions:
    perceptions, mindset, characteristics, roles, communication, teaching,
    learning patterns, and teaching-learning expectations).

  - University/environmental factors (the country-contextual
    circumstances as well as university receptivity and confrontations
    factors, such as perceptions and mindsets on entrepreneurship
    education and design thinking, the classes/programs; categories of
    audiences and its heterogeneity; university/program's ecosystem
    including curriculum objectives, teaching methods and contents).

- What are the insights and possibly practical recommendations?

3.2 1 Quality Assurance

An ethical investigation is necessary to guarantee accuracy and authenticity in
qualitative research. By carefully considering the study's design, data collection,
processing, interpretation, and presentation, researchers of any kind can solve
problems these concerns.

Research designs are predicated on assumptions regarding the topic under investigation and aim to provide answers to various queries. The criteria for trusting the study will alter depending on whether the investigation's major goal is understanding, as it is in the case of qualitative research, as opposed to discovering a law or testing a hypothesis. An experimental inquiry is considered legitimate, thorough, or credible only if it is carefully designed by the investigator using widely accepted criteria. Qualitative research also contains methods for determining the veracity and reliability of a study; these methods are founded on worldviews and inquiries that are consistent with the philosophical presuppositions that underlie this perspective.

Many authors contend that from a standpoint consistent with the philosophical presumptions underlying the paradigm, qualitative research is founded on various assumptions about reality. The concepts might even be given a different name due to this argument (Lincoln & Guba, 1985), i.e., trustworthiness, adaptability, reliance, and verifiability. Then it was employed as a stand-in for objectivity, reliability, and external and internal validity. Recent work requires careful consideration of numerous conceptualizations of dependability and validity.

Additionally, given the large range of qualitative research types, there will inevitably be variations in the validity and reliability standards. Creswell (2012) conducts a comparative analysis of the quality of narrative study concerning other research methodologies such as phenomenological investigations, grounded reasoning research, research using ethnography, and case study investigation. This analysis is based on varying sets of criteria. According to Lichtman (2013)'s standards, a good qualitative research project should meet certain requirements. These include clearly stating the purpose of the investigation and the investigator's connection to the participants and defending the study's importance, being transparent about the study's methodology, and effectively communicating the study's conclusions. Also,

according to Tracy (2013)'s big-tent criteria, the research must meet the following
requirements:

- It must be on a notable topic.

- It must be conducted with rich and deep rigor.

- It must be sincere or transparent in their methods.

- It must be credible.

- It must resonate with a variety of participants and audiences.

- It must make a significant contribution.

- It must take ethical concerns and considerations into account.

- It must have meaningful coherence or meaningful interconnections between
  studies.

The next sections will discuss constructivist qualitative research's special internal,
dependability, and external validity issues. The issues are consistent with the
concepts that Lincoln and Guba (1985) referred to as credibility,
consistency/dependability, and transferability.

3.2.1.1 Internal validity or credibility

How well study findings accord with reality is a topic covered by internal validity. How
closely do the results match the facts? Do the findings reflect what was discovered?
Do researchers observe or measure what they claim? Therefore, the nature of reality
determines the internal validity of any study. It is necessary to evaluate validity in
criteria other than reality itself. Lincoln and Guba (1985) defined *credibility* as
whether the conclusions are believable in light of the available data, which is
something other than reality.

Though qualitative researchers cannot pin down an objective "truth" or "reality,"
there are several techniques they can employ to make their findings appear more
"credible," or as Wolcott (2005, p. 160) has put it, "more in line with the real world."
Triangulation is arguably the most established method for ensuring the internal

validity of an investigation. The best-known theory of triangulation is by Denzin (1978), in which he suggests four types: employing a variety of techniques, gathering information from several different sources, multiple researchers, or multiple theories to authenticate revealing findings. Triangulation is usually related to land mapping or routing when multiple reference sites make merging on a place possible. Comparatively less frequently than in the other three types of research, qualitative research involves using many theories, such as comparing data with several theories/hypotheses to observe how each performs regarding the data (Seale, 1999). In this thesis, the researcher used triangulation by combining several theoretical investigations with three different data-gathering techniques (interviews, observation, and literature studies).

Triangulation is comparing and cross-checking data obtained from many data sources, such as interviews with individuals with various perspectives or observations made at various times or locations. Therefore, triangulation is a potent tactic for boosting the credibility or internal validity of the research, regardless of whether the researcher utilizes many approaches to data gathering, various sources of information, multiple researchers, or multiple concepts. Triangulation is still a key tactic from an interpretive-constructivist standpoint to guarantee validity and reliability.

Member checks are a second popular tactic for guaranteeing internal validity or credibility. The researcher asked some of the persons she interviewed for input on the preliminary or developing findings. This process is known as respondent validation. During member checks, the preliminary analysis is re-examined with a few participants to determine whether the interpretation "rings true." Participants should be able to identify their experiences in the interpretations, even though the researcher may have used different terminology or offered some revisions to reflect their viewpoints better.

A third approach that makes sense when attempting to mimic participant comprehension of a phenomenon is adequate engagement in data collecting. It is never easy to say how long to watch or how many people need to be questioned because the answers vary on the study of the issue. The best rule of thumb is that the data and developing discoveries must be saturated, meaning that as the researcher gathers more data than before, she starts to notice the same things happening over and over again, and no new information is emerging.

The last approach, sometimes referred to as the investigator's standpoint or reflexivity, centers on examining the influence of the study's activity on the researcher and is connected to the integrity of the qualitative researcher. The researcher must disclose her predispositions, biases, and assumptions regarding the on-going research. To avoid eliminating the researcher's ideas, views, and perceptual lens, Maxwell (2013) discussed why it is important to make the reader aware of the researcher's perspective, biases, and assumptions. Instead, qualitative research seeks to understand how a certain researcher's views and expectations impacted the course of the study and its findings.

3.2.1.1.2 Reliability or Consistency

The degree to which study findings can be duplicated is referred to as reliability. The social sciences have a challenge with reliability since human behavior is always changing. Qualitative research aims not to isolate the laws governing human behavior. Instead, the researcher aims to explain and characterize part of the world from the perspective of individuals living there. Since there are numerous possible explanations for what is occurring, a benchmark must be established to perform repeated measurements and prove reliability in the conventional sense. A replicated qualitative study will have different results, but this does not invalidate the findings of any single study because the same data can be interpreted in various ways. The primary issue in qualitative research is whether the conclusions are consistent with

the facts collected. Therefore, the concern is not whether the results will be repeated
but whether they are consistent with the collected evidence.

In the conventional sense, reliability could be more attainable and realistic. Due to
the following factors, a priori controls cannot be used in a qualitative study's
emergent design:

- The social environment under study is dynamic, complex, and extremely
  situational.

- The information gathered depends on who provides it and how adeptly the
  researcher gathers it.

- The study's subject matter is in flux and context-dependent.

Triangulation, peer review, the investigator's position, and the audit trail measure
might be employed by qualitative researchers to maintain consistency and
dependability (Yin, 2003). Employing numerous data collection techniques is a tactic
for acquiring reliable and consistent data and data that are more in line with reality
as perceived by the participants.

In a qualitative study, the data collection, categorization, and decision-making
processes were all meticulously documented in detailed notes and audit trails (see
Appendix K). As work to build this path progressed, the researcher kept a journal or
made notes about the findings. The researcher kept a running journal of her
interactions with the data. At the same time, she conducted analysis and
interpretation, including her reflections, questions, and decisions she made regarding
any problems, challenges, or ideas she encountered while gathering data.

3.2.1.1.3 External validity or transferability

The extent to which the results of one study can be extended to different
circumstances is known as external validity. Although qualitative research cannot be

generalized in the statistical sense, this does not mean there are no lessons to be learned from a qualitative study. Generalizability is still applicable to the conceptual foundations of qualitative research, much like internal validity and reliability.

Several tactics can be used. The use of in-depth, lengthy descriptions is the one that is most frequently noted to increase the likelihood that the findings of a qualitative study "translate" to another context. Today, excerpts from participant interviews, field notes, and literature materials give an elaborate and comprehensive depiction of the research's environmental context and participants and a detailed summary of the findings with sufficient evidence (Maxwell, 2013). The best technique to guarantee the likelihood of transferability, according to Lincoln and Guba (1985), is to write a thorough explanation of the transmitting context, enabling someone in a possible obtaining context to assess how similar the study is to them.

Giving careful consideration to the study sample selection is another method for improving transferability. Maximum flexibility in the model, whether the study sites or the interview subjects, enables a wider range of applications by readers or research consumers. More readers will be able to relate to the results by including a range of study subjects and locations. Maximum variation is just one sampling technique that can improve transferability. One could choose a sample on purpose. To enable users to compare their circumstances, one describes the typicality, or modal category sampling, of a program, event, or individual concerning others in the same class.

Table 16 summarizes the strategies discussed above to improve a qualitative study's reliability and what this thesis has done to ensure the quality of the study, i.e., internal validity, reliability, and external validity.

Table 16. Strategies for Promoting Trustworthiness: Validity and Reliability[36]

No.	Strategy	Description	What this thesis has done

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[36] Author's formatting table, adapting and referencing Lincoln & Guba (1985)

1	Triangulation	Using many researchers, data sources, or data collection techniques to validate discoveries.	Employing three data collection methods, i.e., observation, interview, and thorough literature review.
2	Member checks, respondent validation	Accepting temporary interpretations, tracking down their sources of them, and determining their plausibility.	Validating observation and interview interpretation during and after the data collection method period (i.e., interview and class observation).
3	Sufficient participation in the gathering of data	Searching for unusual or unfavorable situations may be necessary to get "saturated" with data after spending enough time collecting it.	Familiarizing, engaging, and reflecting with the data during and after the data collection period and during the analysis phase. Keeping the reflective memos and journaling from data familiarization until the report production phase.
4	Researcher's position or reflexivity	The researcher's constructive self-reflection may impact the study on their presumptions, perspective, prejudices, theoretical orientation, and connections to the study.	
5	Peer review/ examination	Team members examine the study design, how well newly discovered results match the core information, and preliminary analyses.	Periodically discussing and reporting every phase of the thesis stage with the researcher's supervisor, mostly via email and online meetings.
6	Audit trail	A thorough explanation of the study's techniques, steps, and decision-making processes.	Keeping the research's reliability: case study database (notes, documents, tabular materials, narrative compilations) in an organized archive file (see Appendix K).
7	Rich, thick descriptions	Provide adequate background for the study so that readers can assess how closely their circumstances align with the research environment and whether findings are transferable.	The subsequent sub-sections of the paper's results and discussion (section 3.4 and 3.5, respectively) offer a comprehensive and extensive account of the findings. The evidence supplied includes excerpts from interviews with respondents, field notes recorded by the investigator, and relevant literature sources.

| 8 | Maximum variation | Deliberately looking for diversity or variance in the sample used to conclude the research. | The researcher had selected two batches of students group for her to do the interview and class observation to purposely seek variation and diversity, as well as the use of its respondents' number variation in the finding section (section 3.4.6) to eventually promote the validity and reliability of the thesis' findings. |

3.2.2 Sample Selection and Description

This sub-section will explain in more detail the subject or unit of analysis of this thesis' case study (section 3.2.2.1); and the sample selection process (section 3.2.2.2).

3.2.2.1 The subject (unit of analysis) of case study

The case study subjects for this research were business initiation (entrepreneurship) and design thinking courses at the School of Business Management, Bandung Institute of Technology (SBM-ITB), Indonesia. The main reason was that SBM-ITB had been recognized as one of the best business schools in Indonesia. In addition, the university offered both modules that the researcher needed.

As for general information, SBM ITB has three campuses located in Bandung, Jatinangor, and Jakarta. Bandung campus (the headquarters) offers the Bachelor of Management (BM), Master of Science in Management (MSM), Master of Business Administration (MBA), and Doctor of Science in Management (DSM). Jatinangor campus provides the Bachelor of Entrepreneurship (BE) Program, while the Jakarta campus is for the Master of Business Administration (MBA), Doctor of Science in Management (DSM) Program, and Executive Education.

Moreover, there are three programs at the MBA SBM-ITB Bandung campus, i.e., MBA Young Professional, Creative and Cultural Entrepreneurship (CCE), and Young Executive. Since the modules of entrepreneurship (business initiation) and design thinking offered by SBM-ITB were in the program of MBA CCE, thus the researcher has conducted this study at SBM-ITB Bandung campus, Indonesia.

3.2.2.2 Sample selection

This study involved lectures/program coordinator(s) and students as the participants. Potential participants were found in Design Thinking and Business Initiation (entrepreneurship course) modules on the SBM-ITB Bandung campus, respectively. In-person interviews were administered and recorded in a peaceful, neutral location where the participants felt comfortable, and there was no danger, intimidation, or oppression.

Demographics of the participants, such as gender and race, were not variables of this study. Familiarity with the interview participant was of little concern. There were no interview questions concerned with the participants' issues that made them unwilling or uncomfortable about their participation in this study. The interview was conducted in a normal environment that allowed them to speak openly and freely.

During the class observation, the researcher was connected with an estimated population of 50-60 persons (including two lectures and the attended students of both modules) who met this criterion for this research study. In particular, the researcher sought to interview four lecturers from Design Thinking and Entrepreneurship modules in the SBM-ITB, respectively, and eight students from both classes. Small-participant research is the normal criterion in a qualitative study. This small research allows the researcher to understand participant perceptions and experiences and develop a detailed and deep description of that experience (Creswell, 2009; Merriam & Tisdell, 2009).

3.3 Research Techniques and Procedures

This subsection will provide a comprehensive explanation of the research approaches and procedures. Firstly, the data collection techniques (section 3.3.1) consist of the discussion of observation (section 3.3.1.1) and the interviews (section 3.3.1.2) method that the researcher had employed in the field to collect the primary data. This section will further briefly explain the ethical consideration the researcher had made during her qualitative case-study data collection period (section 3.3.1.3).

3.3.1 Data collection techniques

Prior to data collection, the researcher sought authorization from the appropriate higher education administrators to perform the investigation within their institution. In this regard, Entrepreneurship and Design Thinking classes are located at the School of Business Management, Bandung Institute Technology (SBM-ITB), Indonesia.

Following the approval of authorization, an appointment was organized with the faculty members. The request for an investigation was submitted to the appropriate head or department director and instructors to apprise them of the investigation's scope, methodology, and objectives and outline the investigator's intended approach to data collection. She clearly articulated her objectives. She recorded the observation (i.e., the student's interaction and when students do the project outside the classroom) in written form. She also interviewed four lecturers and eight students from both classes. Additionally, material artifacts, real-life documents, the university website, and media articles were also used to complement the primary data.

3.3.1.1 Observation

The researcher employed non-participant observation throughout the investigation, which involved sitting aside from the action and keeping watching from a distance. The researcher took a seat in the farthest corner of the room to conduct the observation.

In order to produce valid results, observation must be systematic, address a particular research objective, and be subject to checks and balances (Merriam & Tisdell, 2015). There are several reasons why an investigator could desire to collect data through observation. An observer will likely pick up on details that participants have grown accustomed to, which could help them comprehend the context. These are combined with interviewing and document analysis to confirm discoveries and triangulation, and eventually to support conclusion. It is feasible to capture behavior in real-time through observation. Another justification for observations is to give future interviews with the subject some background information on the context of previous incidences and behaviors. This method is particularly useful for comprehending unusual phenomena, such as the potential cultural variations and cross-cultural adaptation of western entrepreneurial design thinking teaching methodology to Indonesian entrepreneurship higher education. Observation is also the greatest method when people are reluctant to discuss the subject, when a fresh viewpoint is sought, or when an activity, event, or scenario can be viewed firsthand.

The observation process of this thesis' case study was generally navigated by a set of structured checklists of critical things to observe (Merriam & Tisdell, 2015):

- What was it like there? In what setting was this? What types of actions were intended by the environment? How was the space divided up? What materials, tools, and innovations were present in the scene?

- List everyone presents, their numbers, and their positions. What drew these individuals together? Who was permitted in here? Who was absent whom one would have expected to be? What were the participants' relevant characteristics? What organizational structure did the persons in this situation use?

- What were the activities and interactions? Was there a clear order to the events? How did the participants connect in the activity? Was it a typical or uncommon activity?

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- What was said during the chat in this circumstance? Direct quotation, paraphrasing, and conversation summaries. Take note of the moments of stillness and nonverbal cues that enriched the conversation.

- Less evident but perhaps equally significant to the observation are the following:

  o Informal and impromptu activities;

  o Word connotations and symbols;

  o Outfit and spatial space are examples of nonverbal communication; and

  o Unobtrusive measures include physical cues.

- Did the researcher's presence change the scene as an observer? How did she act and speak? What other thoughts did she have regarding what was happening? These turn into "observer remarks," a crucial component of field notes.

Additionally, there are several technical concerns with the observation that the researcher must be aware of before doing the investigations. These problems consist of the following:

- *Sampling*. Since it is impossible to record everything, the researcher should choose a sample size by doing things like:

  o When to observe: each lecture every week;

  o How long: approximately 12 weeks of class lectures;

  o Every lecture in the two modules.

- *The technique used to record*. While conducting this study, the researcher created a checklist scheme in the form of field notes and kept a journal of her observations.

- *Location of the observer*. The observer was located at the rear of the lecture hall, where the researcher was seated. For a reason: the researcher's position would allow the researcher to observe and hear everything going on without distracting the students' concentration.

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3.3.1.2 Interview

For this study, a series of semi-structured interviews was created. This particular interview format was selected because it has aspects of quantitative fixed-choice responding and the ability to investigate and examine particular areas of interest in more depth. The study's investigator's objective was to establish guidelines that could be created throughout the data collection procedure (see Appendix I for the interview guidelines/questions that the researcher has made during the data collection period).

The researcher interviewed four lecturers and eight students from both Design Thinking and Entrepreneurship (business initiation) modules in the SBM-ITB at least three times during the 12-week observation (from August-November 2017), which can last for approximately 10-15 minutes. The main purpose of interviewing the lecturers concerned the cultural adaptation framework in teaching entrepreneurial design thinking. The issues included teaching techniques, goals, learning objectives, expected outcomes, students' assessments, and challenges they encountered. The researcher also observed and interviewed some students, especially when they conducted their entrepreneurial mentoring and design thinking projects. The purpose was to gain insight and uncover latent knowledge regarding Indonesian university students' values, attitudes, and mindsets regarding design thinking. Those issues were related to the second research inquiry this thesis attempts to answer (i.e., Is there a potential for design thinking to be culturally adapted for entrepreneurship education in Indonesian higher education?).

The flexibility of the semi-structured interview in obtaining latent data and insightful information for the researcher and the participant led to its selection. However, the researcher may lose control of the interview and diminish its reliability if the respondents and interviewer are inclined to spend more time on unimportant topics. In order to eliminate bias as much as possible, the researcher has maintained privacy,

constructed the interview format for consistency, and prepared the interview
questions in advance.

The educators' backgrounds, involvement in entrepreneurship education and design
thinking, and level of knowledge were all discussed at the outset of the interviews.
Following that, questions about teaching objectives on design thinking for
entrepreneurship were posed to the interviewees. The author extended the case-
study interviews. It took approximately 20 minutes to question interviewees about
their perceptions of persons and events and their insights, justifications, and
interpretations of specific incidents.

The thesis adopted a constructivist-relativist paradigm, where the meanings and
verbal accounts of the respondents served as the primary source of evidence. The
interviewee's perspectives (opinions, attitudes, and meanings), including the
interviewee's perspective on understanding behavioral events, were, in reality, of
direct interest to the researcher. Validating these opinions from data against other
sources would therefore be pointless. The researcher may still wish to confirm an
interviewee's stated opinions, so they may question them more than once or on
different occasions to get consistent answers.

3.3.1.3 Ethical consideration

Since this thesis work involves human participants, several ethical concerns must be
considered. Even in written form, the potential for discomfort may arise through
interpersonal interactions among individuals, as the presence of an external observer
may influence the dynamics of their conversations and interactions. Consequently,
the investigator sought authorization from the institution's officials before data
collection. Following the approval of the request, the investigator proceeded to
request the instructors to affix their signatures on the written authorization of those
taking part.

Each participant was supplied with an authorization letter to fill out, indicating their agreement to participate. The permission form comprised a comprehensive overview of the investigation's project. The individuals who participated were provided with an explanation of the purpose and objectives of this doctoral investigation at the initial phase. Sufficient time was also allocated for participants to inquire about the study's subject matter. Subsequently, they were notified that

- each person's involvement during the investigation would be conducted privately, ensuring their identities and specific locations are restricted;
- the written-note transcriptions obtained from participants would be exclusively utilized for the current study; and
- the research coordinator and the investigator, the institution itself could have a copy of the collected data. Furthermore, individuals can withdraw from the investigation at any stage without being obligated to give any justification.

Upon reaching a consensus, the study was promptly conducted. It was anticipated that the authorization paperwork would be sufficient in addressing the ethical concerns inherent in this doctoral investigation and in mitigating any conflicts in subsequent studies (see Appendix J for samples of consent forms signed by the students and lecturers).

3.3.2 Data analysis procedure

Case analysis frequently included in-depth case-study summaries for each site. These reports, frequently just basic descriptions, were crucial for creating insights because they enabled investigators to engage with the enormous amount of data at the beginning of the analysis method.

There are numerous methods for doing the case study's data analysis. Thematic analysis is one of them, as will be discussed in the following section. The goal is to become extremely familiar with each case on its own. Before the researcher attempts

to generalize patterns across cases, this method enables the particular patterns of
each case to emerge. It allows the researcher to compare several cases.

3.3.2.1 Conceptual foundations of thematic analysis

This study's qualitative theme analysis method was mostly based on the theoretical
frameworks that Braun and Clarke (2006) and Terry and Hayfield (2021) developed.
Thematic analysis is typically a qualitative technique to locate and examine patterned
meaning in non-text datasets, such as interviews and observational recordings. It is
the most widely utilized analytical technique, but regrettably, it is only sometimes
acknowledged as such despite frequent thematic analyses.

Another technique for finding patterns in quantitative data is content analysis, which
is sometimes compared to the thematic analysis approach. However, content
analysis frequently focuses on the smallest details, offers (frequency) counts, and
permits the quantitative interpretation of initially qualitative material. While
thematic analysis differs from this in that the unit of analysis tends to be more than
a word or phrase, often in content analysis, those themes tend not to be quantified
(although they occasionally may be). The thematic analysis does more than find
trends in the data. It is a disciplined approach that examines many facets of the study
issues and offers insight.

Researchers can communicate their understanding of qualitative data gathering by
creating meaning-based patterns using the adaptable analytical approach known as
thematic analysis (Terry & Hayfield, 2021). It is considered as a strict, effective, and
"straightforward" method of interacting with qualitative data. There are,
consequently, various ways to express thematic analysis. Reflexivity, or the
significance of the investigator's view of the data has a crucial role, especially to the
thematic analysis. The researcher's interaction with their data, influenced by their
research question and theoretical orientations, is the foundation of reflexive

thematic analysis. Its underlying core values that are imperative and being used in
this thesis:

- flexible theory;
- an emphasis on methodical, thorough, and growing interaction with
  information;
- a spotlight on the researcher's reflective input; and
- framing the "themes" as complex, conceptual, and meaning-based patterns.

Since this thesis used a fully qualitative (case-study) analysis and followed the
constructivism/interpretivism research paradigm, thus, the reflexive thematic
analysis was indeed a valuable data analysis method (see Figure 21).
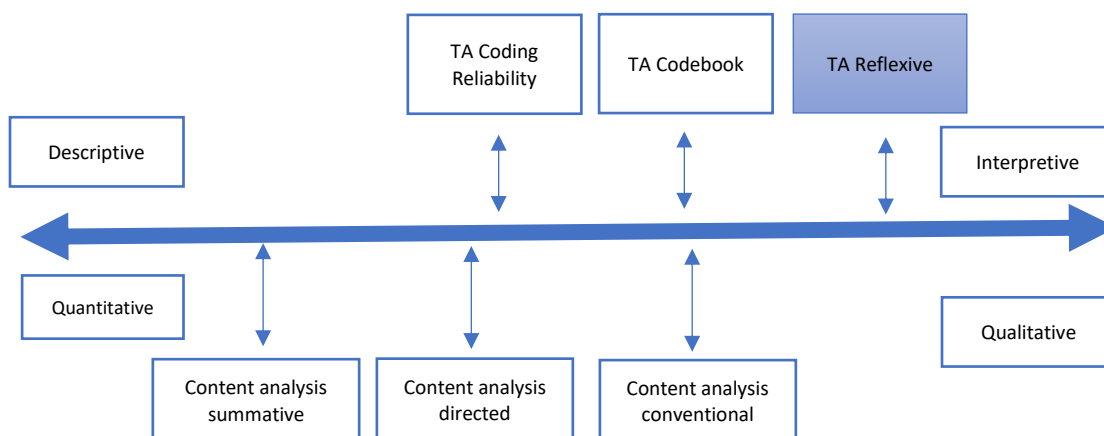
Figure 21. Continuum Horizontal "Theming" Methods[37]

By using this analysis technique, this thesis' case study focuses on resonance,
transferability, and contextualizing the findings. The researcher was not interested in
discovering the truth but in creating knowledge that reflects situated truths in
situations where the researcher, guided by theory and a knowledge of research and
culture, can offer insight. Engagement with the data, not reliability, is the true
indicator of rigor. However, no notable variations exist between "conventional"
(Braun & Clarke, 2006) and reflexive thematic analysis. Before delving into the
specifics of the procedure as the secret to success, both acknowledge the

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[37] Author's formatting figure, referencing Terry and Hayfield (2021)

researcher's theoretical stance. As previously stated (see Chapter 1), this thesis adopted constructivism/interpretivism as the epistemological paradigm and subjectivism as the ontological foundation (nature of reality). Therefore, this thesis adopted the thematic analytic method's relativist perspective. Here, it is important to consider how participants' words drew from common instruments for creating meaning and helped (re)produce certain realities inside a particular culture (see Table 17).

Table 17. Theoretical Perspectives, Methodologies, and Reflexive Thematic Analysis[38])

Theoretical perspective/ paradigm	Positivism	Post-positivism	Interpretivism and constructivism	Critical and Radical	Post-structural
Example methodologies	Scientific approach	Mixed-methods, descriptive, and qualitative	Ethnography, grounded theory, hermeneutics, and phenomenology	Indigenous frameworks, feminist theory, and critical social theory	Discourse analysis, posthumanism, and new materialism
The applicability of theme analysis as a technique for conducting analyses	Not acceptable	Versions of thematic analysis that are relativist	Versions of thematic analysis that are a relativist, critical, and realist	Versions of thematic analysis that are a critical realist and relativist	Thematic analysis or discourse analysis in a relativist fashion

There are further reasons why thematic analysis was used in this study. According to Braun and Clarke (2006), this analysis uses a rather simple methodology. Additionally, it is simple to pick up fast, especially for researchers with little to no expertise in conducting qualitative research. Additionally, the findings of this investigation can often be used to instruct individuals. Working with participants and collaborating with them is a helpful strategy as well. With the help of a thematic analysis, the researcher can highlight commonalities and variances among a huge data set's

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[38] Author's formatting table, referencing Terry and Hayfield (2021)

essential component. It can successfully produce unexpected insights frequently helpful for social and psychological understanding of the facts.

The thematic analysis, like other methods, has its drawbacks (Braun & Clarke, 2006). There are five things that researcher should be aware of and steer clear of at all costs. Examining the aggregate statistics is the first fatality. This phase requires the researcher to do more than summarize the data; she must also explain the findings to the readers meaningfully. The second is a failure to relate to and apply the stated themes to the interview questions. The third is making an unpersuasive argument. Underdeveloped themes over the entire piece, repetitive and overlapping themes, and illogical and contradictory themes may bring on this stage.

The fourth is a mismatch between the evidence and the conclusions made. In other words, the researchers must make sure that their hypotheses and interpretations are in line with the data that was gathered. The final is a mismatch between the theoretical context and the analytical findings. In this situation, the researchers must ensure that the final interpretations align with the theory and the research questions. The researcher does completely understand of the sensation of vulnerability and anxiety linked with coming up with themes that are not immediately apparent, but this should not serve as justification for restricting the interpretive scope of analysis. To facilitate comprehension of the material and create a robust reflexive thematic analysis, the researcher should view interpretation as essential. Although it is frequently employed, the thematic analysis may be improved. This study decided to use thematic analysis since it can illuminate the breadth and complexity of creating a model of processes.

3.3.2.2 Some Considerations Regarding Thematic Analysis

According to Braun and Clarke (2006), the thematic analysis consists of six choices that should be considered before beginning the analysis stage. First, how to determine the themes, which mainly capture important aspects concerning the research questions and represent some meanings within the data set, especially when the identified themes were only sometimes the most common across the data set. In this particular instance, the researcher places significant emphasis on the query that served as the guiding principle for the coding and subsequent analysis of the collected data (see section 3.2).

The second step is determining the type and claims of the analysis. That means the analysis can be either an in-depth thematic explanation of the whole-set of data or a more detailed explanation of one specific theme or group of themes within the data set. The former type may be useful when writing a short article because some depth and complexity of the data could be omitted. However, this study focuses on the latter type because the researcher intends to scrutinize the research topic in a deep and complex manner for a doctoral thesis.

Third, how the themes are identified; this step can either be inductive or deductive (theoretical). Inductively, the analysis is data-driven. As a consequence, the process of coding fails to attempt to fit into the pre-existing research questions, even though the researcher needs to free themselves from the theoretical assurance. On the other hand, a deductive (theoretical) way is more analyst-driven. This approach implies that the analysis will provide a more detailed description of some aspects of the data related to the research inquiries. In this case study, the researcher primarily conducted a deductive (theoretical) way of analysis, but to some extent, she still allowed herself to explore the data more deeply.

Fourth, how to determine the level of the themes, either at a semantic (explicit) or a latent (implicit) level. At a semantic level, the research progresses from description

to interpretation, often regarding the previous literature. While at a latent level, the research goes beyond interpretative work, and the analytic process attempts to theorize the explicit content of the data further. As has been mentioned, this thesis followed the constructivist research paradigm. For that reason, it may not only involve the description and interpretation of explicit meanings but also shape the implicit nuances, which was in line with the thesis topic that was context-bound to the teaching case of entrepreneurship education and design thinking in Indonesian higher education. Thus, this study conducted the thematic analysis at the latent level as much as possible.

Fifth, determine the epistemology of the analysis, carried out through a realist or constructionist approach. With a realist approach, the researcher can theorize the meanings of the data straightforwardly. On the other hand, with a constructionist approach, the researcher will need to consider both social and cultural aspects in order to produce meaningful analysis. This study focused on latent themes and followed the constructivist research paradigm. Thus, the analysis tended to be more constructionist (or relativist). That is trying to capture the distinctive perspectives of the case-study participants; instead of a realist approach.

The final step is determining the relationship between the three questions in this qualitative research. The first series of questions is those that drive the thesis. Second, the questions were responded to and collected from the interviews. The third is the series of questions that were used for coding and data analysis in the later stage and could be improved as the work progresses. Those related questions have been clarified previously in section 3.2.

In conclusion, six decisions should be considered before this study begins, i.e., determining the themes; types, and claims of the analysis; ways of identifying the themes; level of the themes; the epistemology of the analysis; and the relationship with the research questions. In addition, there were no rigid rules regarding these issues. Thus, combining those choices is possible (Braun & Clarke, 2006). Because

although one of the features of the thematic analysis is flexibility, this feature allows the investigator to determine patterns using multiple approaches. The most important thing is that the researcher should be consistent with her judgment to determine the theme across the analysis. The data analysis of this thesis aimed to be more constructionist. The researcher combined specific aspects of the data and the theoretical way of analysis with the latent themes, as the thesis followed the research paradigm of constructivism.

3.4 Detailed Analysis Procedure and Results' Presentation

Following the stages of thematic analysis proposed by Braun and Clarke (2006) and Terry and Hayfield (2021), the researcher intentionally has developed the flowchart below to achieve the aims of this study (Figure 22). The scheme is referred to as phases rather than stages because the researcher was not aiming to work through these linearly but rather an iterative one (Terry & Hayfield, 2021). Additionally, the researcher has established some details of principles that this thesis had done to ensure the trustworthiness during each phase of the thematic analysis for this thesis (Lincoln & Guba, 1985; Nowell et al., 2017) (see Table 14). Subsequently, the researcher will explain more thoroughly the analysis process and results presentation of this thesis.
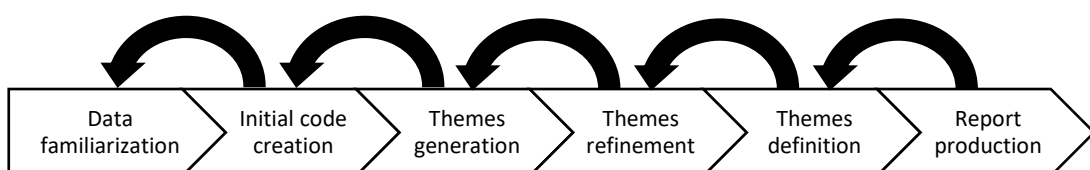
Figure 22. The Thesis' Data Analysis Process using Thematic Analysis Phases[39]

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[39] Author's own formatting figure, adapting and referencing Braun & Clarke (2006)

3.4.1 Phase 1: Data Familiarization

For a robust thematic analysis, the researcher needed to become familiar with all of
her data. To become familiar with the data, one must actively engage with it as data
and fully immerse themselves in the data set. The researcher may find this method
challenging, especially if they have a sizable data set. However, it is crucial to fully
participate in familiarization and coding because they lay the groundwork for solid
theme analysis. This familiarization process could include data development and
collecting aspects since the researcher became acquainted with her data as she
transcribed interviews and read observational notes.

The researcher can take this time to reflect on any emotional or hasty analytical
reactions to the data. The goal was to present as many perspectives on the data set
as possible, not to be "unbiased" or avoid imposing opinions on the material she was
viewing. The researcher acknowledged her reading of the overall data thanks to these
remarks. She also tried to keep in mind how these concepts came to be.

To collect the primary data for this thesis, the researcher used a triangulation of
methodologies, including interviews, observations, and literature studies. By doing
this, the researcher could make notes regarding her early impressions of the data.
These were spontaneous and reflected her ideas as she read and processed the
material. Also on her mind were the remarks made before, during, and after the
interview. She recorded her observations in a research diary to assist her in pondering
and thinking about them later.

She also made supplementary notes for the complete dataset and familiarization
notes for each interviewee. In order to separate the data into essential themes, she
laid the groundwork for doing so. She also made a point to only conclude slowly. She
then consistently refuted her initial hypotheses by comparing and examining the
relevant literature. Additionally, the researcher always documented these thoughts
in the journaling memos at this point in order to use NVivo qualitative software to

keep the raw data (containing data filed notes, transcripts, and reflexive diaries) in orderly archives. The goal of this stage was for her to feel saturated and prepared to go on to code. The following exhibit displays an excerpt from the researcher's reflexive notes from the initial thematic analysis phase.

Exhibit 1. Extracts of "Reflexive" Notes from Entire Data Set of Observation Class "Entrepreneurship Module"[40]

- The number of students in one EE class is quite big (40-55 students). The class format seems like a traditional lecture class, although the facilities used are round tables and chairs to enable class-open discussion among students. With this class arrangement, the lecturer may only be able to give full attention to some students.
- The EE class also employed some technological facilities, e.g., a laptop/computer and projector for showing power-points lectures and an internet connection.
- MBA-CCE SBM-ITB also joins an international relationship with some universities/HEIs outside Indonesia, enabling the student exchange program. However, the international students who join this particular EE class are only a few. Possibly, they prefer to join other "normal" business/management courses that are offered/delivered in English.
- The observing class also consists of multidisciplinary students from diverse educational backgrounds.
- The gender proportion in class is quite balanced. However, there seem to be differences in female and male students' "learning styles" in class. That is, female students who sit at the front seem to pay more attention and take notes, while male students who sit at the front or back of the classroom are indifferent (likely).
- The language used in the class is bilingual, i.e., native Bahasa (Indonesian language) and English.
- Most students in the EE class already have business experiences or have ongoing/running businesses.
- Besides the main lecturers, the EE class employed assistant lecturers (Doctoral students in SBM ITB) who can teach (replacing the main lecturers occasionally).
- The mentoring program is held by grouping students in small circles (5-7 students) and assigning one business mentor, usually a business practitioner, to assist students with their on-going or planned business progress, business networking, and insights for their business improvement.
- The mentoring logbook is used as the students' evaluation method. Students fill up the logbook and write their reflection points on what they have learned from the mentoring, their business progress, what insights they received from the mentors, and how those insights benefit or do not benefit their on-going/planned businesses.
- Class attendance does matter for students' evaluation.
- The role of lecturers/educators goes beyond teaching and learning facilitators, but also motivators, some parents' replacements, seniors, and maybe "friends/colleagues" to talk.
- Students prefer speaking in Bahasa Indonesia to English during the class. However, the lecturers encourage them to speak English freely and confidently as they are (supposed to) in an international learning university.
- Mentoring is done (most likely) by students from semester two and above, including those in EE class.

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[40] Author's own table

3.4.2 Phase 2: Initial Code Creation (*coding*)

The researcher began coding after she was comfortable with her data and understood its content. Unlike during familiarization, she began working with the data in this phase more methodically and rigorously. The time it takes to engage in sufficiently thorough and rigorous data analysis is one of the major elements of any qualitative research. Thus, she needed time to complete this stage. The purpose of coding is to deepen the researcher's interaction with the data and divide it into digestible pieces.

The designation or label the researcher gives to a data group is known as a code. The two main goals of coding are to (a) interact with the data by interpreting and giving meaning to textual passages and (b) reduce the amount of text to a list of codes. An inductive (bottom-up) approach to coding uses data to drive the codes and themes; a deductive (top-down) approach uses theory to guide the coding and theming processes; or a hybrid approach uses both. The overall strategy for using theme analysis may have an impact on this choice. The researcher's theoretical viewpoint had already been established, even though these perspectives are rarely "pure" and instead fall along a continuum. Because of this, the researcher tried to ensure that each code name accurately reflected the subject matter of her investigation.

In order to understand them and create order out of chaos, the researcher had to classify the verbatim transcripts and raw field notes used in this thesis since they reflected the complexity of reality that had not yet been digested (Patton, 2002, p. 463). In the simplest sense, coding in qualitative research is a method of categorizing text and then "tagging" or indexing it to make it easier to retrieve later. Text can be seen according to source and category, which makes data administration easier and helps conceptualization. The researcher can go from document analysis to theorizing with the help of this re-contextualization of the data (Tesch, 2013), which allows data to be perceived in a new light. When numerical codes are used to describe an experience, attribute, or attitude, the application of the code is frequently viewed as

a reductionist process. However, qualitative analysis is understood as relating data
to ideas, from ideas to supporting data. Given that access to the data (and the ideas)
is preserved, this linkage encourages data preservation rather than data reduction.

Assigning names or labels to the data that represent its relevance while being succinct
enough to be workable is one of the challenges of data coding. Without the
researcher needing to read the original text, the code label should clarify a critical
point about the data. The researcher likely began by creating many new codes, but
as she went along, she probably assigned those codes to various data extracts.
However, she made an effort to avoid falling into the trap of presuming that a current
code is "good enough" or growing complacent about new features of the data that
are relevant and calling for a new code. She also thought of enhancing the current
codes, which would entail returning to earlier uses of the original code to determine
if the enhancement also functions.

The researcher created codes that were exact enough because she wanted to record
a certain aspect of the data. She tried identifying significant data points, indicating a
need for a sufficiently thorough immersion in qualitative data. Because the
researcher was also new to data gathering, she tried to work with small amounts of
information and coded everything that might be potentially important.

In addition, the researcher made a point of engaging with the complete data set
thoroughly and methodically before shifting her attention to themes. She originally
wrote down any themes or connections between codes to get them out of her head
and onto paper to maintain this focus, and then she went back to coding. She took
this approach to avoid becoming too distracted early by potential themes. She also
performed latent coding, which calls for a deeper level of interaction with the data,
and she managed to capture something that lays beneath the data and needs to be
interpreted. The idea that the researcher has developed in a significant area of
research is frequently used in those hidden codes. The labels for latent codes that
help organize are also informed by theory.

After all, she had been working closely with the data during this second phase, which meant she had consistently tried to improve on the first codes by becoming more accustomed to and engaged with the data. She could start to step back and think about the created codes while she developed themes in the next phase. Considering that she would use them as resources to create themes that best illustrate the data set, what might be happening throughout it? Throughout this period, she extensively read all the different data sources (such as interview transcripts, observational notes, and literature) and kept a reflective notebook. She maintained the working archive's trail for code production and the status of all required tasks. The data extracts, codes, and reflective notes that the researcher completed for the second stage of thematic analysis are displayed in the ensuing displays.

Exhibit 2. Data Extracts and Codes from Research Field Notes of Design Thinking Class[41]

Data extract	*Possible* Codes and Sub-codes
Lecture class: Design Thinking (MBA CCE – SBM ITB, Indonesia) Location: Seminar room 1 Day, date: Monday, 12.09.2017 Time: 07:35 – 11:15 Week 4 I arrived at 07:35 in the morning and sat in the same position. There were no changes to the class' physical setting. (…) At 07:52, only five students had already come to the class. They were busy with their phones. Giving students some preliminary reading tasks is still necessary for them at least to read before the class. From talking with other students, the other day, I found that the PPT slides or materials for DT class are only given to the students for part of the semester. They are given one by one before or after the class. So, by that, students only expect to be given whatever the materials are during the lecture. They practically do not prepare anything before coming to the class). At 08:08, Prof. Imam started the lecture and told the students the today's agenda (lecturing using PowerPoint style). He also mentioned that on Thursday (the day after tomorrow), all the students would visit 'Eiger.' It is one famous Indonesian company specializing in outdoor outfits	• The way students learn in class and mentoring. • Punctuality issue. • Students are the "tech-savvy" generation. • Students' expectation on how the class and mentoring is held. • The way lecturers and mentors teach in class and mentoring are related to cultural behaviors and characteristics. • Conventional lecturing as a teaching method prevails. • A more contemporary teaching method is a company visit.

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and accessories, not far from ITB. I noted and reminded myself to contact Dr. Dona for permission to join this trip.	• DT in EHE case of MB CCE in SBM ITB.
Prof. Imam told the students that today's agenda was the prototyping presentation. (..) He moved his chair to allow students to present in front of the whiteboard and use the PC. However, students asked him for some time to do preparation.	• Teaching contents in DT class: prototyping presentations from students.
(It is common here that the students may only prepare something after the class begins. They tend to be more 'reactive,' meaning they will act after there is an order, not knowing or preparing things before they happen. So, students who got the first round seemed busy with the preparation – checking the file document on the laptop, opening the PPT slide, and preparing their prototyped, but the rest were chatting).	• Indonesian students' overview • Some possible cultural characteristics and behaviors of students.
At 08:14, one group (group no. 5) presented their work. They misinterpreted the assignment's instruction from Prof. Imam, so he said, "decide first what product you are all going to create." Then the students' presentation went from the introduction of their brainstorming process, the iteration cycle of selecting the product idea, the analogy process, and then showing their prototype. Almost all students from their groups did the same thing, though some of them might need to have understood the instruction of Prof. Imam (because there was no written instruction for the assignment). (…) One group after another has presented.	• The way students learn in class and mentoring. • Learning and teaching challenges: misinterpretation of a class assignment. • Students feel difficult to pay attention to the class/assignment non-written instructions. • Students are less interested in group-based works/assignments.
Moreover, Prof. Imam always asked for many clarifications from the ones who presented and asked for other students' opinions. However, not all of the students paid attention and might be unable to respond to Prof. Imam. Only a few of them did.	• Students' expectations on how the class and mentoring are held. • Peer assessment can help to get more students' group-work engagement in class.
(I observe that students find it difficult to focus and pay attention whenever their friends are in front of the class. Neither Prof. Imam nor Dr. Dona seems unable to control the students' behavior while chatting at the back of the class. It may be good to have some kinds of 'peer evaluation' for other students to evaluate other groups when they present to occupy the students' time and make them more focused on the presentation).	• The way lecturers and mentors teach in class and mentoring are related to cultural behaviors and characteristics. • Lecturers and students often do open question-and-answer discussions during students' presentations.
Prof. Imam said, "Ok, I would like to hear some comments from you. You can also add some suggestions". Dr. Dona once asked students for clarification, and the students who were presenting tried their best to answer. However, only one particular student could completely answer the question from Dr. Dona. His other friends were mute.	• Students' expectations on how the class and mentoring are held.
(I was confused in this presentation assignment because Prof. Imam already asked for the 'final' product and even revenue. Nevertheless, students should practice more on brainstorming ideas more at this stage. These issues will be clarified by me at the evaluation point later. Then, I observed that students still presented their work by reading the slides.	• Some possible teaching challenges.

They could be stronger in argumentation, and their ideas may be original and brilliant, but they need to explain them better and ask the audience to understand themselves. The reason may be: a lack of reading). (…) Prof. Imam continued to explain Innovation Process in Industry as the preparation for students to visit Eiger Company on Thursday. (In my observation, the PPT slides were too boring because they were only words, with no image or video to be shown, for instance. Prof. Imam also did some drawings on the whiteboard to explain incremental innovation. However, the image he drew was too small. Students at the back of the class – on the right- and left-hand side – could not see it and so could not pay attention. When there was an image in the PPT slides, students only took a picture of it. In addition, Prof. Imam again showed the image in the PPT slides about a diagram on Product Innovation Flow, but the diagram was too small. In other words, students were less interested to see and listen the lecture). (…).	• There is no clear "guidance" on the specific teaching content given to the students. • The way students learn in class and mentoring • Students are passive in presenting their argumentation. • Possibility of lack of reading. • The way lecturers and mentors teach in class and mentoring are related to cultural behaviors and characteristics. • Conventional lectures need to be improved. • The way students learn in class and mentoring. • Students easily get bored and pay less attention to conventional lectures.

Exhibit 3. Data Extracts and Codes from Interviewing Lecturers and Program Coordinator of

Entrepreneurship class/program[42]

Data extract	*Possible* Codes and Sub-codes
I = interviewer R = respondent R: Characteristically, they (students) are quite diverse. 40% are fresh graduates. 35% have work experience, well, around 35 to 40 percent. Moreover, 20% are professionals with more than two years of experience. Of that 35% who have work experience, they previously worked in corporate or had their own business. The majority of our students are indeed fresh graduates who have an interest in starting their businesses. At least in this batch, around 35 to 40% of students whose business started before they studied here. (…) Those are CCE students, not MBAs in general. I am not sure about the MBA general since I do not get to teach the professional ones, only the regular class. (…) The YP (MBA Young Professional). So, 60% came here with a business idea, although they have not started it yet. (…) Moreover, the rest, 40%, well, 35 to 40 percent is either their family runs a business, or they already run their own. Some have been for a year, some for two years. Yesterday, I had a talk show with Emily (one of the MBA students). Her business is in the music industry, which had been running for two years	• Indonesian students' overview. • Students' diversity enrolled in EHE. • Students' entrepreneurial journeys vary. • EHE program case of MBA CCE in SBM ITB. • The EHE programs in SBM ITB have different varieties depending on students' needs and characteristics.

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[42] Author's own table

before she joined SBM, and she used to work at Accenture, a corporate company. This Emily I am telling you about might be a bit outlier' because she has work experience and her own business. Perhaps, this type of students with working experience and their own business is around 10-20%. (…) I: For all MBA CCE subjects? R: No, it is my class only: business initiation, new venture management, and business growth modules. According to the school's rules, the class attendance percentage is at least 70%. Below 70%, their grade will be one level lower. For example, if this student's achievement grade is AB, he could get B if his attendance is below 70%. That is what we eliminate. (…) With the expectation to improve commitments. I: Okay. Previously it was compulsory to attend classes. R: It was, now it is diminished. Its first purpose is to avoid coming to classes to sign the attendance list. We hope that they attend the class because they need to. Moreover second, to intensify the mentoring activity with our entrepreneur mentors. Because again, after we, the lecturers, reviewed it, sometimes the students took it for granted. For example, for a mentoring session, they come unprepared. They just come to sign the attendance list. So, we solve this problem by converting classes to mentoring sessions. We erase the obligation to attend classes. Thankfully, it has turned into a positive side. The attendance rate is above 80% and above 90%. Previously, the mentoring session was an add-on, but now it is prime and compulsory, with a minimum of 14 times in one semester. I: But we cannot say they are ready for this independent learning. R: Exactly. That is what we are experimenting with this semester. (…) During the second meeting, we announced in the class what we expected from them, and then we gave them a choice of whether they wanted dependent or independent learning. Most of them chose independent learning. So, we aim to train them to be independent as if we give them a choice. Almost 90% chose independent learning. Hence, we are confident to say okay. Furthermore, the class has become optional because they have chosen independent learning. It does not mean they lose track without a schedule and so on. Every Monday from 8 to 11, Nazmi (the teaching assistant) or I will have the optional mentoring session. Mentoring with an entrepreneur cannot be scheduled and is informal. Unscheduled means we cannot determine the specific time, for example, every Thursday from 8 to 11, since they are busy. Sometimes they even do double sessions, which could last four to five hours. So, it is like that. You have observed it, haven't you? (…) Hence, the interaction is intense during those four to five hours. The mentor will assess the students, "oh, it was a very intense discussion. We could say this is two out of 14 sessions". Fourteen sessions are the minimum. If they would like to have more sessions and the mentor is also available,	• EHE program case of MBA CCE in SBM ITB. • Teaching contents in the EHE program. • Assessing and evaluating how students learn. • The way students learn in class and in mentoring. • Students are passive learners who like to come to class/mentoring unprepared. • The way lecturers and mentors teach in class and mentoring are related to cultural behaviors and characteristics. • Possible misperception of independent learning. • EHE program case of MBA CCE in SBM ITB. • Changes in class setting/ arrangement in the middle of the semester are common. • What makes the MBA CCE in SBM ITB "unique" is the mentoring offered to the students. • Mentoring as teaching a method. • Mentors are a crucial part of the EHE curriculum & teaching plan. • Mentoring can be done with actual entrepreneurs

it has allowed. So, the mentoring session that was previously an add-on to widen their knowledge has become the main ingredient for independent learning. However, I am not saying the students are unscheduled and sporadic. Why? Because the students still have a mentoring session with Nazmi and me in the time allotted by the study program. That is also our responsibility as lecturers to conduct classes, but then we turn the class into a mentoring session as our teaching plan has become optional. (…) I: Although it is still difficult in terms of punctuality R: Well, that is another problem, as I said before. The difference between medium-low (economy) and middle-high (economy students) is that sometimes we need to determine their commitment. Although we always remind them about the importance of punctuality, there is always a reason not to be. Hence, we decide to treat them as adults. We do not want to pester them with threats such as "you cannot come to class if you are late." we will be like, "if you think you have the interest to come, then come on time." However, we try to make independent learning independent. We do not want to spoon-feed them. So yeah, the risk of punctuality and other Indonesian's bad traits still emerge here and there. (…)	and also with the lecturers in class. • Punctuality & time management issues for both students and lecturers. • Possible misperception of independent learning. • Differences between students from different economic backgrounds related to punctuality issues.

Exhibit 4. Data Extracts and Codes from Interviewing Students in Design Thinking Class[43]

Data extract	*Possible* Codes and Sub-codes
I = interviewer R = respondent R: Okay, if I can focus solely on the class without distraction from my own business, it can be really interesting, where each assessment stimulates us to be creative and innovative in creating new products. The product may have been in the overseas market, but Indonesia's domestic market. The class itself is fascinating. However, I need to be more focused since I cannot be a 'full-time' student (he is a full-time MBA student but doing entrepreneurial activities outside the class). I attend the class while at the same time thinking about my own business. Design thinking class assessment has been partially significant. Nevertheless, several insights have been taught in the class, such as how to advance and develop a company like Eiger (the outdoor apparel company) that we visited during the last field trip. Moreover, it is also about how design can shape certain markets. For example, if design A fits segment A, design B cannot compete in market A and can only serve market B. That is what I have learned. The development from the last interview is that design thinking assessment has been insignificant for me, but I have gained many insights. The insight is how to create	• The way students learn in class and in mentoring. • Students feel distracted doing class and real entrepreneurship simultaneously. • Students prefer the more practical activities to be done in/within the class session. • DT in EHE case of MBA CCE in SBM ITB • The EHE program is full-time, while at the same time, they are "required" to do/practice entrepreneurial activities outside the class. • Company visit is students' favorite teaching method/ learning activities.

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[43] Author's own table

a product that is welcomed by the market. Because actually, most people create products because of egocentrism. (…) They create a product based on their desire, but it has not guaranteed that the market can accept it. During the product assessment, Mr. Imam asked us whether we would like to buy the product offered. (…) That is exactly the crucial point where most of us are egocentric, and the product we create is not based on market orientation. So, when we create a product and build the prototype, but in the end, it has been rejected by the market, is unsaleable, the price is unacceptable, we cannot call it a business. That is one of the most important points I have gained from the last few sessions.

(…)

I: What were the feedbacks your group considers beneficial and applicable to your DT group-work assignment?

R: Well, I am still waiting to hear his feedback since I did not attend the presentation because I had to travel to another city. However, if I were to see it from my point of view, we may have yet to explore the market demands fully. We are still egocentric. So, the multifunctional table we created is not saleable on a business scale since the market has yet to approve it. If it were approved, it should have been developed by now, at least in other countries. Indeed, multifunctional furniture can be converted into a small space. So, one piece of furniture can be a table, bookshelves, or a cupboard. However, the one we built was simple; it is a table that can be used for ironing, and it is too common. We admit that we need to explore what the customers need more. We were still egocentric, and our focus was divided: I was thinking about my business and group mates. So, our effort could have been more optimal. We decided on the product quite instantly without thinking about the business scale.

I: But you realize that brainstorming takes time to understand the market?

R: Yes. However, our group should have focused on it. Because honestly, as I have said before, I want to acquire insights. The exercises were beneficial, but I needed more time. This is not the class' shortcoming, but this is because of my personality. (…) Indeed, I intend that by studying for an MBA SBM ITB, I can focus on my business while building a network at school. So, I incorporate and apply the practical knowledge I have gained from school into my business while leaving the theoretical subject a little bit behind, like 50:50. Perhaps, everyone has different motives, which is mine.

I: And tell me a little bit about the small project of design thinking. What are the tasks, and how did you divide them?

R: Well, I cannot say much about my contribution since I had to travel to other cities, especially because I did not attend the presentation. Previously, I helped Fachrul (a

- How class and mentoring affects students' entrepreneurial thinking and actions.
- Getting new knowledge/ insights about designing products for specified markets/users.

- DT perception in general: creating "unique" but salable products/ services.

- The way students learn in class and in mentoring.

- Students are less interested in group-work assignments and seem to take them "for granted."

- In doing a DT project, students aim to "instantly" finish the assignment, reluctant to follow the "ideal" DT phase.

- Students prefer to sit and listen to the DT lectures and hope to get insights for their entrepreneurial activities (not for the group-based assignment).

- Students seem to regard DT as merely adding their knowledge

colleague of his) to create the PowerPoint pitch deck, but I did not contribute to the prototype, and it was built by Amel, Fachrul, and Ilman (his colleagues of him). I cannot comment much on it because of my little contribution. However, then we are having the second project. The task division is like this: Fachrul is specialized in IT and technology, while Amel and I normally generate the idea. And then, Fachrul will execute the idea by creating the visual design, and Ilman will write the paper. At times I also assist Fachrul in creating the design for PowerPoint, Ilman adds his idea, and Fachrul finishes it. We are about throwing all our hands in it because each of us is not the specialist. For example, Fachrul is an expert in IT, but he can also create PowerPoint or build prototypes. While I am specifically an expert in business and marketing. And so is Amel. Thus, the task division is more about how to finish it early. The initial division will discuss who will start first, and the rest will complete it. I: I see. This is interesting. Moreover, please tell me a little bit about the progress of your own business. During yesterday's introduction, you said you are developing an app for My Chef. R: Yes, I am. My Chef already has a competitor called Gojek (an online App for motor-driver taxis). Everyone can order food using the Gojek-Go Food app, which restaurants will supply. What differentiates My Chef from Go Food is that home industries will supply the foods. During the pitching session to investors some time ago, the business idea introduction session, there was a rumor -- I have yet to check the details -- that Gojek has started to supply foods from home industries. It means Go Food has taken over my Chef's market. (…)	about "designing" good products. • In doing the DT project, students still divide the work task but do it individually. • Students' entrepreneurial journeys. • Students explore various entrepreneurial activities and journeys outside the EHE class/program. • Most students are interested in Food-and-Beverages, Fashion, Architecture/Interior businesses/industries.

Exhibit 5. Extracts of Note in Phase 2 – Observation Design Thinking Class[44]

- There are perceptions and cultural mindsets of Indonesian university students over design thinking and the potentials Indonesia has that suit best with the design thinking approach.
- Greeting strangers with a smile, asking friendly question, and showing an attitude of shyness (indirect), maybe because they do not know yet. "Open and warm culture."
- Students link to talk in small groups. "Likes to chat and talk randomly."
- Students are highly interested in business, are entrepreneurs, deal with creative industries, and are eager to build new ventures/startups, especially in creative cultural industries.
- The class environment is open-minded though
- Students put respect the lecturers, especially the ones who are already seniors (Prof. Imam, the lecturer)
- Students are reluctant to read, so the lecturers preferred to give – or, in this case: talk – whatever. "Students do not read enough."
- Students get bored easily with "theoretical classes," especially those not from design and art backgrounds.
- I could see some students wrote and others did not. "Students write notes in the class."
- It was also annoying when one student forgot to keep the mobile phone silent, and the phone rang during a lecture. "Students are childish (randomly reactive) and less disciplined."

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[44] Author's own table

- • The student's behavior is still the same, chatting within their working groups, even when the lecturer talks in front of them.
- • However, the students need more time to be ready. Many of them were still outside the classroom, so I observed the facial expression of Prof. Imam as the lecturer seemed not happy with the students' behaviors. "Punctuality is the big problem."
- • Students' facial expressions seemed worried, but they tied to look "Normal" and hoped that the lecturer would not bother their lateness. "Students ask higher tolerance for not being punctual."
- • Students should have prepared because Prof. Imam has asked for this as homework. However, many students needed to prepare. "Students were unprepared."
- • Students were excited to see some prototype products and visualizations that Prof. Imam brought to the class. They could touch products and imagine how to produce their prototype products later. "Students prefer to see and learn from visualization."
- • Some students were not interested in the lecture and preferred to talk quietly within their groups. "Students only pay attention when they are interested in a particular thing."
- • I observed that students were slow in preparing their assignments. They could have prepared it better, even if they were given time. When the lecture had not started yet, during the break time, most of them were chatting loudly. "Time management is the big issue."
- • I observed that whenever one of the classmates presented their ideas, they were less likely to pay attention and preferred to talk within their groups. "Students are less focus and appreciative toward each other."
- • The students are also very reactive. They cheered whenever they saw and listened to something interesting or funny from the lecturer or other classmates.
- • Their confidence was quite high in showing their argument, for example, when they were asked to present in front of the class. However, sometimes the students needed help explaining it in more detailed and organized arguments. This could be because they need more reading about the materials they are practicing. "Students have a lack of reading."

3.4.3 Phase 3: Initial Themes Analytical Development (Searching for Themes)

The researcher performed theme generation in the third stage of thematic analysis, which entails making sense of her list of meticulously created codes and clustering or combining codes to create complex and insightful patterns that address the research question.

Good themes reflect the significant patterns the researcher built across the data items in the data set (i.e., a "horizontal" way of analysis; for example, transcripts in an interview study), and crucially, these patterns have to transcend beyond description. By creating a solid conceptual notion that connected diverse codes and data and told the best possible story with the facts to address the research issue, it was feasible to move beyond description. The researcher's analysis includes developing insightful themes based on the data and supporting them with data extracts. The researcher viewed each topic as a chapter in the broader narrative of

the data. This process was difficult and time-consuming. She subsequently clustered
and promoted codes to minimize stress and create meaningful patterns (i.e.,
"prototyping themes" – see the detailed process below) in the data collection. At the
end of this third phase, she would have more themes than required to start her
analysis.

3.4.3.1 Prototyping themes

Prototyping themes means considering the themes as sample candidates or
prototypes rather than the complete-whole collection. This framing draws attention
to their ambiguity and transience. Candidate, initial, and prototype themes can all be
used interchangeably. Design and theme development prototypes provide a similar
function, allowing researchers to experiment with ideas that will eventually be
developed before being used.

The initial themes are intentionally preliminary; they are chances to go further into
and interact with the material. The purpose of creating prototype themes is to
increase engagement with the data rather than to complete them. Therefore, the
researcher should have placed more emphasis on the initial themes. Nevertheless,
she tried to consider them as models or potential candidates. She might find it
difficult to break them apart (practically and emotionally), if she allowed them to go
past wireframe versions too soon and later recognized they were not working. It is
doubtful that the themes the researcher developed would tell the most exemplary
narrative of the data or meaningfully respond to the research inquiry without this
iterative, recursive, reflective approach with its testing focus.

Creating themes from the codes is active and has two main pathways:
grouping/clustering and promoting. In each instance, the researcher carefully shapes
the materials created in the first two stages (such as the data, familiarization notes,
list of codes, and knowledge they bring to the analysis). To create the
multidimensional, conceptually rich themes that are the distinguishing feature of a

successful reflexive thematic analysis, this stage entails grouping several different codes that capture single concepts regarding data extraction. Strong central organizing concepts that tie the codes and their data together and provide answers to the researcher's study question are characteristics of effective themes (Braun et al., 2018; Clarke & Braun, 2013b; Terry et al., 2017). They could determine what story the topic communicates and whether codes are appropriate by using the central organizing notion that the researcher developed.

For clustering codes, the researcher categorized codes based on their similarity, overlap with other codes, and any further connections that may be established intuitively. Codes that tell a narrative about a certain data set component are found and gathered together. The codes are comparatively equal regarding what they contribute to the evolving subject. Because the researcher needs to see the connections formed, the quality of the codes becomes crucial to this process. Codes can only retain the meaning they are intended to capture if they are narrow enough (i.e., not too broad or just one word). Sometimes the researcher has trouble, it may be necessary for her to go back to the coding phase. That is why thematic analysis need to be reflexive, recursive, and iterative process rather than a linear one. For instance, Figure 23 clustered those codes from the dataset into one prototyping theme: "the way lecturers and mentors in class/mentoring."

Figure 23. A Process of Clustering Codes from The Data Set Becoming One Prototyping Theme[45])

Thematic Figure 23 above illustrates the main theme of "the way lecturers and mentors in class/mentoring" and its eight clustered codes. They are:

- conventional presentation prevails;

- the use of a teaching team;

- punctuality or time management is a big issue;

- mentoring as a novel teaching method;

- actual, practical, and action-oriented teaching activities are the most wanted (by the students);

- nurturing a "creative" entrepreneurial mindset;

- educators play as students' motivators; and

- lack of consistency in teaching preparation and management.

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[45] Author's own figure

For promoting codes, the researcher acknowledges that some codes may be common and complex enough to have their central organizing concept and are thus significant enough to be "promoted" from code to candidate theme. The researcher is the one who made a decision of whether these promoted codes capture a significant pattern or not. Promoted codes often demonstrated by repetition throughout the data set and share a crucial conceptual idea with other less prominent codes. They also might occasionally be latent. Thus, the conceptual work that went into creating their labeling has a bigger payback later in the process. Another occasion, they might be semantic and prevalent, which enable the researcher to capture a significant pattern that allows us to build upon them with other codes.

Overall, clustering and promoting codes are different, as the former gives each code the "same weight" in terms of what it adds to the main organizing principle (see Figure 23). In the later, however; one code dominates promotion and is the foundation for the central conceptual idea. As a result, while the promoted code is the theme's focus, the other codes support and provide depth. The promoted code, in other words, has a fundamental organizing idea that "captures" the other codes without sacrificing any of their characteristics. The capacity to promote a code indicates the caliber of the coding process at an uncommonly deep level. Figure 24 illustrates how those codes were promoted to have one prototyping theme of the "Mentoring EE program" analyzed from the data set.
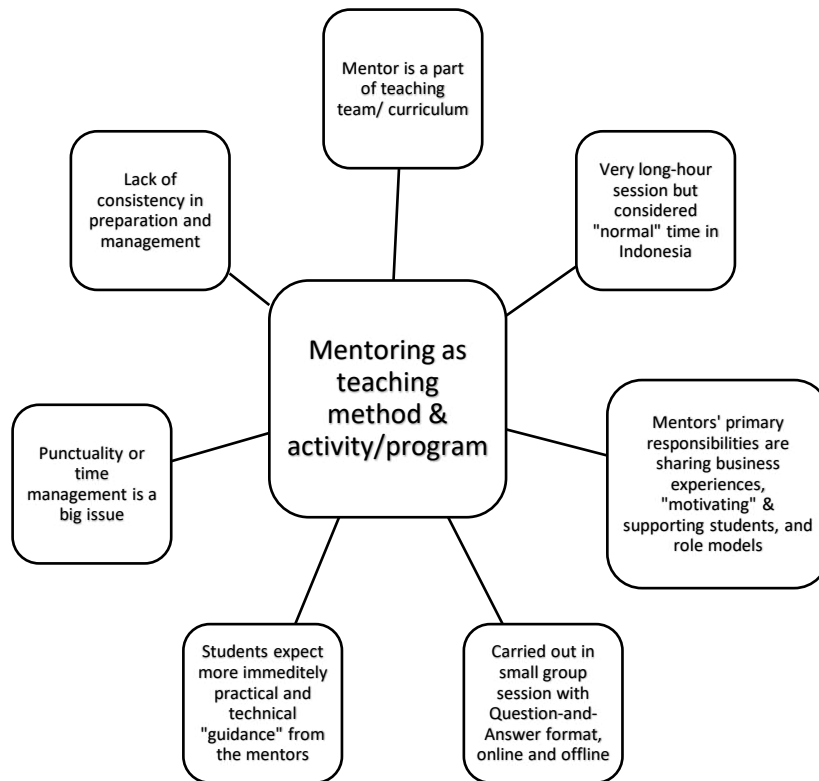
Figure 24. A Process of Promoting Codes from The Data Set Becoming One Prototyping Theme[46]

Thematic Figure 24 presents the theme of the "mentoring EE program" being promoted by its seven codes. They are:

- mentor is a part of teaching team/ curriculum;

- very long-hour session but considered normal time in Indonesia;

- mentors' primary responsibilities are sharing business experiences, motivating & supporting students, and role model;

- carried out in small group session with a question-and-answer format, online & offline;

- students expect more immediately practical and technical guidance from the mentors;

- punctuality or time management is a big issue; and

- lack of consistency in preparation and management.

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[46] Author's own figure

CHAPTER 3: CROSS-CULTURAL ADAPTATION FOR ENTREPRENEURSHIP HIGHER
EDUCATION IN INDONESIA – CASE-STUDY APPROACH

The word "mentoring" in this theme is similar to one code in the previous theme. However, they are implicitly different in that "mentoring" in this promoting theme covers the activity as a whole learning program, the students, and especially the mentors (actual entrepreneurs) who provide the mentoring session, and thereby, was promoted to be "one prototyping theme." Whereas, as coded earlier; the word "mentoring" was only as a part of the lecturers' teaching practices or methods, and thereby, was treated as a code under the clustering theme of "the way lecturers and mentors in class/mentoring."

Furthermore, the researcher engaged with the data, analyzed it, and made connections between the codes. However, those previous codes are not the final product. Therefore, it is also possible that if the researchers attempt to change or refine the names of the prototype themes accordingly, the codes will disappear (especially from the final report) as she shaped them into eight prototype or candidate themes for this third phase, as shown in Thematic Table 18.

Table 18. Thematic Table to Show the Codes That Were Clustered/Promoted to Develop Initial Themes (in Phase 3)[47]

The way lecturers and mentors teach in class/ mentoring	Mentoring as a teaching method and activity/ program	How EE/DT classes affect students' entrepreneurial thinking and action	Students and lecturer' possible cultural challenges	Bureaucracy & national curriculum system in HEI	Students' diversities supporting their learning and entrepreneurial journey	How students perceive entrepreneurship and EE in their university/HEI	How students perceive DT and the module offered in their EE program
Conventional lecture/ presentation	A mentor is as significant as the lecturers in the curriculum program	Knowledge understanding in business/ entrepreneurship	Lecturers, mentors, and students are all having difficulties with time management	Indonesia may have a "less entrepreneurial" national academic curriculum system	Though the majority come from Java Island, there are significant numbers come from outside Java	EE is an expensive education	Design is not fully appreciated as professional work in Indonesia
It consists of lecturers, business mentors, their teaching assistants	Mentoring can take place for 3-4 hours per session	Having more empathy toward users	Students lack reading and rarely take notes in class	Rigid bureaucratic system: less knowledge application and collaboration	Multi-disciplinary education & working experience background for the MBA level	EE is only "exclusively" offered in business school	DT is majorly not being offered in the bachelor-level study in Indonesian HEIs

[47] Author's own table

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The problem of punctuality and consistency in teaching preparation & management	Mentors should provide business insights and share experiences with students, also give students continuous motivation	Balancing between studying and progressing students' entrepreneurial/ business activities (outside the classroom)	Students tend to be "spoon-fed," lack learning independency (passive)	Knowledge separation in the national system (class of pure science and social science.)	Diverse family backgrounds and support for students	Entrepreneurship is often seen as a selling activity	Students perceive DT as product visualization, not problem-solving methodology
Mentoring is the highlighted teaching method	Students demand more practical and guided advice from the mentors	Business experiences shared by the mentors provide students with more practical examples	Students like to group themselves in and out of the class	Educational type/ ranking separation (i.e., formal, informal, less formal)	Diverse financial background	EE means for students to get more business networking and real experience	DT involves users and creating "creative" business ideas
Students demand more practice than theories	Similar punctuality and consistency problems as with the lecture	More confident in practicing business theories in real life	One-way communication between lecturers and students		Bachelor-level and MBA students are different in many aspects	In learning EE, students are mostly interested in practicality and less interested in theories and group-work assignments	Students expect "influential" people (lecturers) who bring and teach DT
The role of lecturers/ educators goes beyond teaching, i.e., motivating students.			Lecturers/ mentors seem less organized/ focused on teaching preparation & management		Peer influence & diversity often lead to students' business collaboration	Students prefer mostly for active and energetic lecturers in teaching EE	
			Students much prefer practical activities to theoretical lectures				

The following phases have been done to review and establish accordingly to shape and refine further the final themes and tell the best story of this research.

3.4.4 Phase 4: Developing and Reviewing Themes (Themes Refinement)

This crucial phase allows a researcher to reconnect the prototype themes to the collated data and wider data set. This phase is crucial to ensure the story being told has stayed within what the researcher can evidence in the data. That is, the interpretation is a balance to explore the prototypes and their meanings actively,

where analysis does need to be grounded in the data, rather than becoming entirely
speculative.

Review and development are central to this process and help ensure quality control.
This review is the "pressure testing" phase, asking several questions. Reviewing is
essential to answer these questions and give a strong sense of the stability of the
researcher's themes. To do so, **the researcher reviewed the coded data and the
overall data set**. This stage, the researcher checks the links between the
potential/prototyping themes and the compiled codes, and whether they are
consistent with the research questions and the overall data. That is, there must be a
balance between aggressively examining the prototypes, and ensuring that the
analysis is founded in the data and does not become wholly hypothetical.

This method's fundamental components of review and development also aid in
quality control. There are multiple questions for the reviewing, as it is necessary to
provide solid insight into the themes of the researcher and provide answers to these
inquiries. The researcher looked over the entire data set and the coded data to do
this. That relates to the researcher's coded data, the data gathered in a single
document associated with the codes, and the extensive data collection from which
the researcher created the codes.

By going through this procedure, the researcher can test the relationship of each
prototype about the research question and the data in question and see if any
alternate interpretations may be made of the data. It is imperative to note that what
the researcher discovered are themes as sculptures the researcher created from the
data, not entities. Therefore, pragmatic considerations mostly determine the timing
of completion. The researcher kept reminding herself that this phase is not the end
of the analytical process, and further refinement will occur.

It is crucial to keep hold of the themes' prototypes as 'potential' candidates during
these two procedures. The assessment process occasionally reveals that the

candidate themes are of excellent quality and may only require minor developmental adjustments, although most of the times, the researcher need to adjust, review, and refine them. To do so, the researcher also examined the following queries (Clarke et al., 2015; Clarke & Braun, 2013a) and did the review on the previous themes in Table 18:

- Is this something other than a code? Is it a theme in that various codes may group around its main organizing idea?

- What can be learned about this prototype's data set and our research question?

- What is included and excluded in this prototype theme? What defines its limits? Do those lines blur, or do they intersect with other themes?

- How much evidence does this prototype have? Could too little be converted into too much? Exist any reliable examples of data evidence that might be used?

- How big a theme is it? Is there a compelling central organizing notion present, or do the facts point to a domain summary rather than a theme?

The final sort of end-product that review and development aim to deliver is:

- The best of numerous candidate themes created across all phases,

- The combinations of these themes provide, and

- The best "form" for the themes produced is based on the data and the best interpretation.

The researcher made many adjustments after analyzing the coded data and the entire dataset. Some topics are combined to form sub-themes, their "names" are changed and clarified, and it is made sure that each of them has a solid fundamental organizing concept that can help address the research questions in the thesis. As a result, the researcher has created a better-themed table to explain the analysis further (see Table 19).

Table 19. A Thematic Table to Show the Codes That Were Clustered to Develop Final Major Themes and Sub-themes (in Phase 4) (author)

Theme 1: Educators' Teaching Practices	Theme 2: Mentoring EE Program	Theme 3: Indonesian university students			Theme 4: Opportunities and challenges		Theme 5: Impacts EE/DT Classes on Students
		Sub-theme: Student' Learning Behavior & Characteristics in Class/ Mentoring	Sub-theme: Students' perception of EE/DT	Sub-theme: Diversity in students' entrepreneurial learning & experience	Sub-theme: Possible cultural challenges from individual aspects (lecturers & students)	Sub-theme: Bureaucracy & national overview	
Conventional presentation/lecture prevails	A mentor is an important part of the teaching team/ curriculum	Collective, open-minded, and creative but still passive learning	EE's class schedule (teaching arrangement) is less consistent and organized.	Diverse students' educational background	Students' diversities do influence the teaching-learning environment	Collective and communal culture of Indonesian people	Students become under-stand knowledge about starting up and growing businesses in creative-cultural industries in Indonesia
The use of team teaching	The very long-hour session, but considered a "normal" time duration in Indonesia	The major issue of punctuality & time management	DT is perceived as product visualization, not exactly a problem-solving methodology	Diverse learning motivation & commitment	Collectivism or groupings persists	Huge population share of the young "millennial" generation to potentially be entrepreneurs	Students are exposed to under-standing customers/ market and creating visual concepts/ ideas
The major issue of punctuality & time management	Carried out in a small group with Q-n-A formal sessions online and offline	Lack of reading and taking notes	Teaching "style" matters; the power of influential & "energetic" lecturers/ mentors	Diverse previous working experiences	The major issue of punctuality & time management	The narrow definition of entrepreneurship in the national system and HEIs	Students are supported to "launch" their businesses even before they graduate
Mentoring as a part teaching method lecturer also used	Students expect more immediate practical and technical "guidance" & continuous motivation from the mentors	Most interested in practicality and visualization than theoretical lectures	Entrepreneurship is still often seen as merely a selling activity	Diverse entrepreneurial journeys	Passive learning (less independent)	"Less entrepreneurial" national academic curriculum system	Students are encouraged to focus on achieving learning and business targets (every semester)
Practical, action-oriented, and relatable teaching-learning activities are the most wanted by students	The major issues of punctuality & time management	Parental support and peer influence	Students' creativity perception in entrepreneurship: adapting something (products/ ideas) from abroad but new in Indonesia	Multi creative-ties in entrepreneurial thinking and ideas	The mindset of doing more practical activities is better than learning theories	Rigid bureaucratic system	Theories learned in class and insights from mentoring are valuable for students' entrepreneurial journey/ progress
Nurturing a "creative" entrepreneurial mindset is the primary objective of the EE program/ class	Lack of consistency in mentoring preparation and management / execution	Less interested in the group work assignment	Students expect to have more practicalities & direct "knowledge" implementation	Students learning challenges & potential cultural barriers play an important role	Parents' roles in supporting students' learning motivation	Knowledge separation & fragmentation in the national system (class of pure science, social science, etc.)	Students strengthened their confidence and creative mindset to try out new business ideas
Educators play significantly as students' motivators	Mentoring log-book is used as a students' evaluation method	Possible misperception of independent learning as "free from obligatory class."	Students demand the mentors prepare and bring the discussion materials instead of they did it for themselves		Peer influence inside and outside the class toward students' learning and entrepreneurial journey	Educational type/ ranking separation (i.e., formal, informal, less legal)	Practical activities/ teaching methods are the most demanded
Lack of consistency in teaching preparation and management/ execution	Students are expected to do a reflection on the mentors' business insights & feedback		Students with both the teaching and mentoring materials to be more related and applicable		Teaching arrangement and time management are perplexing	Less knowledge application and collaboration	Students become more open to multidisciplinary knowledge & collaboration

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Using a thematic map, the researcher then visualized the overall relationship
between those themes and how best to tell the story of her data (see Figure 25).
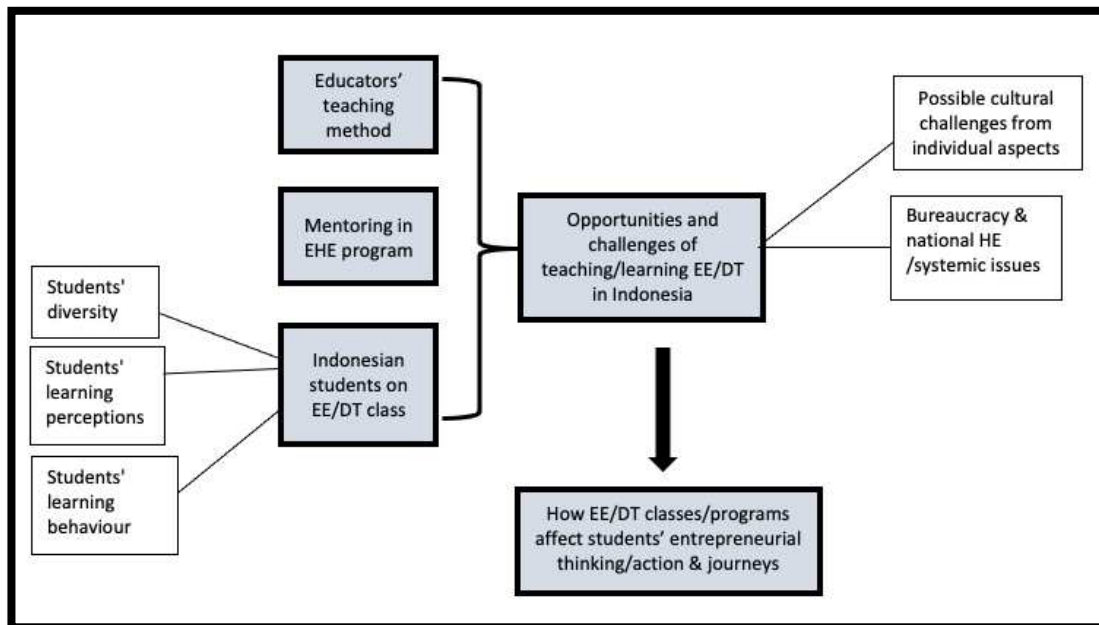
Figure 25. The Overall Relationships of The Themes in This Thesis' Case Study[48]

The explanation from the above thematic table and Figure 25 are as the following.
First, there are three themes: "educators' teaching method,"; "mentoring in EHE
program,"; and "Indonesian students on EE & DT class." In particular, the theme of
"Indonesian students on EE & DT class" consists of three sub-themes, i.e., "students'
diversity,"; "students' perception,"; and "students' learning behavior."

The first three major themes are then connected with the fourth organizing theme,
i.e., "opportunities and challenges of teaching/learning EE/DT in Indonesia." This
particular theme is formed by the two sub-themes (i.e., "possible cultural challenges
from individual aspects"; and "bureaucracy & national curriculum/ systemic issues"),
and finally lead to the fifth theme of "how EE/DT classes/programs affect students'
entrepreneurial thinking/action & journeys."

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[48] Author's own figure

During this phase and the one that follows, the researcher has also assessed whether a theme is thin or thick. Specifically, whether or not the researcher was making excessive "diverging ideas". That is, whether a theme has too many opposing viewpoints, in which case it loses coherence around the main organizing principle and may start to disintegrate. If the researcher could not specify with the same degrees of specificity, the theme or the main organizing concept likely has to be more developed or becomes a sub-theme. There is also a possibility the describe themes should be "demoted", combined with another theme, or even some theme may be dropped to create a new one, if the researcher needs to express the important concepts more concisely. As a result, gathering data extracts consistent with the theme's name and definition was a key stage for the researcher. It is crucial to use data extracts that effectively address the topics the researcher would like to address.

Upon the conclusion of the analysis procedure, the researcher had to have a story to tell, which was answering the research question. In this case, the researcher attempts to answer the thesis' second research question: to investigate cultural differences and to provide insights on the potential cultural adaptation of entrepreneurial design thinking as the teaching methodology in Indonesian entrepreneurship higher education. The themes' names have generally been listed and visualized along with their respective organizing concepts in this phase 4. Thus, in this subsequent phase 5, the thorough explanation of each theme that defines and indicates its role in telling the story of what this research has done and eventually answering its research question will be explicated.

3.4.5 Phase 5: Naming and Defining Themes (*Themes Definition*)

The story of the analytical narrative will be generated at this study stage. The creation of thematic definitions and theme naming are two connected aspects of this phase. In this stage, the analysis and topic development are transformed into textual interpretation, while maintaining qualities like coherence, precision, and clarity. According to Terry and Hayfield (2021), theme definitions:

- help refine themes and confirm that the researcher's themes have the conceptual and story-telling depth to write a paragraph or more about them without too much text or digression,

- indicate that there may be too much content for a coherent theme, and

- allow the relational shape and overall story of the themes to become.

After thematic definitions, theme names should convey the core organizing principle of a topic. Some theme names may need to be longer. These names should indicate the theme and prepare the reader for examination. During prototyping, themes often have working titles. Premature naming can limit the readiness to dismantle a failing theme. Therefore, these are usually only labels for codes and data. It is at this Phase 5 that the themes' names, which were previously generated, can give way to inventiveness and crafting.

As presented in Figure 25, there are five primary themes, but the researcher decided to further refine some of their names for the theoretical reasons mentioned above. They are: "educators' teaching practices"; "mentoring as entrepreneurship learning program/teaching method"; and "Indonesian university students, their expectation and perception on learning EE/DT"; "opportunities and challenges of students, educators, and HEIs in the EE scope"; and "impacts EE/DT classes and mentoring to students to their entrepreneurial learning and journey." Eventually, their brief definitions are as the followings.

1. *Educators' Teaching Practices*: This theme represents what and how educators (consisting of lecturers and mentors) "teach," but more importantly, "educate" students in the class (EE and DT), as well as mentoring sessions. It indicates not only the teaching contents, methods, and probably "style" that the lecturers and mentors perform and communicate to each other but also their roles in and challenges while supporting students' learning process and entrepreneurial journey. Those components may also be related to cultural-related behaviors and characteristics.

2. *Mentoring as an entrepreneurship learning program/teaching method*: This
   theme explains what mentoring program is a part of the EHE ecosystem in the
   SBM ITB – conducted by the entrepreneurs and also as the teaching method
   used by the EE lecturers and its critical elements. Such as who the mentors
   are; what and why students like the mentoring; how the students and
   mentors do the mentoring; what challenges occur; and weaknesses that
   educators, students, and HEIs must acknowledge to improve and grasp the
   opportunities and advantages of mentoring itself.

3. *Indonesian university students, their expectations, and perception of learning
   EE/DT*: This theme covers several critical discussion points in the data set. First,
   it will explain the overview picture of Indonesian students, their background
   diversity, and cultural-related learning behaviors and characteristics. It will
   further describe how students learn in class and mentoring sessions, their
   learning motivation and influences, and challenges. Moreover, the student's
   perceptions of EE/DT and how they relate to how lecturers and mentors teach
   in class/mentoring will also be clarified.

4. *Opportunities and challenges of students, educators, and HEIs in the EE scope*:
   This theme is refined from the earlier theme of "opportunities and challenges
   of teaching/learning EE/DT in Indonesia." This theme was further explained
   into two critical sub-themes: (a) "possible cultural challenges from individual
   aspects" – both educators and students, and (b) "bureaucracy & national
   curriculum/systemic issues."

5. *Impacts EE/DT classes and mentoring on students and their entrepreneurial
   learning and journey*: This final theme is within the coverage of the third
   theme, specifically the Indonesian cultural-related issues on students'
   entrepreneurial learning and how they may impact that students' learning.
   This "impact" can be in the form of students' entrepreneurial learning process
   and journey and suggestions to improve them. Eventually, this theme tries to
   capture insights on whether and how design thinking can be cross-culturally
   adapted in Indonesia. Those points can be used later in the discussion to
   adapt design thinking in the entrepreneurship education class/program that

better suits students' cultural characteristics and learning behavior and challenges.

The final phase is the report production or result presentation as the following.

3.4.6 Phase 6: Report Production (*Results' Presentation*)

This section presents the results of the above themes' findings or creation. As shown earlier, phase 5 has defined this case study's primary themes that will be explained in the following sub-sections, i.e., educators' teaching practices (section 3.4.6.1); mentoring as an entrepreneurship learning program/teaching method (section 3.4.6.2); Indonesian university students, their expectation, and perception of learning EE/DT (section 3.4.6.3); opportunities and challenges of students, educators, and HEIs in the EE scope (section 3.4.6.4); and impacts EE/DT classes and mentoring on students and their entrepreneurial learning and journey (section 3.4.6.5).

3.4.6.1 Theme 1: Educators' Teaching Practices

SBM ITB lecturers arrange the class/teaching by creating a teaching team or faculty, which consists of the main lecturer and a few teaching assistants (usually doctoral students). The school also supports the more diverse lecturers having multi-disciplines backgrounds to combine with their teaching methods and contents, especially the one who can be "versatile" or play a role as both academician and entrepreneur at the same time.

> *We have 3 teaching ecosystems in SBM: the full academicians, versatile lecturers, and the teaching faculty that comprises 100% mentors and 100% businesspersons (Mr. Sonny – EE Lecturer, Int).*

Besides mentoring program provision with real entrepreneurs as the mentors, the school and lecturers also support and encourage students to create multi-disciplinary students-peer-collaboration on entrepreneurial projects. The class setting, teaching, and mentoring arrangement changes every semester, depending on students' needs

and wants. One of the EE/DT's classes teaching objectives is to encourage and support students in creating and launching their own business or entrepreneurial endeavor even before they graduate from the program.

> *It was the first time bringing S1 (bachelor-level) and S2 (master-level) students to build a business together. The course was called Mentoring 3. In this course, I made my undergraduate students from S1 Enterpreneurship to pair with their seniors from the MBA CCE. […]. Our mentoring changes every year as we always change our mentoring approach. This is partly reflected from Mr. Dwi Larso's (the EE program coordinator) statement in the welcoming talk yesterday that there will be fewer class meetings this year. In turn, the classes will be made into mentoring sessions too… more mentoring sessions with entrepreneurs. Therefore, the classes for this semester come in the form of one-to-one or one-to-a-few, rather than only of one-to-many classes based on regular lectures. Well, that is our way to knowing that what we deliver is in accordance with the development of students' respective businesses, because we want to cater each and every individual student rather than assuming that they are on the same trajectory of business. […]. Business mentoring would guide them. The ideal mentoring concept accompanies students in their own particular phases of business development (Mr. Sonny – EE Lecturer, Int).*

Lecturers' presentation is still one of the most used teaching methods by lecturers to deliver teaching materials, even though students' group work and presentation are often used to encourage students learning proactivity and two-way teaching-learning communication.

> *Power Point is still a must, because it is still necessary during my leave that my partners can still cover my topic. In particular, Power Point slides are still beneficial for covering and documenting general concepts, perhaps, a few slides during the beginning of the course (Mr. Bayu – DT lecturer, Int).*

> *The method which the lecturer uses to deliver the content purely relies on PPT slides. I (the researcher) observed that there were many pictures and diagrams on the PPT slides. Some students could focus on the lecture, but some could not (EE Observation/Fields Notes Week 1).*

> *At 08:09 Prof. Imam and Dr. Dona (the DT lecturers) came in together to the class. Immediately, Prof. Imam greeted the students*

> *and opened the class. He said that today's agenda is, that, he will give instructions on what students should do for the purpose of open sharing and discussions with Mr. Lula (the guest lecturer) from the Eiger company on the next class. He would like the students to generate an idea and then a product sketch as a practical assignment in the class to be proposed and – might be – produced as a prototype by Eiger later. He assigned the topic "Household Tools". (Eiger is a company that specializes in producing outdoor products, such as backpacks, hiking and sport equipment. The reason why Prof. Imam assigned the topic for the students is to push the students to think wildly and out of 'normal' and to propose that idea to Eiger and if possible, to help Eiger create a prototype as a group-work exercise) (DT Observation/Fields Notes Week 6).*

The teaching contents in DT/EE classes related directly to students' entrepreneurial cases and from local businesses or country-based examples are the most interesting to students.

> *From what Nazmi (a teaching assistant) presented in front of the class, I can see that he created his own PPT slides, even though the contents are still from other sources. He also attempted to provide more local examples, such as Gojek – a local online motorcycle transportation service in Indonesia – and local problems, especially in Bandung city. This action shows that the lecturer tries to inspire students to think globally but act locally (EE Observation/Fields Notes Week 1).*

However, DT classes are only sometimes related to the essential DT concepts and theories, which are well-known in Western countries, for instance, in IDEO or HPI Design School. The DT teaching contents in SBM ITB are being adjusted "uniquely" to the Eastern cultural circumstances of Indonesian university students. Following their learning characteristics and behavior, the main objective is "nurturing" the thinking essence of creativity and salable product design.

> *The teaching of DT in MBA SBM ITB is not strictly adopting the IDEO, HPI, etc. Prof. Imam and Dr. Dona seek to uniquely adapt DT to the culture of Indonesia for the purpose of "nurturing" Indonesian university students (DT Observation Notes Week 6).*
>
> *We have one whole course in one semester on design thinking due to one reason. Although we are a technological institution (ITB*

stands for Institute Technology Bandung), we would like to not only support or drive our students to be technological-push entrepreneurs but also give them market-pull approaches; one of which is by design thinking. They start with a problem, with the customer, and then device something, do brainstorming, and do the rest of the design thinking phases. Rapid prototyping is one phase which we push them to do. [...]. We believe that by creating a prototype, they will learn more than just imagining it. [...]. We integrate typical phases of design thinking in terms of curriculum flow. Furthermore, design thinking is delivered in the second semester, whereas in the first semester, the students are given contextual creativity that is taught by art lecturers. Those courses help them apply creativity in various contexts (Mr. Sonny – EE Lecturer, Int).

Prof. Imam [...] emphasized that DT is not engineering design, in which the main points are efficiency, optimization and quantifiable. [...]. He mentioned that the focus of DT in this class would be divided into three innovation approaches: creator or inductive approach, market or company or industry approach, and consumer approach. He also mentioned that this DT class should make all the participants, including the lecturers, to learn together (DT Observation Notes Week 1).

The teaching of DT at the graduate level (especially business schools) in Indonesia is suggested to be made more theoretical and in small practical exercises within the lecture session instead of giving students a big project-group assignment to be done by the end of the semester like the common practice of DT in the Western HEIs. Teaching DT mainly means encouraging students to think creatively, innovatively, and entrepreneurially. Also, more toward "visual marketing" and "creator orientation" in creating product ideas.

In FSRD (Faculty of Arts and Design of ITB), I sat in for Prof. Imam's design thinking class and Mrs. Dona's MBA class once. I could see the perspectives of DT from FSRD, and how it could be developed for a business course since it is intended for the Master students. For bachelors, the class explore ways of problem solving as a designer, but not too much in details. The undergraduate class is also organized during the short semester; hence it is more compact. As for the Masters students, Prof. Imam suggested it to be a little bit philosophical in design and such (DT Observation/Fields' Notes Week 6).

In the end, after talking about creativity in a philosophical way, the flow goes towards the practical way. Students are given a tool in the second semester to consolidate both ways in different sessions, which is design thinking. Design thinking starts from identification, then brainstorming, and even from the start of brainstorming there will be an evaluation. [...]. Additionally, we try to direct DT more towards creative industries that are culturally acceptable. [...]. Later, after design thinking, there is business initiation, which is my course. Everything more into actionable businesses starts from this course, starting from a business idea proposal where we start talking about value proposition. Then, we talk about validation process and all. At the end, they will have a business model that is ready to launch or they have launched it so as to get reactions through pitching (Mr. Sonny – EE Lecturer, Int).

I (the researcher) have made an agreement with the groups earlier (about last week) that I would like to 'follow' them in doing the DT project. It turned out that there was no big project for the whole semester for the DT module. There are only small exercises about DT practices, and one of them is creating a product prototype from students' product idea. In this lecture, all students within their groups already did (I call it) 'small exercises' on empathetic ways of problem identification, iteration cycle on idea (product) generation through an analogy process (or Prof. Imam said 'Synectic' cycle), and presented their thinking process and product ideas/proposals in front of the class. Now they created prototypes, outside the lecture time to be presented in the next class/session (DT Prototyping Students' Project – Observation/Fields Notes).

The roles of educators (i.e., lecturers and mentors) toward students are as the following. The major roles are teaching, doing research, and contributing to community service. Besides, educators are expected to become the knowledge implementor and connectors from business theoretical understanding into real practice, especially using Indonesia's local/national business cases. Other expected roles are:

- Teaching students about empathy through ethnography study in rural areas (especially for undergraduate level), letting students explore and make mistakes during the iterative learning process, nurturing a mindset and behavior of "appreciation" and "self-confident towards other people's ideas";

- Supporting students to become "ambassadors" of design thinking in their entrepreneurial endeavors;

- Providing students insightful feedback with various multi-perspectives to solve problems;

- Opening up students' mindsets to create "products" in a creative way that the market or users can accept; and

- Give motivation to students throughout the ups and downs of their entrepreneurial learning journey.

Universities in Indonesia must apply 'Tri Dharma' (The Three Pillars of University), which means excellence in teaching, research, and community service. In my viewpoint, academicians can be classified into two groups in terms of entrepreneurship: pure academicians and 'versatile' academicians who additionally act as business practitioners. If I categorize myself, then I belong to the second. […]. In practice, we need both. We need academicians who examine entrepreneurs. […]. Our academicians are very fluent in explaining about this tool or that theory like saying there are nine blocks of typical business model canvas and everything. They are very fluent, but they lack experience in executing ideas into real business practices, meaning that they very much encapsulate business within theoretical boundaries. To a more deficiency, most of the theoretical cases are brought in American context. Very little is in the Indonesian context. Even if they give talks in the business context, they will be more likely about American big businesses. There is some understanding that needs to be undertaken by the students to differentiate the condition surrounding big American corporates and the condition of them here (Mr. Sonny – EE Lecturer, Int).

There has to be a paradigm shift for the lecturers. This is one of the big challenges in training entrepreneurs, that the lecturers must reflect the entrepreneurial attitude in the first place. The types of lecturers must be diverse. In terms of curriculum, I have allocated four subjects taught by entrepreneurs within our established frameworks (Mr. Dwi – EE Lecturer and Program Coordinator, Int).

As people with knowledge, we have to share our experience or we can be a role model based on places we have been and things we have known. […]. Another objective of the DT lecture is to make future design thinkers ambassadors. They will apply the particular way of thinking in their community or corporates and may expand it to the next level. Perhaps they can use design thinking to solve

> *their corporate problems by combining it with other tools. Someday, there would appear governmental design thinking in addition to entrepreneurial design thinking (Mr. Bayu – DT Lecturer, Int)*

3.4.6.2 Theme 2: Mentoring as Entrepreneurship Learning Program/Teaching Method

The mentoring program's main objective is to support students and their businesses or entrepreneurial trajectories. The mentor is a critical part of the teaching team. The mentors' responsibilities are to provide students with real business insights by sharing their experiences and providing them with inputs, suggestions, and recommendations concerning students' entrepreneurial activities outside the classroom. Mentors are also expected to become students' "entrepreneurial friends" to go along with students' entrepreneurial journeys and motivate them through all the ups and downs.

> *In the first four subjects that I have mentioned before, the lecturers should have more roles within our established frameworks. […]. Mentoring is one of them, which is the easiest task. This way, not only do students have experienced colleagues, the mentors, but they also have more support system in general. This mentoring has a lot of functions. It is not only a place where they consult their business problems, but also where they can talk about their life problems. Other than that, the mentor's comments can provide new perspectives and angles, also direct them to new investors. The reliance within their communication can also help students gain more market access (Mr. Dwi – EE lecturer and program coordinator, Int).*

> *There are also mentors that are more established than most students, such as the founder of Shafira, Mrs. Feny Mustafa (the owner of Shafira, one of the biggest Muslim apparels companies in Indonesia). We put typical established mentors in the MBA as MBA mentors and mentors in incubators who are accessible to all SBM academicians. For my course, in particular, I choose mentors that are easier to connect with their students in a way that their problems are not too far beyond what the students can see and imagine and are also still recent like since 2 or 3 years ago. In the case of Mrs. Feny Mustafa, she already has a holding company with own problems and complexities. Nevertheless, all of them can give*

> *encouragement, be good examples and all sorts (Mr. Sonny – EE
> Lecturer, Int).*

> *That is why, in my opinion, the mentoring sessions held by SBM ITB
> are so good, that business experts could share their experiences to
> us, their business strategies, for example, outside the lecture
> sessions (Adit – EE Student, Int).*

However, punctuality and time management are the major issues in
teaching/learning and mentoring. Each mentoring session can last for 4-5 hours,
depending on the mentors' availability and students' willingness. This long hour is
considered normal in Indonesian (Eastern/Asian) culture. That is also why each
mentor's mentoring schedule varies and can be done offline or online. The mentoring
format is simply a question-and-answer session between a small number of students
(gathered in one group) and their specified mentor. Most mentors are real business
practitioners and entrepreneurs in the cultural and creative industries.

> *[…] the interaction is intense during those four to five mentoring
> sessions. The mentor will assess the students (Mr. Sonny – EE
> Lecturer, Int).*

> *Until now, I have participated in four to five mentoring sessions, but
> with different mentors. I have done mentoring with Mrs. Isti
> Daniswari, a (fashion/design) trend forecaster. Her concentration is
> concerned with design forecasting. I have done mentoring with Mrs.
> Isti for about two to three times. […]. It was via Skype and a personal
> meeting in Bandung during a conference (Adit, EE Student, Int).*

> *My mentor is Mrs. Feni, the owner of Safira (Muslim fashion apparel
> company). Initially, she offered me to join her interesting project.
> During the mentoring sessions, we did not focus on the same topic
> every day; let us say we talk about marketing today and then talk
> about a different topic on the next round. The starting points were
> usually based on our recent discussions. We discussed on marketing
> the other day because I was stuck on the marketing issue. […]. Her
> suggestion for me was to strengthen my market base through
> friends, taking proper market plots and getting reviews (Vida, EE
> Student, Int).*

> *I (the researcher) previously asked one of the students about how
> long the mentoring will be held. They said that it varies situationally.
> Sometimes a mentoring could last for 1 – 2 hours, but sometimes
> could last for 4 hours. I asked about what things they discuss in the*

mentoring; if they are always focused and serious and why the discussion could last for 4 hours. The students answered that the mentoring is not always serious, mentors sometimes talk about things irrelevant to business, make some random chats or even disclose personal matters. However, they still can cover important things (EE Observation/Fields Notes on Mentoring).

Nevertheless, the EE lecturers can also play as students' mentors inside or outside the lecture hours. Usually, the ones who become lecturers and mentors are the ones who are both academicians and business practitioners. Those "versatile" lecturers mostly argue that they can better combine theoretical entrepreneurship knowledge with applied cases in day-to-day business. Thus, students found this teaching method more sensible and relatable to their entrepreneurial endeavors.

I have explained that there are three types of people in SBM. The first is the academicians such as Mr. Wawan Dhewanto (one of the EE lecturers in SBM ITB), the head of S1 entrepreneurship (bachelor study program). He has already authored I do not know how many books, how many scientific papers, undertaken how many research activities, and wonned how many grants. The second is what we call as mentors. They are fulltime entrepreneurs that are willing to spend hours to share ideas to and nurture new entrepreneurs. The third is what I also refer to as my kind of people. They are versatile meaning. I am a full lecturer, but after the office hours, I am an entrepreneur. I run my own small to big businesses: I also have a small business that only have five, six, seven employees in Jakarta with the project of making a spa house in Czech-Slovakia, building a hotel, and everything related. I also have a medium scale business named 'EduLab' (students' learning consultation company), which already has 29 branches all over Indonesia in 9 cities. Therefore, when someone actually ask about what my strength is, I balance theories and practice. In that sense, whenever I introduce a business tool, I can relate it to whatever experience I have in my business (Mr. Sonny – EE Lecturer, Int).

I like the mentoring sessions where our business or business idea are coached by mentors. Discussions can entail parts of my business process which I would have to improvise and so on. Moreover, the design thinking lecture/class now feels like mentoring sessions already, although the main content still focuses on design aspects. Perhaps, for the next meeting, I would likely learn how to create packaging that expresses strong engagement with customers, what

> *each color means, which I also think important for the design (Harry – DT Student, Int).*

Students enjoy attending the mentoring program because it directs their business and coaches them closely throughout the journey. Also, students feel that the mentoring enables them to open up their new thinking and mindset about creating and growing business, especially in the fast-competitive market of creative and cultural industries in Indonesia. Students feel satisfied when they can immediately implement the mentors' business feedback and suggestions for their business issues, plans, and progress. Thus, students wish to be given "more direct" and technical "guidance" instead of general business suggestions from the mentors. However, not all mentors' feedback can be directly implemented by the students. Not all mentors also have similar business lines and backgrounds with students. The students wish they could be "fully" matched with their needs and wants. Physical distance can also be a problem for mentoring since not all mentors reside in the same city where students currently are studying. That is why consulting and having a separate business discussion (outside the lectures) between students and entrepreneurship lectures can also be considered mentoring.

> *Well, by having mentoring with the real business experts, I feel that I can widen my business horizon, for example, in designing my furniture brand. I learn how to see the markets, to forecast the trend, and to put things I have never heard previously into practice. I signed up for mentoring sessions with Mrs. Isti, who is a trend forecaster. One of her expertise is also in the furniture market. By learning from the expert, I get some insights on the trend likelihood of the furniture design in some years ahead. She also gave me suggestions on understanding users, even though I still have my idealism in the design part therein (Adit – EE Student, Int).*

> *The mentoring is generally effective, but it rather scopes out non-technical matters, though I think I often need technical advice too. The reason being, perhaps, that the mentors are not paid for the mentoring. If they are paid, they might be bound to tell us technical things too. For example, if you would make a workshop featuring the owner of a famous café in a big city like Jakarta or Bandung, that might have costed us 5 million Rupiahs for one-hour session. In that respect, it sounds very unethical to ask for holding technical*

workshops from the experts for free. That is why, I do not think the mentors will answer the technical questions (Iqbal – EE Student, Int).

I have met some possible relevant mentors who are suitable for me, but they are quite far away from Bandung (SBM ITB's location). In my case, they are in Jakarta or even in Nusa Tenggara (outside Java Island). The mentoring might still be possible, but we may not obtain a professional commitment, you know, as a mentor and a mentee to work together. Not knowing their fixed schedule, it is difficult to have required 12 direct (offline) mentoring sessions. […]. Perhaps one mentor would be more effective if he is really experienced and in line with our study. However, we have not found that person in SBM. So, we had to get acquainted to other nearby professionals too (in any possible situation) (Anne – EE Student, Int).

3.4.6.3 Theme 3: Indonesian university students – their perceptions and learning behavior

In this theme, we will explain three major sub-themes:

- Indonesian university students' diversity (section 3.4.6.3.1);
- students' perceptions (on entrepreneurship and design thinking in general, and entrepreneurship education and design thinking specifically in MBA CCE SBM ITB) (section 3.4.6.3.2); and
- the way students learn in class and mentoring (section 3.4.6.3.3).

3.4.6.3.1 Indonesians' university students' overall diversity

In general, the students' diversity in SBM ITB can be described by three classifications; based on the degree program, economic/financial background, and their entrepreneurial/business journey. For the former, students are categorized into bachelor-level and master-level study programs. Bachelor students are mostly high-school or vocational graduates who do not have previous business or entrepreneurship experiences. While master students, they are graduate students who have various entrepreneurship experiences and multidisciplinary education backgrounds. Bachelor students are not as diverse as the master ones.

*Since they (students) are still in bachelor degrees, their background
is not as diverse as that of MBA students. Academically, most of
them are high school and vocational school graduates. […].
Whereas some of the high school graduates were enrolled in
regular and boarding schools, some others studied abroad, and
some were home-schooled. […]. Home-schools and regular high
schools were the most noticeable difference, although they are still
on the same level. The other difference could be from the
psychological factor; some are very determined and persistent,
while others are the opposite. In master degree classes, the
students' academic background is typically very diverse. In terms of
the professional level, some of them are already on the managerial
level, some are fresh graduates (Mr. Bayu – DT Lecturer, Int).*

In the second classification, according to the respondent lecturers, 70 percent come

from middle-high-income families and big cities, while the other 30 percent are from

rural areas and middle-low-income families. Less information and networking access

influence students' creative and innovative thinking. Most middle-high-income

students focus on giving opinions and arguments and tend to be more confident.

Students' backgrounds may reflect and affect how they learn in class and through

mentoring. Students from rural areas have difficulties getting wider information,

knowledge access, and broader business/professional networking. Thus, the thinking

pattern (concerning creativity and innovativeness) will revolve around their daily life

and activities. In contrast, students from bigger cities have wide access to information,

networking opportunities, innovativeness, and creative thinking and action.

*70% come from the middle and upper economic class, while the rest
are scholarship-funded students. […]. Their differences are quite
discernible from their ideas presented in classes; the funded
students were typically exposed to limited access of information.
Their access to knowledge and information is narrower compared
to that possessed by their middle-upper colleagues. In the end, the
business ideas merely revolve around their daily life, for example,
on how to create binders (a notebook for sketching, drawing, and
writing), whereas the others have innovated. […]. Not from where
they are from, but the access to information does influence your
innovation. […]. Being from the rural might have some impact,
although some of them who have friends here can access
information faster. The first factor could be their effort in finding
information. The second decision factor is networking, where they*

> *can gain information from their social circle. If they merely come to*
> *classes then go home, they would not have that kind of "social-*
> *networking" and connection, even if I would have to distribute all*
> *the important contact channels to them (Mr. Bayu – DT Lecturer,*
> *Int).*

The third classification, students' entrepreneurial motivation and journey before

enrolling and while attending the EE program, are notable. Some students are already

running their entrepreneurial projects even before enrolling in the SBM ITB MBA CCE

program, and some are still in the planning (business idea finding) stage. For the latter,

they usually started to plan with their previous educational background, hobby, and

working experiences. They want to actualize their business based on their passion,

even though they face difficulties and challenges internally and externally. This point

is one of the students' motivations to join the EE program in MBA CCE SBM ITB. This

type of student usually already made and proposed several business ideas (but not

necessarily a thorough action plan), especially creating cultural types of businesses/

industries that align with the current trends in Indonesia.

> *In terms of motivation to be entrepreneurs, most students who*
> *attend this program already have high motivation, above average I*
> *would say (Mr. Dwi – EE Program Coordinator, Int).*
>
> *Characteristically, they are quite diverse. Perhaps, I can say 40% are*
> *fresh graduates, 35% already have work experience, and 20% are*
> *professionals with more than two years of experience. Those 35%*
> *who have work experience, they previously worked in corporates or*
> *had their own business. Perhaps, this type of students who have*
> *both working experience and their own business is around 10-20%.*
> *The majority of our students are indeed fresh graduates who have*
> *interest in starting their own business. At least in this batch, around*
> *35% to 40% of the students have businesses that already started*
> *before studying here. […]. About 40%, well, from 35% to 40% come*
> *from business families or already run their own business. Some have*
> *been for a year, some for two years.*
>
> *[…].*
>
> *The most common is fresh graduates with business in mind. How*
> *could I say that? During the application for the CCE program, every*
> *candidate goes through an interview session. From this interview,*
> *we can see three points: the person, the character, and whether CCE*

is suitable for his/her needs. The 'needs' can be understood as whether they actually need to join CCE or instead they better join the professional level. It is all according to their aspiration. Another decision factor is their business idea, which could originate from their already running businesses or from those they intend to run. Everyone who studies in the CCE must have a business idea since we have interviewed them before, and they came up with one page of a business plan as the interview materials. […] Some of them actually do not know their aspiration, around 10%. Why? Perhaps, because they have just graduated from bachelor degree and have not found luck in job offers, so they choose to return to universities. They try to understand themselves and think, perhaps it is interesting to have their own business. So yeah, some of them are 'stranded' to CCE (this MBA entrepreneurship program). However, as long as they have the aspiration and can defend it during the interview session, we would welcome them to join (Sonny, EE Lecturer, Int).

Their proposed or running businesses are mostly self-funded. It is not easy to get the starting capital as funding. Students often need more support in doing business, especially because most are still developing business ideas. Some ideas merely remain ideas, but some are already progressed significantly. Furthermore, parental supports and peer influences play a critical role in students' entrepreneurial motivation and journey. In the latter case, some students can find classmates for business collaboration (even though for a short-time period).

The progress is quite stagnant. The illustration design studio has not extended towards animation. As I explained before, one of the reasons is the lack of capital or funds. I also still work on small projects from the publishing company for children's books. […] but I actually have a business plan, in a written form, but not fixed yet. Furthermore, I have not started the mentoring session yet, so I have not consulted and done the mentorship with the business experts either (Dito – DT Student, Int).

We have made the prototype and currently are mapping home chefs (stay-home mothers who likes to cook for fee) available in Bandung who would like to have an extra income, able to cook good standards of food, and have hygienic cooking tools at their home. We have tested our Apps around the area of MBA ITB. We did some surveys too, you know, to collect the consumers' data on what they want and what they need. Our App would serve as a bridging tool

for the customers who want to have a good, healthy and cheaper food, also near from their location, as well as for home chefs who need an extra money from their cooking. This September, we plan to meet our investors, and if it goes well, on October, we are going to develop a model for testing the prototype and hopefully in January 2018, we will launch the Apps (Harry – DT Student, Int).

Actually, the first motivation came from my parents. They told me to do so (taking Master degree). That is why I chose the entrepreneurship program (MBA CCE), because it is related to what I am doing right now as an entrepreneur (Iqbal – EE Student, Int).

I also admire many of my classmates here, they already run businesses several steps ahead of me; even they are younger than me. They have a good and strong motivation and of course more experience than me. I also learn from them, particularly about ways to be consistent with my business (Adit – EE Student, Int).

I have been trying to partner up with friends who are wedding organizers. One of them is Mita (his classmates) who told me that in December, she will probably try to offer my idea on the digital invitations to her client. As far as the product initiation is concerned, the motivation came from my need for cheaper invitations than conventional invitations so that the product is affordable to everyone. However, I do not know how I can divide the profit if I choose to have a partner (to collaborate), because the price itself is already cheap. Nonetheless, from the collaboration, I should also be ready for changes and for development or adjustment of the product again to gain from my partner's and users' reactions (Fachrul – DT Student, Int).

3.4.6.3.2 Students' perceptions

Concerning students' overall perception of entrepreneurship in Indonesia and entrepreneurship education in MBA CCE SBM ITB: for the former, most students used to think that entrepreneurship is about selling activity. This view is also what people in Indonesia generally perceive about entrepreneurship.

We need to have champions in facing the challenges. The opportunity is to expose everyone to entrepreneurship around the point that I felt it becomes overused, that is, misunderstood and misrepresented. I feel sorry to hear that fried food sellers are also considered as entrepreneurs. Although to some degree I could agree, but entrepreneurship is not that simple. If it is for survival, it

can rather be called as entrepreneurship by necessity to support lives. However, that is just one strain of entrepreneurship and that is not all of it. I believe entrepreneurship is to create value (Mr. Sonny – EE Lecturer, Int).

Sadly, I should be honest, that becoming an entrepreneur still is not considered as a profession in Indonesia. Most people consider entrepreneurship as a third option, you know, if we do not have a regular job or fail to be accepted in corporations. For me, however, it is my choice. People still think that entrepreneurship is the same as selling products. For me, my business now, the entrepreneurship path that I have taken is my life. It should be sustainable. Most parents may still ask their children to find a job, instead of creating ones. The question we always get is, 'why do not we look for a job?'. That is the situation in Indonesia. It is different from abroad where entrepreneurs and designers are very much appreciated. They do not feel ashamed to say 'I am an entrepreneur'; even that thing is being encouraged (Iqbal – EE Student, Int).

Our business is a social-preneur business. We aim to increase the profit along with increasing our positive impact to the society, in this case local coffee farmers. Becoming an entrepreneur has driven me to open more 'spaces' and to be more impactful to people. I used to think that entrepreneurship is the same as 'selling', but now, I have learnt that entrepreneurship is more about having a vision, about handling and collaborating with people, and about striving our best (Anne – EE Student, Int).

Concerning the classes and teachings of EE/DT in this MBA-CCE program of SBM ITB, students perceive that different entrepreneurship courses offered in their EE program (and some are compulsory courses, including DT course) have different (and often changing) class rules, nature and schedule, and that makes students often confused and possibly less motivated.

We cannot say all students are ready for independent learning, therefore class attendance is compulsory. However, it is our first purpose that they see attending the class as beneficial for them. The attendance also helps intensify the mentoring activity with our entrepreneur mentors. […]. Previously, the mentoring session was an add-on, but now it is the prime and compulsory with the minimum of 14 times in one semester (Mr. Sonny – EE Lecturer, Int).

They have changed some rules, in which, this Business Initiation (entrepreneurship) class is no longer obligatory anymore. The

obligatory ones are the mentoring sessions with mentors where students report some progress on their own business. Therefore, students should not worry about the attendance of this Business Initiation (entrepreneurship) class. Dr. Sonny also emphasized students to consider his presence (including Nazmi as the teaching assistant) as their business mentors and teaching assistant. If they think that they need to come to the class session to meet Dr. Sonny or Nazmi, discuss their business problems, ask questions, then they are welcomed. However, the class should not be obligatory for students. "Your business is your number 1 priority!", added Dr. Sonny (EE Observation/Fields Notes Week 4).

Like I mentioned before, sometimes our classes are separated, but some other times they were merged after a short notice. The class organization is not always consistent. Sometimes I have my own agenda and have already prioritized it, but because of sudden changes on our class schedule, I have to change it immediately. It makes me less interested with the class (Dito – DT Student, Int).

Class schedules, management, and arrangement still need improvement and more consistency. This situation was possibly due to many 'sudden' changes in class/program setting and arrangement. Additionally, students may feel overwhelmed by having too much freedom (due to the introduction of so-called "independent learning," yet they are not ready, so they demand to be "more facilitated") and unable to balance and manage their time well for studying and focusing on their progress on business projects.

Maybe the root of the problem is from the concept of a learning person. When I apply independent learning, especially in the case of mentoring in the last semester, I expect my master students to be in charge of themselves in learning. Unfortunately, some cohorts from the last year's batch were a little bit spoiled. […]. They did not just want to be fed, but rather want to be facilitated all the time. […]. The lecture was under the setup that whenever they really need someone to help coordinate, I can provide them with the help because I cannot coordinate all 40 students with their mentors and arrange their time. In the end, I recruited two mentoring coordinators who can monitor them each week. At least they can monitor whether the mentoring sessions are working and help the students with their problems. Nevertheless, the coordinators do not organize the booking (of the mentoring), but they are there to make sure that the students have contacted their mentors, and to help

> *students if there are any problems in contacting the mentors. It is a little bit more like babysitting (Mr. Sonny – EE Lecturer, Int).*

> *Since the class changed into a mentoring class, so it is optional for students to come. Accordingly, only few students came due to this change, the ones who really need to meet the lecturer to share problems and ask for suggestions. At 08:00 there were only 8 students in the lecture class (EE Observation/Fields Notes Week 8).*

Since many students are preparing to launch and have ongoing businesses "outside" the EE-DT class/program, their learning preparation and studying for the class are lacking, especially punctuality.

> *Before the first break at 09:15, Dr. Sonny asked the students again "any questions concerning the mentoring?", and also asked the students to talk to him, if necessary, during the break. The class was resumed at 10:05, over 45 minutes late from the instruction. (I found that this is hard to establish a culture of punctuality here, both for students and lecturers) (EE Observation/Fields notes Week 4).*

> *At 08:10 Prof. Imam opened the class, even though the students were only 5-8 students. (I observed that students were not ready yet – not a half of them came. Punctuality is something that is hardly implemented here) (DT Observation/Fields Notes Week 11).*

> *Back in the days, men are the ones who are late. Now ladies as well. I usually come first. If we set the meeting time at 10, I would be at the 'gazebo' (common study space) at 9.30. Then people will be apologizing and coming at 10.30, 11 and chatting, suddenly it is praying time (at mid-day). In the end, we started at 2 after lunch (Dito – DT Student, Int).*

Also, preliminary reading is still a big challenge for students. This learning attitude and behavior are the biggest reasons the class needs to be more responsive since students are mostly passive (only wanting to sit and listen to the lecture). Thus, students do not prefer to do the take-away-home assignments and are less interested in peer/group work and presentations (prefer guest-entrepreneurs' presentations or real-business-case discussions instead). Students' orientation is how to get optimum "insights" from the EE-DT class/program for the sake of their business/entrepreneurial progress from the professional entrepreneurs. It is,

therefore, not surprising that students' engagement during the class session needs to be improved because they feel less connected with the lecture, particularly when it is only a "theoretical" one.

Dr. Sonny continued to explain about The Effectuation Theory and its relation to start-up companies, some keys of effectuation, how the theory applies to expert entrepreneurs, and the differences between the managerial approach, the strategical approach, and the entrepreneurial approach in the effectuation theory. (The teaching methods which Dr. Sonny used were not significantly different from that from the previous class. He spoke both in Bahasa Indonesia and in English, used the PPT slides to explain the materials, explained the materials with a discussion style, and sometimes sat on his lecture table just to try to blend with his students in the discussion time. However, like I (the researcher) saw in the previous class, still many students were quite passive and not ready to come to the class with some reading preparations. Therefore, the discussion sometimes was not as in two-way communication, instead it was more like the lecturer talked most of the time and students listened) (EE Observation/Fields Notes Week 2).

I think so, it does not mean that I value myself more, though mostly I contribute ideas more whereas others are passive. Passive here is more understood as passing things to each other. I wonder, what is with the energy of these younger people? […]. I understand if they just want to score in the class and at the same time succeed on their own businesses, with their ego and interest. For example, one of my team members wanted to develop a mobile application. […]. It is challenging to combine all the ideas into one good project, with their personal ego involved for their own businesses. I even talked to Ajeng (his classmate), saying that her group also has no "one-team" direction (due to classmates' passiveness) (Dito – DT Student, Int).

Today's class is more relatable to students' entrepreneurial projects/activities. I (the researcher) observed that students associate the corporate logos with only aesthetic aspects. Therefore, Prof. Imam explained the topic again in broader context and related to more local companies, such as Garuda Indonesia Airlines and Sidomuncul (a famous herbal medicine company). I also saw that today's class was more interactive and more students-lecturer interaction. Students can give opinions, argue and comment openly. This is good and students seem to pay more attention (DT Observation/Fields Notes Week 8).

About students' perception of design thinking in Indonesia and DT class in MBA CCE SBM ITB, for the former: students assume many people still consider design work as an informal task/job, consider it as less professional compared with other fields of work, and so, it tends to be less appreciated and not-well-known yet in Indonesia. That may be because designers focus on one design to be good and nice according to their own "designerly" way of thinking or idealism.

> *Honestly, some design thinking courses in Indonesia are not as formal as the one at ITB, well since this school is already a formal institution (Mr. Bayu – DT Lecturer, Int).*

> *In the case that sometimes, when we talk about design thinking, if the material is given by a businessperson, it is always a market talk. In MBA CCE (SBM ITB), we instill a little of idealism to the students. That is, whatever you create for a need does not only solve a problem but it also needs to be pleasing to the eyes, has an aesthetic value (Mr. Sonny – EE Lecturer, Int).*

> *Design is not static; it also develops along with its environment. We realize that. That is why in our program, design thinking is beneficial for encouraging students' thinking about the great value of their businesses (Mr. Dwi – EE Program Coordinator, Int).*

Similarly, students mostly perceive the design thinking course in the MBA CCE as simply brainstorming, idea generation, knowledge sharing, product/marketing visualization, and graphic design activity. They perceive it to emphasize the "aesthetic" side to make the product "salable," not as a problem-solving and thinking methodology.

> *During the brainstorming sessions, I sat next to Dr. Dona and we discussed several issues concerning the teaching of design thinking in SBM ITB. She mentioned that the main objective of DT class for MBA students is for analysis, knowledge sharing, and thinking application to their business, not transferring the design thinking skills. "At least once they know the tools, they can apply them by themselves in their business. [...] but this class is mostly for knowledge sharing, though we do some exercises to expose them with examples", said Dr. Dona (DT Observation/Fields Notes Week 3).*

From my understanding and experience, design thinking is a way to design something based on the users. In other words, it is more about how to please them. It is different from, for example, artistic painting, in which the artist may paint to please himself. […]. For me, design and pure art are different. In design, the product must be saleable, but not necessarily in pure art. […]. The design must also be original or be novel, I would say, though I guess nowadays it is almost impossible. Then, the thinking must come from different perspectives, not only from the designer, but also, again, from the users. For example, I had experience in working for a café in Bogor in a team and was as a project leader. The involvement of the users was so much critical at that time, because we create solutions from their problems and needs (Dito – DT Student, Int).

I specialized my study in Marketing. I also like graphic design, you know, like Photoshop and Corel Draw. As I worked for Telkomsel (a big telecommunication company in Indonesia) in Bali branch, I combined my skills in Marketing and Design in selling Telkomsel products. When I study Design Thinking, I think it is a study, in which we should think in a framework of design and is sought to relate to entrepreneurial activities. This is somewhat reflected from our brainstorming sessions about how to design a good product, the packaging, the price, etc. (Ilman – EE Student, Int).

In addition, one of the DT lecturers mentioned that the purpose of the DT course in the MBA CCE is quite different from the general DT workshop or courses (especially from abroad). It seems the integration of the DT course in the EE program in Indonesian HEIs is only for "introducing what design thinking is" – **not** to fully encourage students to do the process for problem-solving and thinking methodology. The DT lecturers hope that this little introduction can provide students with "creative" insights from the "design (i.e., aesthetic)" aspect concerning their entrepreneurial activities.

I had a time to ask Dr. Dona. She clarified that: The main objective of DT class for MBA CCE students are not promoting 'technical skills', but rather encouraging 'critical thinking'. We encourage students to be more adventurous in thinking and to generate own ideas by giving them only small kinds of DT practices, not a big project. Widening students' perspectives concerning design and entrepreneurial practices is important. That is why, the materials also cover some contents of product innovation, industrial innovation, cultural innovation, and – of course – creative thinking.

> *However, students may get the contents only little by little, not even in depth. The main objective is only to introduce and give them a broad sense of 'design thinking' in the creative cultural entrepreneurial world. Most students have their own businesses, so by giving them only small practices of DT, they still can focus on running, growing, and developing their own entrepreneurial activities. The lecturers prefer giving students DT experiences within the lecture hours, instead of outside the class. I assume, this is because the students' main objectives are their business and how DT can guide them towards success (DT Observation/Fields Notes Week 4).*

3.4.6.3.3 Students' learning behavior

There are two main discussions about how students learn in class and mentoring. First is the EE program itself (MBA CCE in SBM ITB). Second, the individual students' characteristics may also be related to culture. Accordingly, both will also be a part of challenges and opportunities to adapt entrepreneurial design thinking as a teaching methodology in Indonesian higher education institutions, which will be further explained in the next major theme.

For the first discussion, students' learning process is likely to be impacted by the EE program structure in the MBA CCE SBM ITB. As the researcher observed and interviewed them, most Indonesian university students in the EE program of MBA CCE SBM ITB are confident and brave enough to argue, think freely, and express their opinions in EE and DT classes. Nevertheless, the EE program at SBM ITB is a full-time MBA study. Students are also "required" to prepare and even run their ongoing business/entrepreneurial activities outside the classroom (as real entrepreneurs). As such, the student's learning focus is somehow distracted, i.e., they are chasing to readily launch or manage their business growth besides attending the EE classes as they are enrolled. They learn by prioritizing how to immediately implement the knowledge and concepts they learn in the EE/DT class/program toward their business/entrepreneurial endeavors. This perception may be because students often perceive this type of EE program in SBM ITB as similar to "entrepreneurial training."

> *Concerning the entrepreneurship education, what I knew after signing up to the program is, that we will get theoretical guidance on how to create a business, how to implement it, and how to obtain standard assessment, for example, over business trends and profits. In that setting, it is more like apprenticeship or internship. I did not know if the real entrepreneurship education should be more detailed than that. For example, seeing other business models in the existing industries, finding entrepreneurial opportunities, and so on could be very interesting, since all those stuffs are useful for my business knowledge (Vida – EE Student, Int).*

> *It (DT) is interesting, but I am not at the point to know how to apply the knowledge in real life. For me it is interesting to understand people from the design perspective, but I still do not know how to implement the design thinking. How to implement it towards people, how to implement it in my business right now, etc. I still do not know […] (Fachrul – DT Student, Int).*

As mentioned earlier, in the DT class, students often need clarification on whether DT is the right course for them and will benefit their business/entrepreneurial progress. Students seem to take DT classes as "additional" or optional to add their knowledge about "preparing and running a business," not aiming to understand the conceptual theories as the problem-solving methodology for their entrepreneurial endeavor. Students' aim in attending the DT class is to "get the general insight or basic knowledge" of design thinking, not to understand comprehensively and implement the process toward their business/entrepreneurial progress. They tend to be passive in class, not actively read and learn the DT learning materials and have frequent participative discussions with the lecturers. For instance, students are reluctant to follow the "ideal" correct phases of DT and want to finish the assignment quickly. Also, they are less interested in the DT group work and assignment since the individual student's objective is to focus on their business/entrepreneurial endeavors. They mostly think that the DT assignment does not correlate with it.

> *Basically, the class itself is really fascinating. However, since I am not able to be a 'full time' student, I become a little bit distracted. I attend the class while at the same time thinking about my own business. To my own assessment, the role of design thinking has not been entirely significant (Harry – DT Student, Int).*

> *When I took design thinking class last semester, I know it was all about a problem-solving method. Nothing there is related with our business. The typical assignment is like, we do problem solving individually and then in a group. We were given small exercises or homework that are not continuously progressive and not even related with our business. To me, therefore, it is merely an assignment for us, as a student (Iqbal – EE Student, Int).*

> *I honestly think that the prototyping, especially by (visiting) the Eiger company last time, is something we took for granted; we did not really do it by heart […]. During the first prototyping exercise, we were not that closed and solid enough as a team, maybe because we just knew each other. The teamwork also stood between our ego to develop and grow more our own business ideas; if the design thinking exercise is not related at all to our business, then we tend to ignore it (Dito – DT Student, Int).*

> *In the class, we were asked to find ideas on what to create. Truthfully, we did not follow the process that was taught to us. […]. We knew how the process to bear a good business idea is like, but we did not do it that way. […]. We did not do it because we felt that it might not be related to us (our business). It was just like finishing an assignment. We just wanted to finish quickly (Fachrul – DT Student, Int).*

In doing the DT exercises given by the lecturers, students already have the final solution from the beginning and are adamant about that particular solution. Thus, in generating "brainstorming ideas," they will keep associating the brainstormed ideas with the answer(s) they have kept in mind. Also, in group work assignments, students aim mostly to "create products or services," not discover and find exciting problems to solve them entrepreneurially. They also tend to consider the DT course and its assignments only to provide them with "basic insights" for their "additional" knowledge.

> *Another challenge is that, sometimes, the students already have a particular solution from the start and being adamant to that solution. They somehow keep associating the phases they see in the class to the solution. That attitude is easily recognizable. I always advise "We know that this is a good solution for a business, and I understand that this is your masterpiece, but this phasing is an important journey". This is an academic institution, and this is my role to teach students on using academic tools. I often ask them to*

abandon their solution and proceed with the first presentation where they merely analyze the problems. Unfortunately, some of them still do immediate business pitching from the start. This happens with both bachelor and master degree students. Therefore, one shall never buy me a house, or a ship, even a very good one, if that is not what I want. It may be a good solution, but I did not ask for it. Some will be persistent towards a particular solution until the end, and that is the ultimate challenge (Mr. Bayu – DT Lecturer, Int).

What I really want to acquire is the insight from the course. The exercises were beneficial, but they can take too much time for me personally. This is not the class's shortcoming, but merely is my personal bias to what course is more important than the other. The development phase for my business requires a lot of time and must be presentable not only in the design thinking class but also in some other classes. [...]. Accordingly, the different presentability requirements took much time for adjustments. Indeed, my intention is, by studying in MBA SBM ITB, I can focus on my business while building network at the school. I seek to incorporate and apply the practical knowledge gained into my business, while leaving heavy theoretical subjects a little bit behind, like 50:50. Perhaps, everyone has a different motive, and this is mine (Harry – DT Student, Int).

Other issues are that some students need to pay more attention in the lecture session and be more focused, yet at the same time, flexible in accepting other inputs related to business ideas/solutions when doing class brainstorming and work collaboration. Besides, students like to group themselves with their close peers, so they often need to be more focused during class. Also, there is the problem of free-riders doing EE/DT group assignments. As such, this problem decreases the motivation of the students, who are more eager and interested in learning.

I became unmotivated when my teammates seemed to go the easy way. We had neither done any observation nor undertakenprior research. In design, I agree to first study the market needs, problems to solve, before coming up with product ideas. My teammates directly jumped onto "what are the features?" instead. Knowing such a thinking flow unchangeable over some time, I only decided on what to work on, pushed a certain idea and took the responsibility for the running process. [...]. If the others just want a free-ride, then so does it. I have talked about this with some other colleagues, and this phenomenon is common everywhere (Dito – DT Student, Int).

> *I (the researcher) observed repetitively that whenever one of their
> classmates presented their ideas, they less likely to pay attention
> and again, prefer to talk within their groups. The students are also
> very reactive; whenever they saw or listen to something interesting
> or funny from the lecturer or other classmates, they cheered loudly
> (DT Observation/Fields notes Week 2).*

Regarding mentoring, students learn by having questions and answers sessions with the mentors and receiving feedback concerning their business issues. Some mentors may monitor the students' business progress as a part of entrepreneurial mentoring learning. However, others may have open discussions with students without monitoring students' business progress. By receiving feedback from the mentors, students feel that their business ideas and concepts have been even more sharpened and strengthened and opened up their business horizons, unlike just reading textbooks.

> *Ms. Sonia (mentor's assistant) asked students one by one by their
> name and recent business. Each student explained their business
> issues to the mentor and the rest of their classmates, also asked for
> suggestions or solutions to their business problems. The mentor
> usually gives some sorts of general ideas, shares his/her experience,
> and gives networking contact, if necessary, in case they require
> extended contact to more relevant businesspersons concerning
> their business issues. Additionally, other students in the mentoring
> session also can add something or ask for clarification when one of
> them discusses their businesses. (I observed that the discussion was
> going pretty well, by sharing the business ideas and issues within
> smaller groups, and then there was a mentor who can lead the
> discussion, share the real business experiences that are 'out of the
> textbooks stories', gives some suggestions or general views on what
> students should do, or even gives students some external contacts
> to whom they can communicate everything related to their business
> issues and questions. For example, one student asked about the
> export process and regulation for agriculture products from
> Indonesia to the European market. The mentor had the experience
> from joining up a kind of 'export' seminar and workshop held by the
> Trade Ministry, so she shared her experience and some contacts
> which students can follow up if they really want to proceed) (EE
> Mentoring Observation/Fields Notes).*

> *I did several mentoring sessions, about 9 or 10 times, with Mrs. Isti
> and Mr. Ipin (his entrepreneurial mentors from SBM ITB). I can*

*follow them because their fields are in line with what I am doing
right now; their suggestions are easily implementable to me. Mrs.
Ipin's business lines are mostly in furniture and interior business,
whereas Mrs. Isti is an expert in trend forecasting. Both of them
helped me by giving me insights on how to develop my products,
also sharpen our product values and the branding elements. I do not
know whether their suggestions are technical or just general points
of view, but I feel that they have invest much time in guiding me in
developing my products (Adit – EE Student, Int).*

Second discussion: the individual students' characteristics possibly related to culture.
As explained earlier, students' culturally diverse background seems to be positively
influenced by the way students learn and interact inside and outside the classroom.
For example, some students find business partners from their class members. In
other situations, students' creative and innovative thinking happens due to
restrictions they experience daily. However, there are several possible "cultural
challenges." Such as students who need more continuously "guided" instructions
from the lecturers because Indonesian children are not used to independent learning
and an "entrepreneurial way of thinking" from the national school system. That is
why lecturers may view the young generation as lacking perseverance, persistence,
and reading eagerness (knowledge-seeking motivation).

*I think attitude does influence entrepreneurship a lot. Most of MBA
students or bachelor degree students in entrepreneurship came
from the standard Indonesian school system that sometimes
marginalizes attitude and character aspects. Meanwhile,
characters like perseverance, confidence, integrity and honesty,
must be practiced since they were kids. […]. Thus, the first problem
arises as our main ingredients –students— have been educated
from the environment with a less entrepreneurial way of thinking.
[…]. The second problem is, that students are often immature. In
Western Countries such as in America, high school graduates would
have been independent in terms of financial and psychological
aspects. In Indonesia, the parents would step in once their children
– bachelor and/or master students – are in trouble. As the third
problem, I often see that students do not dare to dream very high. I
do not know why, but perhaps since we do not read enough. […].
The problem is that perseverance, persistent and others cannot be
developed in one or two years at the university. They have to be*

> *taught since they were kids and have to develop as they grow (Mr.
> Dwi – EE Program Coordinator, Int).*

The lecturers expect students to read the class materials and even search for additional learning materials before coming to the class. However, according to the lecturers, students prefer to be 'spoon fed' in learning. One biggest learning issues is students' lack of reading. Thus, they easily get confused and less prepared and need always be guided and pushed to think critically for the class and the mentoring. Students often seem hesitant and wait for other class members to speak up, then they will 'together' eventually speak. Additionally, when they try to explain their argument, they seem to have difficulties in defining and providing good, well-organized, and detailed answers, most probably because of their lack of reading.

> *Prof. Imam started the main lecture on 'why there is the
> terminology of design thinking'. He then compared design thinking
> and logical thinking, and asked students what the differences
> between the two. (Later I – as the researcher – know that students
> are not given any preliminary reading materials before the class.
> When I asked this issue to Prof. Imam, he said that this is the
> dilemma or issue that the lecturers actually face. Students are
> reluctant to read, so the lecturers preferred to give a talk or to
> deliver whatever the materials they have in the class. In my opinion,
> this method is not effective. If the teaching method of Prof. Imam is
> actually an open discussion – when there is no practical exercise –
> it would be better if students are still given one or two related
> articles concerning what the lecturers intend to talk in the class. By
> doing this, lecturers could encourage students more to be active in
> critical thinking and open discussions. In fact, Indonesian students
> tend to rely on their lecturers more. Accordingly, by giving students
> preliminary reading, students could at least be more focused in the
> lecturing time. Also, one noticeable behavior which I always get
> from the students is, that, they chat most of the time within their
> small groups. Dr. Dona ever "ssst" students because they were very
> loud. Students paid less attention since they know, few more
> minutes the class would be dismissed.) (DT Observation/Fields
> Notes Week 1).*

> *As the discussion began, Nazmi (the teaching assistant) had to push
> students to speak for their answers. Students seemed to wait for
> their other classmates to speak up, then they will speak. As they
> finally spoke, they seemed to have difficulties is providing good,*

> *well-organized, and detailed answers and wordings. This may be due to their lack of reading (EE Observation/Fields Notes Week 6).*

Students mostly prefer to sit and only listen to the lecture in class, particularly because they enjoy visual and auditory lessons. Even though most of them can speak English proficiently, they seem more comfortable and confident speaking in their native language (Bahasa Indonesia). Student-lecturer interactions are often one-way communication during the lectures, and students bring fewer printed-written teaching/learning materials. Mostly, the course was done by the presentation, and the students were passively "listening" to it. Additionally, they rarely took notes from the class presentation. Lecturers also often need to be more accurate with their instruction, or students focus less. Apart from the teaching challenges from the lecturer that will be discussed later, students like to group themselves and chat with their classmates loudly and are quite reactive whenever they see something interesting during the lecture and mentoring.

> *Students' activity was only listening to the lecture for approximately 40 minutes. Students learning styles were visual and auditory. I (the researcher) also noticed that, whenever one student asks questions and the lecturer responds, the other students may not particularly pay attention. I assume that many of the students are easily to get bored and lose focus (EE Observation/Fields Notes Week 1).*

> *During the guest lecture, Mr. Wira (the guest lecturer) talked alone and with full English. I could see that not all students could pay attention, so perhaps it is better if both of them could combine talking and combine the language with Bahasa Indonesia and English (EE Observation/Fields Notes Week 9).*

> *Nazmi (the teaching assistant) then opened the class and related his teaching materials with what we had discussed previously. […]. (I observed that students paid attention quite very much to Nazmi's explanation, but they did not necessarily write or take notes) (EE Observation/Fields Notes Week 12).*

> *Prof. Imam and Dr. Dona went around the class ensuring students get the points and know what to do for the assignment. (In my observation, the lecturers have to explain again and again to students, or answer students' questions back and forth concerning the assignment's instructions. Students also tend to misinterpret the instructions, since there were only verbal instructions from Prof.*

> *Imam. It could be more effective if there is a written instruction given to students, in detailed and organized manner, so students can read and refer to the instructions given, instead of keeping asking the lecturers). There were actually not many learning activities in the class today, except students' discussion and group working on generating ideas to be presented and proposed to Mr. Lula on Thursday. (As I always observed, students tend to work and at the same time talk and chat with their peers. So, they were loud when they work) (DT Observation/Fields Notes Week 6).*

3.4.6.4 Theme 4: Opportunities and Challenges of Students, Educators and HEIs in the EE Scope

As mentioned, this theme is formed by the previous three major themes. They are educators' teaching practices, mentoring as an entrepreneurship learning program & teaching method, and Indonesian university students' perception and behavior on learning EE/DT. Therefore, it was possible when several critical ideas and concepts within those sub-themes were re-addressed and re-emphasized briefly.

Nevertheless, this particular theme, "opportunities and challenges," consists of two major sub-themes, i.e., the bureaucracy aspect (section 3.4.6.4.1) and possible cultural challenges from individual (lecturers and students) aspects (sections 3.4.6.4.2 and 3.4.6.4.3, respectively).

3.4.6.4.1 Bureaucracy/systemic aspect: Indonesian EE and DT in general

As the EE program coordinator and lecturers mentioned during the interview, entrepreneurship education in Indonesia was not yet well known until early to mid-2000 and is generally fragmented in both opportunities and challenges. The options are like the following.

Indonesian culture is open, and sharing is easier if we are willing to share our thoughts and stories and fewer social barriers. Statistically, the middle-income population also takes a bigger portion from time to time in Indonesia's people and potentially can be a "demographic bonus" in the future. Also, today's young

Indonesian generation is about technological advancement and social media. The mindset has changed, and entrepreneurial public awareness has increased. The mentality of parents of the millennial generation and the young Indonesian people is that higher education graduates can be entrepreneurs and not always have to become civil servants or employees in corporations. The situation is also now different from the past generation, i.e., more startup companies (local and international) exist in Indonesia, especially in big cities (Java Island). There is further attention to creating a sustainable entrepreneurship education ecosystem for the young "entrepreneurial" generation to grow and bear more awareness concerning buying local and national products/services.

> *In 2000, I started to think about entrepreneurship and the entrepreneurial education beginning to grow. However, I think it is all owing to the environmental changes and technological advances, which have caused people to be more independent and to value their own interests. They no longer want to be bounded by organizational regulations. Thus, there is no problem in terms of motivation and development. Nowadays, the majority of students want to run their own business (Mr. Dwi – EE Program Coordinator, Int).*

> *That dogma still exists. You must be a civil servant, you have to be an MNC (Multi-National Companies) employee, you have to obtain stable future. You never have to be a businessman. Now, that dogma starts to break because many parents of the millennial generation are more likely to open their minds in a way that their children do not need to be civil servants or to work in MNC to succeed. Shall they not be capable of studying and passing quickly, they can work or provide employment, meaning, creating a business. Therefore, many parents are now beginning to lose the dogmas of the generation before us. In that respect, there is one very good term that our young people no longer have to be employees. Business opportunities are now higher. Why? Because the middle class in Indonesia is getting 'fatter'. We also have a demographic bonus that we will harvest in 2020, or they say in 2025. Whether it will be a bonus or burden, that is up to the government, but we can create the bonus in the way I said before, by creating new values. That is why I love Gojek (Indonesian App service in finding motorcycle taxi for public) which many people see as a business. Gojek started as a social enterprise. Nadin Karim (CEO of Gojek Indonesia) helps Gojek drivers to look for another order. That way, the spirit is not commercial, the spirit is not capitalistic, but*

the spirit is actually social entrepreneurship. I am glad that these young Indonesians are really good and brilliant. They have ideas and we have to create a good ecosystem for them to grow. Yes, many say that we are still abroad orientation, meaning that everything nice comes from abroad; imported goods and all kinds of it are still perceived better than local products. But I see our children are now prouder to wear distro (local producers) t-shirts, from local distros, they are prouder if they use goods made in Indonesia, made by their friends, made by Bandung people, made by their hometown people. They are prouder now. And I am very excited about that spirit because it generates an opportunity for Indonesians to host their business in their own country (Mr. Sonny – EE Lecturer, Int).

The punctuality was the negative character. On the positive side, they have confidence. They also love to communicate actively with lecturers, both inside and outside the classrooms. This is the best part of eastern culture, a warm interaction. Consequently, the flow of information goes more smoothly as opposed to merely sitting inside the classroom, sticking to this or that syllabus. I am not sure about the culture in other countries, but maybe for Southeast Asian's, we are the warm-hearted persons. We have both formal and informal interaction between lecturers and students (Mr. Bayu – DT Lecturer, Int).

Accordingly, there is a huge potential for DT in Indonesian entrepreneurship higher education (EHE), especially because the country is rich not only from the natural resources but, more importantly, in creative and cultural business ideas from the local and young people.

I think, Indonesia indeed needs entrepreneurs. This particular MBA study program is oriented to generate entrepreneurs. There are two majors in MBA; one is the professional level where students are aimed to work in a corporate or big company, and the other is where students are aimed to create and run their own new business. Since Indonesia needs more entrepreneurs, I encourage MBA's graduands to be entrepreneurs. And why CCE (the particular MBA entrepreneurship program in SBM ITB)? Because Indonesia is enriched with culture and creativity. It is our purpose to facilitatively nurture students who want to build business in the creative and cultural field. Therefore, we hope that they can realize their dreams in creative and cultural entrepreneurship as soon as possible; either before or after they graduate, they can already run the business. The main capital for starting own creative and cultural business is

> *talent. It has already become the most invested factor. Investment
> is not always something related to money, which anyhow would not
> be a big problem for business in creative and cultural field (Mr. Dwi
> – EE Program Coordinator, Int).*

All the progression mentioned above opens up more entrepreneurial opportunities.

However, there are also several challenges. As mentioned in the previous themes,

many Indonesian people still perceive entrepreneurship as similar to selling activity,

creating a marketplace account for an online business transaction, or just continuing

to run the (family) business. This version of entrepreneurship perception and

definition must shift from narrow-minded to wider-minded. Because of the typical

narrow-minded definition, entrepreneurship means that most Indonesians create

only economic value by simply running businesses (i.e., narrow-minded definition).

This view can lead to misperception or overuse of the word "entrepreneurship" in

the context of people in Indonesia.

> *Opportunity exists for everyone, and as they talk about it, they
> understand how important entrepreneurship is. Therefore, I think
> everyone is exercising their own version of entrepreneurship, which
> is good, because then we can learn from anything. However, I would
> somehow try to avoid entrepreneurship being generalized by
> Indonesians. This is actually what I have faced, as people are trying
> their own version of entrepreneurship, they fall in love with their
> own version and become less willing to accept another version of
> entrepreneurship. In the end, the openness to accept other versions
> of entrepreneurship becomes limited. People would be persistent on
> their own version, though this might be good as an expression to
> the diversity of entrepreneurship meanings or systems or
> approaches, but might led us to not support each other (Mr. Sonny
> – EE Lecturer, Int).*

In particular, 'entrepreneurial design thinking' (EDT) in the context of formal

education in Indonesian HEIs can be very challenging. The bureaucracy of the

Indonesian government's education system is quite rigid. It can be less

accommodating in implementing the new methodology, especially from abroad,

making the EDT implementation challenging. Long systemic bureaucracy, internal

conflict, and resistance (from within the HEIs' members) to building and developing

the curriculum and only some of the DT projects and outcomes from the West can be

implemented directly in Indonesia are some of the challenges that appear.

> *EDT in the context of formal education in Indonesia – university
> education, according to Nazmi (the teaching assistant), will not
> work. This is due to several reasons. One of the reasons is that
> universities – public and private – are bounded to government
> regulations concerning their education system, syllabus, curriculum,
> learning objectives, etc. Therefore, if DT is implemented in the
> framework of formal entrepreneurship education, in which DT
> requires students to do several iteration processes while they
> perhaps only acquire few learning objectives, that is not possible
> since the Indonesia education system usually requires students to
> achieve several learning goals and objectives simultaneously. That
> cannot work with the approach of DT (EE Observation/Fields Notes,
> Week 12).*

> *Because we are in a conflicting frequency of speaking. I once wished
> SBM to be the center of entrepreneurship education at ITB. We can
> do this by offering optional or compulsory courses to all students in
> the campus to experience entrepreneurship. At least as an exposure,
> they can create a value in their own lab and commercialize it in the
> right way. Not only to pursue research and academic glory, but to
> make their research more useful to the community is also important.
> In fact, at ITB, one of our worries is losing students or that the
> students creating their own business without the support of SBM.
> There is also resistance internally. To me, it is up to them, the more
> we give knowledge then the more we will attain knowledge from
> others. It is not like they will take over SBM or something (Mr. Sonny
> – EE Lecturer, Int).*

The situation further depends on what and which environment it is intended for and

who inspires and brings the design thinking to those who openly accept and initiate

the new thinking and teaching methodology. The implementation may also differ on

the bureaucracy and legal steps to build the curriculum. In the case of SBM ITB, it

accepted DT through lengthy discussions with several higher-up people in the

institution and multiple workshops and seminars. This situation may only be fully

taken in some Indonesian universities and HEIs. In ITB, the faculty was planning for

entrepreneurship as a new study program, and they had the idea to include DT as the

latest trend in thinking and teaching methodology. SBM ITB believed that DT could

benefit students' entrepreneurial thinking.

> *Design thinking is highly potentially applicable in Indonesia.
> However, universities may have different policies and culture. […].
> There is a big potential, but everything depends on what and which
> environment it is intended for. It may also depend on who inspires
> and brings it. […]. If it is led by someone influential, the others will
> follow. The next decision factor would be the number of
> stakeholders who want to open up for solving problems. They have
> to be willing to throw their ego and be just another citizen who
> wants to contribute to the solution. […]. Design thinking may not be
> fully accepted by all universities. We (ITB) accepted this through
> discussions with several people and through workshops. In some
> cases, it could be a faculty or a program instead of just one course.
> But this relies on those who will openly accept the thinking and who
> initiates it (Mr. Bayu – DT Lecturer, Int).*

Even further, the knowledge field in Indonesia is fragmented or called a knowledge

dichotomy: separation between knowledge fields in the Indonesian school/academic

system, including in the academic/education system for HEIs. Additionally,

Indonesian HEIs may have different methods of thinking from the original idea of

design thinking from the West. The country's national education system and

bureaucracy are mostly still cognitive and empirical, using traditional-linear business

and academic flow approaches.

> *I also agree with the way they use design thinking like that. It is just
> that in Indonesia, there are constraints in our people. Since high
> school we have been differentiated, whether we belong to the
> science group, the culture (humanities) group, or the language
> group, for example. […]. Therefore, if it is going to be applied in
> Indonesia, I think it is possible as long as the thinking pattern is
> changed. So, what is the problem in Indonesia? Anyone who wants
> to occupy a certain position, a teacher or so, should be linear (in
> their academic background/flow). […] (Prof. Imam – DT Lecturer,
> Int).*

CHAPTER 3: CROSS-CULTURAL ADAPTATION FOR ENTREPRENEURSHIP HIGHER
EDUCATION IN INDONESIA – CASE-STUDY APPROACH

Indonesia is a collectivist society with an agricultural base. Although the new generation has reasonably changed toward more "tecno-culture," it is not yet becoming the producer or creator, but still become the user of technology.

> *Our world has become the world of techno-science and techno-culture. This is an important subject to be explained, portraying how design thinking in the West is implemented, unlike in the East. We, the Indonesians, are not familiar enough with techno-science. […]. If design thinking is to be taught the exact same way as in the West, it would be possible although it is the user who will be intercepted, which is common in the techno-culture world. In Indonesia, it would most likely be in agriculture. […].*

> *The technological aspect infiltrates us from business side. Today's youth has started to be native to technology, the so-called Generation Z. With their help, digital native is more oriented towards techno-science and techno-culture. Unlike them, the older generation is still stuck in the fragmented society. They are even called collectivistic society with the agricultural base. It means, they still rely heavily on nature rather than thoughts to mediate every life aspect. For them, all is mediated by natural resources. Meanwhile in the West, everything is mediated by mind resources – the brain (Prof. Imam – DT Lecturer, Int).*

Indonesians have yet to become familiar with producing techno-science and commercializing scientific research products. Most "commercial" entrepreneurial ideas are from a creative and cultural aspect. Especially fashion and culinary (a non-high-tech growing industry), not so many yet for creating technology and applying scientific products.

> *When asked about what is the current problem? It is about creating commercialization of ITB's research. That is one problem. The second problem is that the S1 or S2 students who join SBM do not necessarily have the interest to be 'technopreneurs' (techno-entrepreneurs). They may have an idea to be 'creative-preneurs' (creative-entrepreneurs), but not necessarily technopreneurs. If I can tell you, the cohorts of S1 and S2 are 70% or even up to 80% of them are working in the creative industries, specifically in fashion and culinary (Mr. Sonny – EE Lecturer, Int).*

Nevertheless, Indonesian HEIs need "more new energy," i.e., fresh faculty members
(lecturers and educators) and more open to new ideas from the West for teaching
and willingness to implement those recent changes, especially in today's era of
"techno-preneurship," multi- and transdisciplinary collaboration.

> *We all have the same access as it goes back to the steps in
> developing new courses. I do not know what happens outside there,
> but what we also need is a new energy, fresh faculty members
> exposed to new insights who bring changes to their university.
> Usually, they had the opportunity to study overseas and return back
> to the university (Mr. Bayu – DT Lecturer, Int).*

Moreover, more private universities/HEIs have established more entrepreneurship
education courses and programs, including business incubation centers and
mentoring. Although the development of entrepreneurship in higher education is still
centralized in Java Island, more HEIs are interested in learning from the pioneer and
collaborating.

> *Our Entrepreneurship Program is one of the first concentrations in
> the bachelor of entrepreneurship in Indonesia. Lots of other
> universities came here (SBM ITB) for a sharing session. They want
> to consult around bearing entrepreneurship as a new concentration.
> Like the recent ones were from Salatiga or Jember (provinces in East
> Java), University of Muhammadiyah Jember (private university in
> East java). We shared together the preparation for launching an
> entrepreneurship program for them. (Mr. Sonny – EE Lecturer, Int).*

3.4.6.4.2 Possible cultural aspect from the individuals 1: students' learning

As mentioned in the previous theme, most Indonesian university students in the EE
program of MBA CCE SBM ITB are confident and brave enough to argue, think freely,
and express their opinions in EE and DT classes. The general Indonesian society
culture is open and communal, by means of sharing things with people. The support
and positive influences from the parents and peers/classmates, and notably "famous
entrepreneurs" as they see in social media and attended guest lectures, are quite an
eminence for them to learn entrepreneurship and be entrepreneurs. Nevertheless,

there are several challenges, which we will only summarize and re-emphasize briefly as the following.

Students perceive the EE program more toward entrepreneurial training or internship. This idea affects the way students learn in class and during mentoring. In this case, they prioritize how to immediately implement the knowledge and concepts they learn in the EE/DT class/program toward their business/entrepreneurial endeavors – without properly and comprehensively being willing to understand the theoretical knowledge given in the EE class. Similarly, in the DT class, students aim to "get the general insight or basic knowledge" of design thinking, and they are less interested in the DT group work and assignment. Because they argue that DT's lecture has little correlation with their planned or ongoing businesses, students may also tend to misperceive the core essentials of design thinking. They believe that design thinking is related to the user (customer) but still see it as "aesthetic" or beautification of the products/services that they want to create, not as problem-solving and thinking methodology.

Moreover, there may also be a "cultural aspect" related to students' learning challenges. As explained in the earlier themes, students are 'in general' passive, like to be fed or "always want to be facilitated" by lecturers and mentors, lack preparation before class and mentoring, lack reading, and seem to not write any reflective notes during and post-lectures. Lecturers always ask students about their class assignments and learning/business progress. They tend always to push students to read, think, and talk critically and independently, continuously give them motivation, and always remind them about their role and responsibility as students even though they are considered adults (graduate students). Also, students often feel reluctant and shy to come first to the lecturers to consult about their ongoing business issues. The lecturers should always be the ones who ask them. Lastly, they are still having difficulty with time management (punctuality).

3.4.6.4.3 Possible cultural aspect from the individuals 2: educators' teaching

Generally, the awareness of a diverse number of educators (lecturers and mentors) to "teach" in entrepreneurship education (class and program) already exists. That is the positive side and opportunities that the SBM ITB MBA CCE has been doing, i.e., ensuring the educators are diverse, from multidisciplinary backgrounds and entrepreneurial experiences, and have strong communication, engaging, and networking skills.

However, the biggest challenge in teaching (and learning) EE/DT is punctuality and teaching management. Some teaching contents may need to be more compatible or relatable with the students' ongoing or planned business cases. The lesson plan needs to be clearer, more organized, and more consistent. Additionally, lecturers must reconsider entirely implementing the so-called "independent learning" for the students if the students' tendency is not fully ready yet. Implementing a new teaching technique step-by-step is more favorable.

> *The tendency is, that there are a lot of people, whether lecturers or mentors, who like to hear themselves talking. […]. Sometimes I wanted to introduce two equally deep concepts in my teaching plan, but in practice, I took almost the three-fourth for one while only one-fourth of the time for the other. In that case, I was exposed to the time management problem in my teaching where a compromise between students' understanding and delivery time must be set. Sometimes it is also beyond our capacity to make our students completely understand what we want to teach them (Mr. Sonny – EE Lecturer, Int).*

> *Nazmi (the teaching assistant) does not agree on what Dr. Dwi (as the EE program coordinator) has decided concerning the Business Initiation (entrepreneurship) class, that is, the implementation of independent learning for the students. This equally means making the BI class optional and mentoring compulsory for the students instead. He argued that students still should learn the materials and theories in the class. He also mentioned that the real syllabus has already been cut for 40 percent because of the independent learning implemented by Dr. Dwi (EE Observation/Fields Notes Week 12).*

> *I (the researcher) also observed the way and methods of Nazmi's
> teaching. He prefers to have no break time, tends to fully speak
> during the lecture time, likes to write on the white board, and takes
> too long in explaining things. Perhaps it is better, if the lecturer
> gives some pauses between each sub-materials, asks students
> opinion on what they have understood and not, and could ask
> students to take some points or summarize or given them some
> practical exercises, instead of talking the whole time. Moreover,
> students who sit in the front seats tend to be more active in the
> discussion, as compared with students who sit at the back (EE
> Observation/Fields Notes Week 5).*

In the same manner, there could be a possible misperception of independent learning
for students and lecturers since creating and maintaining students' learning
commitment is also challenging. The EE/DT class discussion often raised interesting
issues, but students were passive. Students are expected to prepare before coming
to the class or mentoring by reading the learning materials. Still, they often come to
the course with "an empty head" or no preliminary reading, expecting lecturers to
"fill them up." So, the lecturers often have to explain many basic yet important terms
for a long time and need to push the students to think and speak up critically and
actively.

> *At 08:29, Nazmi closed the discussion about culture and said that
> he would like to do some recap from the last meetings. He started
> again a brief discussion on 'what is startup?', its characteristics, etc.
> (In my observation, students never do some reviews on their own
> about the lecture's materials. They are relatively passive in the class,
> forget about the last materials, and are not brave to stand up
> speaking their answers – rather wait for the others to start
> answering, or talk at the same time. Nazmi even has to explain the
> bloom taxonomy in learning and give an example on how to answer
> properly and with a detailed manner --using the bloom taxonomy –
> for the students in order to answer a question of 'what is startup?'.
> He should go explaining from the start again. Students also speak
> reactively with the questions given by the lecturer, not by thinking
> the question first and try to organize their statements. They still lack
> critical thinking, most likely due to lack of reading and they do
> critical reading on their own. Therefore, the lecturers need to push
> students to do "critical thinking exercise" within the lecture time.
> My question during today's observation: is it really necessary to do*

the recap with students for almost 1 hour?) (EE Observation/Fields Notes Week 5).

In addition, one of the acknowledged areas for improvement is that lecturers rarely provide written instruction to the students for the assignment within the class hour or homework. The lecturers also often need more preparation for teaching or lecturing materials. Lecturers like to jump and mix the order of the teaching content, and prepares too many presentation slides to be caught on in a one-duration lecture as well as like doing administrative or even "ice-breaking" activities before the "official" class begins (which may not be very critical for a post-graduate level study). Consequently, the teaching materials discussed by the lecturer are sometimes not a part of the teaching slides (i.e., many random talks and discussions during the lecture).

> *Prof. Imam and Dr. Dona went around the class ensuring students got the points and know what to do for the assignment. (In my observation, the lecturers have to explain again and again to students, or answer students' questions again and again concerning the assignment's instructions. Students also tend to misinterpret the instructions, since there were only verbal instructions from Prof. Imam. It could be more effective if there is a written instruction given to students, in detailed and organized manner, so students can read and refer to the instructions given, instead of keeping asking the lecturers) (DT Observation/Fields Notes Week 6).*

> *Dr. Sonny came to the class at 08:10, but when he intended to begin the lecture and needed an internet connection, the connection was in trouble. So, he decided to use his own laptop than the PC in the class. (In this case, I thought that the lecturer should prepare everything before the lecture begins, including bringing his own laptop even though the school has provided it for them. Alternatively, at least, one may bring in the materials in the flash disk. Point being, whenever there is a technical problem, the lecture will always start on time. This is the thing I regularly found here, where both lecturers and students are difficult to establish the culture of punctuality) (EE Observation/Fields Notes Week 2).*

Even further, there are still few business cases and examples that are less or less related to students' small-business cases, particularly in the cultural and creative industries field. Rather, the teaching contents are more toward the startup in

technological-based areas. It is good to expose students to the current business and entrepreneurial trends, but it may also be better if the materials can impact students' recent learning and entrepreneurial journey.

> *The teaching content should be 50:50 (between big corporation and SMEs case). I did not say that all of them must be a small or startup business, because eventually good entrepreneurs must grow bigger. Once they have grown, they would already gain insights for certain cases. It may not be ideal either if all the cases are about corporation, since not all entrepreneurs have prior knowledge on how to build one. Today's issue is that the number of startup cases is not as many as that of the corporate ones (Mr. Dwi – EE Program Coordinator, Int).*

> *In my (the researcher's) observation, I think the materials explained by Nazmi are mostly applicable to big companies or corporation, not to small business or early startups yet. Perhaps, the materials can bring more added values, if the lecturer could give the examples on how to implement those theories and tools into more small business applications (EE Observation/Fields Notes Week 5).*

Mentoring is also arguable that some business mentors have taken advantage of merely becoming business mentor coaches to "earn as living" without being supported by an optimal portfolio of strength skills, experience, and, most importantly, "mentoring" skills. Maintaining high-quality entrepreneurial educators and business mentors is also challenging because it is not only about knowledge, skills, and experience; but also, about communication and networking.

> *I have noted based on testimonials of (my) colleagues, that more business incubators, business incubation programs, mentoring programs, and all sorts nowadays come to existence. They say it is a good thing to have more young self-employed entrepreneurs. Telkom (the largest telecommunications services company in Indonesia) also has an 'Indigo' entrepreneurship program, which serves to support bearing new entrepreneurs. Has it not been properly managed, the incubation and mentoring program might have been co-opted by those who earn a living as mentors or business coaches with no strong portfolio of skills and experience […]. A mentor or a coach should possess a certain level of experience, knowledge, and what is called 'know how'. A lot of those who are typically hired as mentors or coaches are just random people or*

> *those who are good at talking yet coming with minimal relevant experience (Mr. Sonny – EE Lecturer, Int).*

Lastly, to capture students' attention, the lecturers and mentors' methods of instruction and the tonality of their voices are important.

> *I much prefer to have Mr. Nazmi for the teaching. He is, on the one hand, more active, interactive, and can make the class more interesting. Dr. Sonny, on the other hand, is keener to listen to our problems – so they are quite different. […]. For me, the preference goes to lecturers who are very active, interactive and can push students to talk (Adit – EE Student, Int).*

> *Dr. Sonny actually is good and I like him a lot. However, every time he receives a question, he will point out somebody else for the answer. It is the point where he gives his lack of knowledge on the question away. Moreover, Dr. Sonny is a type who can only give assignments or sermons, very much like Dr. Dwi Larso. He is the sermon type. He is merely a businessperson who is neither skillful nor passionate in teaching business (Iqbal – EE Student, Int).*

3.4.6.5 Theme 5: Impacts EE/DT classes and mentoring to students and their entrepreneurial learning & journey

The final theme of this study explores the influence of the EE/DT class/program on the students' gaining entrepreneurial expertise and abilities and journey (section 3.4.6.5.1) and suggestions to improve it (section 3.4.6.5.2).

3.4.6.5.1 Impact on students' entrepreneurial learning process and journey

Most students agreed that learning entrepreneurship in EE class is also challenging, triggering them to try a lot of new business types/fields. However, students also agreed that they obtained more entrepreneurship knowledge and concepts, mostly benefiting their product and business ideas development stage. They received meaningful and relatable business concepts and knowledge for their business (for instance: the teaching content about product value). This approach has changed how they perceived the entrepreneurial process previously (from merely selling activity

was then transformed into a direction of entrepreneurial thinking). In this case, Business Initiation, as the entrepreneurship class that the researcher had observed, is fundamental to creating a business, i.e., identifying problems, solving and making entrepreneurial problems. This particular EE class provided students with ideas, concepts, and knowledge on how they can start a business from small and optimize them with limited resources.

> *For business initiation (EE class), the materials are explained by Nazmi (the lecturer assistant). These materials are generally concerned with startup technology. The whole concept is very insightful, which I like and can relate on (Adit – EE student, Int).*

Students also had similar thoughts with the DT class but with notable comments for its improvement suggestion. In a nutshell, students wish the design thinking class would go beyond theoretical lectures and be more connected to students' entrepreneurial journeys.

> *From the first three weeks, I could understand that our class cannot be separated from our maestro, our professor, Prof. Imam. He is an expert on design. From him, I got some useful insights. In my own personal opinion, those insights are not significant yet, but I am sure, later I could learn more from him (Harry – DT Student, Int).*
>
> *I think, for those who already knew the way designers think, this class would be not that interesting. […]. I mean, I have known the process of brainstorming for example, since a long time ago. I have practiced it, even often. However, I just knew the theory from this class, through the 'Synectic' process explained by Prof. Imam. The other things, they are actually not new for me, but I simply say 'oh there is a theory for this and that' (Ilman – DT Student, Int).*

Students usually start business ideas with their previous education (bachelor's study), hobbies, and working experiences. They want to actualize their business ideas based on their passion and interest. They usually already made/prepared several business ideas (but only sometimes thorough action plans), especially the creative and cultural business types that align with Indonesia's current trends. They are mostly self-

funding starting businesses. It takes work to get capital funding and make/manage
the team.

Students face difficulties/challenges, internally and externally, to actualize their
business ideas, even though the opportunities may exist (this is one of their
motivations to join the EE program – MBA CCE in SBM ITB). Students also often face
business stagnancies, especially because most are still in the idea development phase.
Some ideas are still in pictures. Some are already progressed. Time management and
lack of reading are two big problems in students' entrepreneurial learning and
journey. There also seems to be a (major) misperception about the entrepreneurial
phase/journey, or maybe just because the respondent students are still in the first
semester. Nevertheless, parental support and influence internally play an important
role. While externally, students can find classmates for business collaboration, even
only for a short time/temporarily.

Since students are well aware of entrepreneurship and are running their businesses,
they mostly perceive that the EE program (MBA CCE) still needs much improvement.
Although students should have paid attention to it, they also learned in other courses.
However, they argue that they like the teaching and learning atmosphere in SBM ITB
(MBA CCE) because of the diversity from both mentors/lecturers' and students' sides
(i.e., multi-disciplinary, multi-professional, and educational background).
Nevertheless, they mostly enjoyed the mentoring, and the diverse learning
environment was more vibrant and motivational for them to learn and improve. In
the end, students agreed that the EE class is useful further for their learning and
business progress and wish to be (still) graduate entrepreneurs when they complete
the study. The following is the highlighted summary of the students' respondents
concerning their entrepreneurial learning and journey as (could be) the impact of
enrolling in the EE program of SBM ITB.

- Anne and Harry. They are both business and non-business background
  students, respectively, and are considered ideal-type students who are

becoming highly potential future entrepreneurs. They enrolled in the EHE program with discovered problems that could be used as entrepreneurial opportunities. Accordingly, they are the most motivated and committed students in learning EE. Therefore, their entrepreneurial journeys are more likely to align with the 'ideal' objectives of the EHE program (in MBA CCE SBM ITB), i.e., problem discovery, user/consumer/market understanding, and analysis, iterative process of brainstorming and prototyping, proposal presentation/exhibition, launching the (small/starter) businesses. They are most likely to be graduate entrepreneurs.

- Iqbal and Ilman. They are both business background students and are ongoing entrepreneurs. They are also considered as ideal-type of students enrolling EHE program with their currently running entrepreneurial projects (businesses). They enrolled in the EHE program with their ongoing small companies. They should have started with the discovered problems to create entrepreneurial opportunities (although it does not limit their potential to develop other ones). In learning EE, they are motivated and committed. However, their primary objectives tend to focus on how to grow their current small businesses. They already have adequate entrepreneurial/business experience in real life, especially in terms of communication and networking skills. However, their mindset may be too narrow – as they mainly focus on their ongoing businesses and how their attendance in the EHE program (EE class) can benefit their business growth. Nevertheless, they still believe that the EE program helps their entrepreneurial learning and journey, though they wish the EE class/program could be improved to fit their needs and wants as a student entrepreneur.

- Adit and Fachrul. They are both non-business background students interested in and sympathizers of entrepreneurship. They already had specific business ideas, although they were from something other than discovered problems. They had already created a business plan they wanted to pursue while

becoming entrepreneurial students. Their objectives are to be entrepreneurs, executing their business/entrepreneurial projects. In learning EE, they tend to have some difficulties in learning (absorbing, digesting, understanding) business/entrepreneurial knowledge, concepts, and theories; because they have yet to become familiar with those terms. In this case, their learning commitment varies (and somehow, also unstable). On one view, they got excited to immediately try implementing some entrepreneurial theories or thinking concepts from the EE class into their (planned) businesses. However, this action may not be based on proper knowledge and understanding (i.e., rather the "trial-and-error" method); thus, their motivation could go up and down easily in learning EE due to expected-vs-reality events. Also, because they may lack time management, they tend to get overwhelmed with the learning tasks in the EE class/program and their primary objective to execute their business plans as soon as possible. They already had their "specific" business idea(s) to embrace and implement in their entrepreneurial journey. Those ideas mainly come from their previous educational background and working experiences. Due to this reason, they tend to ignore critical phases of the entrepreneurial process (which sets important trajectory), e.g., problem discovery and data generation from users' observations or interviews. Their major wish is to launch their businesses (products or services) as soon as possible because they see their classmates as competitors in the EHE class/program. Seeing their classmates who have been a bit further stage of the entrepreneurial phase makes them anxious and want to have "instant paths" without having a solid foundation of theoretical knowledge of entrepreneurship. Somehow, they also tend to "mis-conceptualize" the entrepreneurial trajectory and process. It seems their mindset on entrepreneurship is merely "running" business. Lastly, they tend to stick (less flexible to change) to one potential business idea based on their previous education and personal background.

- <u>Vita and Dito</u>. They are both from a non-business background, interested (and seem to be passionate) in entrepreneurship, but have (somehow) simple-straightforward business idea(s), which are not based on discovered problems. They came up with those ideas after they enrolling and joining the EE program classes. They are non-business students, not familiar with business and entrepreneurial knowledge, concepts, and theories. They tend to have learning difficulties and similar learning challenges to previous student types (Adit and Fachrul). Mostly, they are also still in the phase of trial-and-error (business) ideas development. Likely, they are less interested in following the "correct" (ideal) entrepreneurial phase, starting from problem discoveries. Alternatively, they may have a different mindset in defining "problem discovery." They also seem to try figuring out what entrepreneurship is, the tools and concepts, its theories, and how to balance and manage the time for studying and running/planning their proposed businesses. In the learning and entrepreneurial journey, they tend to jump over immediate business ideas (products and services) without following up on the ideal phases of entrepreneurship.

3.4.6.5.2 Some possible suggestions and expectations to improve students' entrepreneurial journey and learning process

The last discussion concerns students' expectations and suggestions to improve the EE/DT class/program. As described earlier, one of the weaknesses of mentoring is that mentoring seems to be simply a "chit-chat" room for the mentors and students. That is why students suggest and expect that the mentoring program and the mentors can provide them with a "check-list" to guide, monitor, and track the students' entrepreneurial/business progress. Students also demand that mentors prepare and bring up the discussion materials. At the same time, they want to join and "listen" to the mentors (just like in the lecture session), with less preparation (i.e., reading) before coming to the mentoring.

> *Here in MBA SBM ITB, the practical part is still lacking, in my opinion.*
> *The propounded mentoring session still can actually be obtained*

from outside the school. I mean, the education system must be changed. […]. In my opinion, the lecturers must be real entrepreneurial practitioners, so they do not only give us class materials but also pass insightful remarks to us on how our business should progress for the whole semester. They should be the ones who can guide us on making our business continuously progressive (Iqbal – EE Student, Int).

An important point, as I mentioned earlier, is the business tracking. Every week, each student – one by one – should be asked about his or her business progress, what things the student has achieved and what he/she has not. This motivation came from the fact that my friends and I feel we have not achieved something big so far and were left as we are over time. […]. Maybe it is better if there is a progress tracking list or some of that sort in which we could have individual discussions concerning our progress, in written for instance (Vida – EE Student, Int).

Another challenge is that the mentoring group is limited only to a small number of students for each mentoring group. Some students would like and expect to go "freely" from one mentoring group to another, yet this is not possible due to the mentors' number, schedule, and availability. They wished to have a dedicated mentor for a few students in one group who can closely guide and monitor students' businesses. Students also asked for more "entrepreneurial" lecturers, who are also actual entrepreneurs, to be their home-class lecturers.

The mentoring, as of the moment, is not yet effective. There are currently not so many mentors who align with us in terms of the business lines or thinking framework. I had a business mentor last semester; his name is Mr. Budi Raharjo – who has a similar business line with me. We have the same thinking framework, but this semester is difficult for me because he is only available on Wednesday. On that day, I have a full lecture time all day. Consequently, I have to switch to another mentor (Anne – EE Student, Int).

Perhaps it could be much better if every student could have an assigned mentor, who could keep the track of his/her business. This is more important, I think, rather than consulting random business experts who do not know us, do not know our business, its progress, its real problems, etc. In such a case, there is no close relationship, no intimacy, and most likely, they are just here for the sake of 'we

> *ask questions', not of being our business mentors and knowing how exactly our business progresses (Vida – EE Student, Int).*

Moreover, students mostly asked for a balance between theoretical and practical activities during lectures. Nevertheless, they actually prefer more practical than theoretical activities, such as creating company logos and company visits, as those are some activities that students can relate to their own business/entrepreneurial endeavors. By having that, students expect that they will be able to apply and implement the knowledge and insights from the class immediately in their businesses.

> *The (EE) class is pretty interesting for me. I got many insights on some product designs and different kinds of previous design in production. Notwithstanding, there are many theories involved in it, so sometimes, the class feels a bit boring. I prefer to combine between theoretical and practical elements during the lecture time (Ilman – EE Student, Int).*

Students also enjoyed lecturers who have a big passion for teaching, quite a firm tone to make them pay attention, and are energetic in creating practical activities during the lecture time. It is because they prefer less theoretical lectures and ask "livelier" and more actual "doing" something during class hours.

> *The students' favorite lecturer must be someone who is passionate about business, right? Not lecturers like Dr. Dwi. When he comes to the class, he will look sleepy and like to quickly end the session. Nazmi is the type who will be surprised that it is already the time to end class. Time goes by fast with him, even though I already know the materials given. With his shared energy, I always like to speak out, also because I already know the answers to his questions. Even though I knew certain stuffs already, with him I did not mind reviewing them again (Iqbal – EE Student, Int).*

> *I give my respect to Prof. Imam as an Emeritus Professor and an expert in the design field. I also respect his role to have served in Indonesia's education since a long time ago. However, it could also be more interesting to have younger lecturers teaching us. For me, I do not care about who is teaching, but do more about the knowledge he brings, of course, as long as the method and the style are interactive, active, and open – I do not always need a professor to teach me (Ilman – DT Student, Int).*

Besides expecting the teaching materials to align with students' entrepreneurial journey, students also wanted the teaching contents to be more toward growing small-middle businesses in creative and cultural industries instead of corporate businesses. Students wished to have more variations of mentors and provide more guest lectures from multidisciplinary education backgrounds and business industries.

> *The materials should be different from those in corporate business management. It is just not fair to compare our business and big corporates; it is not "apple to apple". We need more cases and samples of small businesses, retails, cafés, to have proper comparisons. Taking big corporates as examples may fit for the material at the final semester (Iqbal – EE Student, Int).*

> *I was actually more interested in the Eiger factory during these last two weeks when its representative was invited as a guest lecturer for the class. But it is outside the design thinking context (Ilman – DT Student, Int).*

> *I loved it (guest lecture), because I can fully understand the things that were explained. As a practitioner, he articulated things really well. He really knows what he is telling. The lecture contained a lot of new things. The explanation for branding, for example, which is only a part of marketing, was elaborated (Anne – EE Student, Int).*

> *The last guest lecture held by Mr. Budi Rahardjo is interesting for me. I would say that we could invite more guest lecturers from different business fields – according to students' business, to vary the lecture's contents. Maybe it is also better to hold guest lectures starting from the early week of the semester for us to be exposed from the experiences of business practitioners since early weeks. We could then hear and gain some insights not only from the mentors who have the same business like us, but also from different businesspersons (Adit – EE Student, Int).*

Another suggestion is that the students' assessment needs to be improved and more innovative, not only through a reflective report of the mentoring logbook, graded by the mentors. The assessment shall include abstract (soft skills and networking, commitment, interaction in mentoring) as the key/valuable component and non-abstract performance indices (financial improvement, sales, and social media followers.). Weekly assignments in the form of essay or short report, business

pitching presentation and maybe report too, mentoring logbook, and active interaction in the class (perhaps including presence or class attendance in the class and how they are being active and proactive with class discussions) also came to the discussion. As far as the evaluation is concerned, it may attempt to be flexible, as it shall mainly consider effects, not goals. Additionally, the content of weekly assignments may include:

- Motivation board essay as the core of EE course: to prepare business and reflection. This also serves as a self-reminder for students.

- The mentoring logbook documents of how students interact and reflect during and after mentoring.

- A state-of-the-art internal pitch deck for students to configure problems and address solutions.

- Peer assessment or evaluation form for them to self-evaluate their peers and classmates, especially when they do group-work presentations.

> *We use motivation board to get them together-, as the core of business initiation for students to prepare a business and launch it in the end of semester. The first session is to introduce the details of the course, the team, approaches and also letting the students to understand themselves. We use motivation board to get them together as the core of business initiation for students to prepare a business and launch it in the end of the semester. The first session is to introduce the details of the course, the team, the approaches and to let the students understand themselves. So sometimes they do assignment just because they have to (Mr. Sonny – EE Lecturer, Int.)*

> *I also saw that most students did not pay attention when their classmate was presenting. It may be better if there was a peer-review in the sense when one student present ideas, the others pay attention and do some assessment) (DT observation/Fields Notes Week 9).*

In conclusion, what the students wanted is, overall, they expect the EE/DT class/program and the mentoring will enable them to start preparing, launching, managing, or even growing their businesses/entrepreneurial endeavors. Therefore, they mostly prefer practical knowledge and activities that can direct them to

implement the insights from the class and mentoring immediately to their businesses. However, their most challenging issues are time management (punctuality), lack of reading, and passive learning.

The following are the extensive discussions of the above-presented results and their theoretical connections in the existing literature.

3.5 Discussion of the Results

This case study was created to answer the second research question of this thesis,
i.e., is there a potential for design thinking to be adapted cross-culturally for
entrepreneurship education in higher education in Indonesia? – if it is examined from
a theoretical and contextual perspective (case study). The objective was to find out
the following:

- Cultural differences in the teaching of entrepreneurship education and design
  thinking; and
- Components on the side of individuals (lecturers and students) and
  environment may or may not contribute to the cross-cultural adaptation
  process of entrepreneurial design thinking as a teaching method known from
  the West in Indonesian higher education for entrepreneurship.

The preceding section has identified five main themes related to the case as
mentioned earlier study objectives. The results of the novel insights on cultural
differences, contributing elements (potentials and challenges), and practical
recommendations for cross-cultural adaptation will be thoroughly discussed. Those
differences, possibilities, and challenges consist of the country's circumstances,
bureaucracy, university/HEIs factors (section 3.5.1.1), the educators' factors (section
3.5.1.2), and the students' factors (3.5.1.3).

3.5.1 The Country's Circumstances, Bureaucracy, and University/HEI factors

This study found several of Indonesia's circumstantial entrepreneurial opportunities
concerning the teachings of entrepreneurship education and design thinking. They
are:

- the wide and open culture of Indonesians;
- the richness of the country's natural resources and the people's creative and
  cultural business ideas;

- the large portion of the young people population in the country creates a
  potential demographic bonus in the future; and

- the significant increase in public entrepreneurial awareness.

The latter particularly leads to more startup companies' creations, more business incubation centers and entrepreneurship ecosystems at the university level, and more eagerness to buy local and national brands (products and services) from the country's entrepreneurs.

Accordingly, there are several connections between those aforementioned potentials and the earlier literature. For instance, Krueger (2005) has noted that the environment significantly influences people's entrepreneurial process. Commercial opportunities (inside the nation), role models (more local and national entrepreneurs), early creativity (more locally sourced creative and cultural goods and services on the market), and government policies are some of these aspects. Additionally, factors about the person's environment, such as economic prospects, might directly impact entrepreneurial movements (Liñán et al., 2011). Businesses created in highly developed and less developed countries have markedly different qualitative characteristics, with the former's greater economic potential drawing most individuals. Contrarily, most of those in the latter are motivated by economic necessity (Bosma et al., 2009).

Entrepreneurship is typically understood in Indonesia to involve starting new enterprises or running for-profit businesses to capitalize on market opportunities (see the results section 3.4.6.3.2). This viewpoint is relevant since numerous studies have characterized that the meanings of entrepreneurship is commonly defined as a novel undertaking (Lumpkin & Dess, 1996), involving the establishment of fresh ventures (Low & Macmillan, 1988), and the formation of innovative organizations (Gartner, 1988). Some argue that initiating and managing a business with a financial motive is worthwhile (Cole, 1949), seizing the chance to influence the market by

combining unique resources (Wiklund, 1998), even though the "wide-minded" definition of entrepreneurship goes beyond solely economic worth.

The country also has abundant natural and people resources to produce creative, innovative, and cultural products and services. In particular, with the significantly growing number of young generations, Indonesia has a huge potential to boost the national economy and its global competitiveness through entrepreneurship since the country is still struggling, even in the ASEAN community. According to Nababan (2019), among the 144 countries in the world, including the nine ASEAN Economic Community members, Malaysia ranked 20th, Thailand 31st, then Indonesia 34th in the 2014–2015 Global Competitive Index. Regarding competitiveness in the 2015 World Economic Forum, Indonesia was still ranked 50th, then improved to 38th globally over the previous two years (Nababan, 2019). Nationally, there is much potential for small and medium companies (SMEs) – as it employs 97% of the national workforce – and cooperatives as certain entrepreneurial activities (Rismayani et al., 2021). The institutional cooperative is an SME in Indonesia that emphasizes family values and comprises people or legal organizations. They represent the people's economic activity as a corporate entity and are accountable for the general public's well-being. The presence of cooperatives supports them in creating a strong, independent foundation for the national economy (Crouch & Ritchie, 1999; Man et al., 2002), although most SMEs are owned by people motivated by necessity rather than an opportunity (Larso & Saphiranti, 2016).

In addition to its opportunities, Indonesia undoubtedly encounters difficulties. Starting an enterprise is the only thing considered entrepreneurial in Indonesia. Much research has been conducted to support that "narrow-minded" definition (e.g., Bechard & Toulouse, 1998; Jones & English, 2004; Vesper & McMullan, 1988). However, the more recent generation of entrepreneurship studies has made an effort to define the term more broadly (e.g., Davidsson, 2003; Gartner, 2001; Shane & Venkataraman, 2000; Sharma & Chrisman, 1999). To put it another way, starting a firm does not necessarily need starting a new organization (Gartner, 1990; Shane &

Venkataraman, 2000). The phrase can also refer to developing entrepreneurial
people, an entrepreneurial ecosystem, and an environment that supports
entrepreneurship (Bruyat & Julien, 2001; Shane, 2003). Therefore, the worries of
Indonesian educators in the previous interview (see result's section 3.4.6.3.2) that
Indonesian people mainly still see entrepreneurship as running businesses or even
just "selling" products and services may lead to overuse and misperception of the
term, especially in the context of higher education teaching and learning.

Following the above concern, there are many ontological interpretations of what
entrepreneurship education is and how it should be characterized, leading to
different educational perceptions. Three entrepreneurship course objectives were
identified (Heinonen & Poikkijoki, 2006). They are studying entrepreneurship,
practicing entrepreneurship, and beginning their businesses. Similarly, Fayolle and
Gailly (2008) identified three key stages in the entrepreneurship learning process.
The phases encompassed in this framework are as follows: The initial stage involves
the acquisition of the necessary attributes to embody an entrepreneurial individual,
necessitating a transformation in one's mindset, awareness, and inclination toward
entrepreneurship. The subsequent stage entails cultivating entrepreneurial
competencies, encompassing acquiring and refining knowledge and skills, with a
particular emphasis on the actual and skilled aspects. Lastly, the final stage centers
around developing scholarly proficiency, primarily focusing on engaging in research
endeavors. Mwasalwiba (2010) identifies three distinct forms of entrepreneurial
education: education about, for, and through entrepreneurship. The primary
aspiration of education is to enhance comprehension regarding the essence of
entrepreneurship and its societal advantages and foster the development of
entrepreneurial skills and equip students with the necessary resources to initiate
their enterprises. Entrepreneurship education aims to boost people's levels of
invention, mold them into agents of social change, and give them the skills and
knowledge to take on more responsibility in their jobs (Farashah, 2013).

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The above situation of Indonesia's entrepreneurship higher education is similar to the teaching of design thinking in the country. The results (see section 3.4.6.4.1) shows that the School of Business Management Bandung Institute of Technology (SBM ITB) in Indonesia is likely the first Indonesian university where design thinking is taught as an entire business course. Mostly in big cities, design thinking may only be offered as informal workshops and seminars for preferable professionals and corporate specialists. Herawan (2019), for instance, mentions that since 2016, a few non-governmental groups and foundations have provided online workshops on design thinking to the general public and corporations. The Indonesian Ministry of Research's Technology-Based Startup Company Program (PPBT) is another instance. To help the fostered companies build product development strategies, the ministry just began in 2018 to incorporate Design Thinking and Business Model Canvas into the primary materials for business and entrepreneurship training (PPBT Business Camp) for more than 50 business incubators across Indonesia. As added by the lecturer in the interview (see section 3.4.6.4.1), design thinking was formally assigned in the national higher education system and curriculum when the SBM ITB took the legal steps through long internal and external discussions and sophisticated bureaucratic procedures. This circumstance is in line with the existing studies mentioned that few Indonesian universities officially offer design thinking courses, especially within the HEI's business/management curriculum (e.g., Antonio, 2012; Larso et al., 2012). Some prominent examples are SBM ITB and University Ciputra (Amalia & von Korflesch, 2020). Other Indonesian HEIs must be more open and ready to embrace the new way of thinking and teaching design thinking.

Another challenge is that teacher-centered instruction is frequently used in Indonesian national school systems, permeating Indonesian educational culture (Azra, 2002; Bjork, 2005; Buchori, 2001). Studies mention that this kind of instruction gives little room for students to express themselves creatively (Kohl, 1994; Shor, 1992; Wolk & Peake, 1998). Teacher-centered class instruction is criticized as undemocratic since it ignores student participation in the classroom and does not consider their learning dynamics (Wolk & Peake, 1998). Along with teacher-centered instruction,

repetition learning is common in Indonesian classrooms (Bjork, 2005). Many educators still argue that the method cannot be abandoned in the Indonesian context since it is believed to aid students in memorizing material (Zulfikar, 2009). However, when repetitive learning is used excessively, student-centered learning tactics like critically examining course material receive less attention. Despite opposition and efforts to outlaw overly repetitious learning in Indonesian schools (Azra, 2002), these methods are nevertheless frequently employed.

Additionally, as stated in the current Indonesian national education law no. 20/2003 (also known as the Indonesian Database Law, 2003), a knowledge dichotomy still exists, particularly in the country's school and higher education systems. Only three knowledge areas — pure science, social science, and language — are used to "categorize" students. Although there are other sorts (such as religious and vocational knowledge or schools), these three divisions effectively differentiate students. That is further because a centralized government has ruled the nation for over 30 years (Supriatna, 1993). Due to the historical and political regime, Indonesia's education system was not created to be segregated or decentralized. This circumstance meant the head minister decided on the national education system "centrally," which means the general system is still largely top-down and centralized. The central government recruits school personnel (Gardiner, 2000). Recruitment and employment of educators (teachers, lecturers) for government organizations, such as the Ministry of National Education (MONE) and the Ministry of Religious Affairs (MORA), is the responsibility of the so-called *pegawai negeri* (government employees) organizations (Zulfikar, 2009). Teachers are called *pegawai negeri*, and their professional conditions are governed by the government's regulations (Gardiner, 2000). For instance, educators must uphold the teacher's code of conduct, the national standards for school discipline, and the seven vows of the Republic of Indonesia's employee corps (Zulfikar, 2009). The above situation is related to this study's findings. Even though things are now not the same as in past decades, those 'complexities' of rigid and less accommodating educational bureaucracy seem to persist (see the result's section 3.4.6.4.1).

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The reasons behind the long history of teacher-centered classroom practices and the repeating learning model in Indonesian schools are also discussed in Bjork's (2005) book. He argues that most instructional strategies employed in Indonesian schools are created to adhere to the corporate values upheld by the teaching profession. This case demonstrates how teachers in Indonesian schools rely on institutional policies (issued by government agencies like the Ministry of National Education and the Ministry of Religious Affairs) and traditions to uphold standards and procedures. Teachers must alter their classroom methodology in light of these schools' cultures. Government employees value loyalty and devotion more highly than academic ability and intelligence. This approach demonstrates that top-down authority control over education in Indonesia still exists. Therefore, evaluating teachers' classroom practices is less crucial than gauging their ability to transfer knowledge following the curricula. This institutional culture prevents educators from examining their educational pedagogy because teacher-centered classroom practices are still prevalent in the nation's school system (Zulfikar, 2009).

Lastly, Indonesia is a collectivist society with an agricultural history and geography, much like other traditional Eastern/Asian nations (Hofstede & Hofstede, 2001). According to Inglehart (1997), culture is the body of fundamentally similar ideals that shape individuals' behavior. As per Hofstede et al.'s (2005) assertion, culture also comprises the thoughts, feelings, and behaviors that people with the same social environment acquire and share. They further define it as the cumulative cognitive conditioning that differentiates a social category from another. Indonesians still follow the old family values of putting the group's needs ahead of the individuals. People generally are courteous, whereas Western individualism is seen as odd and heartless. It is uncommon for criticism to be presented directly, and it is more common for it to support one's views rather than seek to insult people. They also prefer to answer rather than appear at a loss for words.

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Teachers and students in Indonesia typically interact very little because of their disparate social positions and cultural perspectives on education (Novera, 2004). All of their superiors, including teachers, must be obeyed by the students since they are thought to have moral authority. Teachers are considered sources of knowledge, while pupils are given more or fewer facts to learn and must retain them for exams (Lewis, 2006). Teachers often speak more than pupils in a typical secondary school classroom. Students are warned by their teachers to pay attention, obey instructions, and memorize. Even when given a chance, students in Indonesian schools are reluctant to question their teachers since they are discouraged from doing so. According to Lewis (2006), asking a question is viewed as challenging the instructor's authority, exhibiting conceit or ignorance, and putting oneself in danger of criticism or dishonor (loss of social face). This situation could have long-term negative repercussions. For example, when they attend higher school (university level), where they will be expected to think and argue critically, the above circumstance could provide a significant challenge for these kids, as the program coordinator also highlighted in the interview (see section 3.4.6.4.2).

Those cultural practices and circumstances may impact how the learning environment functions. In such a sensitive context, imposing a Western mode of learning, or part of it, without proper adaptation can involve cultural impertinence. Given how the Indonesian educational system operates, bringing Western concepts might need to be adapted (Meyer & Kiley, 1998). We found in this case study that when introducing new teaching methodology across different cultural contexts, educators in the interview said that "it all depends on who brings, inspires, and influences it, and on what and which environment it is intended for" (see the results section 3.4.6.4.1), especially, from the Western perspective to the Eastern one (e.g., design thinking). They question whether it is the 'best-fit' educational strategy for any nation or culture because the circumstances and social values are different and cannot be guaranteed to be implemented immediately. Its implementation, especially in higher education institutions with different cultural contexts from the West, can also be more complex.

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The following is the discussion of the educators' factors as the contextual and cultural
potentials and challenges in Indonesian entrepreneurship higher education.

3.5.2 Educators' factors

Three types of educators are employed in the SBM ITB for its entrepreneurship
education study program, i.e., academic lecturers, entrepreneurial/business mentors,
and 'versatile' lecturers. The latter is known as both academic and practically
entrepreneurial lecturers. This finding relates to the literature concerning "who is
teaching" and "teaching method" of entrepreneurship education.

In line with the above finding, there are three main points of view in the literature on
persons who teach entrepreneurship or teacher entrepreneurship (Keyhani & Kim,
2021). The term "teacher entrepreneurs" was used to describe people who assisted
their students in discovering and honing their entrepreneurial skills. Some academics,
including Heinonen and Poikkijoki (2006), contend that teachers must also be
entrepreneurs to an entrepreneurial attitude among their pupils. The teacher's
actions and attitude ensured that there was still a strong emphasis on the
competencies imparted to the students. In the case of SBM ITB, this type of teacher
is likely named a 'versatile' lecturer (see the result's section 3.4.6.1 and 3.4.6.4.3,
respectively).

The second viewpoint concentrated on teacher entrepreneurs more traditionally by
merely linking their position to a certain form of business expansion or commercial
entrepreneurship (Keyhani & Kim, 2021). For instance, rural Chinese educators who
had launched a side business, such as a bed and breakfast, to enhance their income
(Wu, 2018). Meanwhile, the third group classified teacher entrepreneurs as currently
employed educators who directly use their entrepreneurial knowledge in the context
of their classrooms or the educational system as a whole (Keyhani & Kim, 2021). This

particular type of teacher may be similar to normal academic lecturers in the SBM ITB
case.

Next, mentoring and mentoring is one of the most noticeable findings in this case
study. As a country, its entrepreneurship education development is still infancy. The
course material and instructional methods often focus on imparting knowledge about
entrepreneurship. The most prevalent instructional content and methodologies in
academic settings encompass a range of courses, including fundamental and cutting-
edge competencies in management, composing business plans and analysis,
marketing strategies, financial principles, and academic entrepreneurship. These
courses are typically delivered through traditional lecture formats, interactive group
discussions, case study analyses, business plan composition exercises, competitive
events, and the inclusion of guest lecturers, respectively (Amalia & von Korflesch,
2021a). Similarly, the finding for this thesis also implies that conventional lectures
and management courses remain, even though the SBM ITB diversifies the teaching
content toward more 'techno-prenership' or business startup content (see the
result's section 3.4.6.4.3).

Even though Indonesia still needs to balance (or decentralize) the provision of
entrepreneurship education programs (classes and courses) across the country,
several higher education institutions have begun incorporating one of the latest
creative pedagogical "education through entrepreneurship" approaches in response
to the growing demand for entrepreneurial education programs, i.e., mentoring
(Amalia & von Korflesch, 2021a). "Through" entrepreneurship is an experiential-
based approach where students learn about entrepreneurship in "safer" situations
(Fayolle et al., 2005). That is why this 'method of mentoring' (with entrepreneurial
and student mentors) is distinctively unique. The approach provides a larger
understanding of can be seamlessly integrated into various academic courses,
allowing for the incorporation of entrepreneurial qualities and procedures, and
activities into the underlying subject. This approach emphasizes "learning-by-doing"

(Pittaway & Cope, 2007b), thus, as if students could work in real companies or
consultancies.

Accordingly, peer mentoring and mentorship are cited as components of
entrepreneurial teaching and learning in many studies (see Lefebvre & Redien-Collot,
2013; St-Jean & Audet, 2009). Through interactions with business mentors,
individuals can learn certain entrepreneurial skills (St-Jean & Audet, 2009) and, over
time, cultivate an entrepreneurial uniqueness (Rigg & O'Dwyer, 2012). This coaching
is typical of working with and learning from seasoned business owners or
entrepreneurs. Conversely, peer mentoring establishes a connection between
individuals who serve as mentors and mentees, sharing identical demographic and
academic backgrounds, by offering practical and expert assistance and emotional and
mental assistance for the participants involved (Terrion & Leonard, 2007).
Additionally, most of the literature on entrepreneurial mentorship strongly
emphasizes the particular roles of the entrepreneurial mentors affect the learners.
The debate is on whether mentors should play a directive or non-directive role in
promoting the growth of their mentees (Crasborn et al., 2011).

The availability of flexible lecturers and business mentors enhances the value of
academic courses, particularly in the case of SBM ITB. Numerous recent studies have
called for the design of more entrepreneurship education programs that are more in
line with the current economic industry in order to validate what is taught in the
classroom and what is effective in actual entrepreneurial/business practices
(Gimmon, 2014; Hall et al., 2013; Jackson, 2009; Kuckertz, 2013). This pattern has also
been acknowledged in the Western tradition. For instance, it is typical practice in
many British Business Schools to have seasoned business professionals and
entrepreneurs serve as mentors and coaches for students studying entrepreneurship
(e.g., Botham & Mason, 2007).

The importance and significance of mentoring in the entrepreneurship education
program carried on by SBM ITB are highly acknowledged. In the findings (section

3.4.6.2), this case study has shown that the mentors play more of a role of "students' entrepreneurial friends" to share real-time business experiences, feedback, and insights into students' entrepreneurial progress. The role can even go further as a "financial angel" to open up new financing doors through the mentors' business networks or the mentors themselves, who become the students' business investors. In the literature, these roles are frequently documented (e.g., Chertavian, 2012; Ibrahim & Soufani, 2002). Mentors can play various roles at different times to assist their mentees in succeeding, including supervisors, figures of influence, instructors, trainers, advisers counselors, and even companions (Kent et al., 2003). Students can participate in a profound external learning process through entrepreneurial education programs that include hands-on experience based on interaction with the surroundings of real businesses. The value of the practical experience might be greater when students have autonomy (Cooper et al., 2004). In particular, proposed using student-driven education, wherein students actively engage in a more comprehensive learning experience compared to the traditional passive classroom setting. The pupils possess a significant degree of autonomy regarding when, where, and how they learn because of their method. Through student-centered learning, transferable skills can be created in any working situation (Gimmon, 2014).

Furthermore, training entrepreneurial talent in a classroom can no longer possible if the institution has traditional academic professors (Baumol & Blinder, 2015). Today's students need engaging lectures and business role models who can show them how to be entrepreneurs in the real world. Such teaching teams could be added to the university curriculum while keeping their originality, adaptability, and imaginative character with useful theories and methodologies (Smith et al., 2006).

Even with this type of contemporary teaching method, 'mentoring,' also comes with some challenges that SBM ITB faces (see in the result section 3.4.6.2). The first is each mentoring session, lasting up to 5 hours, even though Indonesian students and mentors consider it a 'normal' duration. The mentoring format is primarily question-and-answer, or sometimes it can be similar to the conventional lectures in class.

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Based on the researcher's observation, lecturers and mentors prefer a more 'spontaneous' teaching and mentoring environment – without much preparation and organization. As one of the entrepreneurship lecturers mentioned in the interview, "the tendency is that there are many people, whether it is a lecturer or a mentor, they like to hear themselves talking" (see the results section 3.4.6.1). As such, the educators often cannot manage the lecture's time, especially in delivering and explaining the teaching materials and having well-engaged discussions with the students during the lesson. Ideally, there should be a pre-defined plan for teaching, but the real practice is frequently less organized. For example, the sudden changes in regular classes/lectures, guest lectures, or mentoring schedules seem relatively common (often to be done) in the SBM ITB's case (see section 3.4.6.4.3).

In this case, similar issues with teaching "punctuality" and time management problem were discovered by Muazza et al. (2019) in the Indonesian school system. Teachers' and students' punctuality at the start and finish of the session was one of the notable discoveries when they looked at classroom management using the most recent 2013 Indonesian school curriculum system. Certain lecturers address punctuality in class. However, many people concurred that arriving late to class because of personal issues has contributed to a cultural attitude that being on time is not the most important thing to accomplish. In their study, the time management problem is not just about teachers arriving late to the classroom but also about spending too much time using technology throughout the lecture (Muazza et al., 2019). They concluded that both teacher and student discipline are issues with classroom management. In this case, punctuality is a crucial factor. Not only do students arrive late, but teachers also need to show up on time for class.

Time management and organization are essential in either offline or online teaching and learning. According to numerous studies, time management and punctuality were connected with more engaging engagement during the session, which may increase students' learning effectiveness and satisfaction. For instance, when Song et al. (2004) looked into characteristics that affected the effectiveness of online learning,

they discovered that time management as a self-regulatory factor was essential to learning success. Eom et al. (2006) further used a survey to find that a well-managed lesson time and engaging interaction were important for student satisfaction. Even though the technical issues challenged learners during the courses, Song and partners also stated that time management (62%) and descriptive statistics (75%) impacted learning achievement the most. Another study by Naaj et al. (2012) revealed that various factors, including technology, time management, and relationships between students and teachers, influenced learner satisfaction in blended (online and offline) learning.

The other finding, possibly related to the mentoring's challenge, is what students perceive and expect from the mentoring. As presented in the findings (section 3.4.6.3.2), students mostly perceive mentoring more toward business or entrepreneurial coaching, in which they expect the mentors "guide" them through their business ups and downs and "monitor" their plans, issues, and progress thoroughly. Students further expect that the school (i.e., the EE study program or university) provide them with one dedicated mentor with the same business line as the students' business types/industries and is passionate about "teaching" them real business practices. However, these perceptions and expectations may not be fully matched with the current school's capability, where finding 'good quality' mentors with the proper knowledge and education, relevant 'coaching' skills, and wide networking for many types of students' business lines is strenuous.

Numerous studies published in the literature closely connect to the above concern. For instance, according to Ibrahim and Soufani (2002) and Kent et al. (2003), entrepreneurial mentoring can provide advantages but can potentially be detrimental. Mentoring programs, where mentors gave advice and support to aspiring entrepreneurs, improved entrepreneurial traits. Entrepreneurial mentoring is more extensive than mentoring in other contexts since it may include hands-on assistance comparable to coaching or advising (Gravells, 2006), as it provides students with mentorship experience in real-world entrepreneurship (Gimmon,

2014). However, depending on the mentorship situation, giving entrepreneurs specific advice might be beneficial or damaging. This drawback can be mitigated if the entrepreneurs being mentored have several mentors.

Nevertheless, business mentoring practices in the current period are no longer based on a single, hierarchical apprenticeship model, even though the fundamental components and aspects of mentoring continue to be significant (Carr et al., 2003). Given the new realities of our knowledge-based economy, people must consult various sources for career advice (Kreitner & Kinicki, 2004). In today's world, more than one mentor is needed to meet the mentees' technical and human needs. A new mentoring paradigm that prioritizes diversified and reciprocal mentoring connections is necessary in light of the rapid technological improvements, specialization and innovation, and dynamic organizational transformation.

As a result, the new mentoring paradigm may involve several mentoring relationships, sometimes called constellations (Luna & Cullen, 1995) or composites of supportive partnerships (Carr et al., 2003). The concept of multiple mentoring encourages people to look to various mentors for guidance. In essence, a group of people rather than one individual completes the tasks associated with mentoring. Chesler and Chesler (2002) say that the potential of "distributed mentorship" includes

- more experienced and less experienced colleagues,
- people inside and outside the academy/institution,
- technical media, and
- human interactions as mentors in an academic setting.

When there are several mentorships, reciprocity takes the role of hierarchy (Darwin, 2000; Gunn, 1995; Murray, 2002). Younger folks are now more educated, digitally savvy, and open to innovation than previous generations. As a result, mentoring has transformed into a partnership-based process where participants share information and skills and flexibly switch between the roles of mentor and mentee based on the perspectives, they each bring to the partnership (Zellers et al., 2008). Therefore,

students need to be more aware of and understand how distributed mentoring can better meet their needs and wants regarding entrepreneurship. Through conversation (online or offline) with numerous diverse business mentors, this technique also improves individuals' business horizons.

In conclusion, there are several opportunities and challenges within the educators' factors. The major opportunities are the educators' diverse backgrounds, expertise, and mentoring teaching method and program. In contrast, the most highlighted challenges are punctuality and time management in teaching and mentoring. These findings are valuable to be considered to cross-culturally adapt the Western entrepreneurial teaching methodology 'design thinking' to the Eastern countries, in this case: Indonesia. The potential can support the adaptation process, while the challenge may hinder its effectiveness. This will further be discussed in the recommendation part, section 3.6.2. The following is the discussion of the students' factors as the contextual and cultural potentials and challenges in Indonesian entrepreneurship higher education.

3.5.3 Students' factors

The students' factors will be explained in more detail in this sub-section. This factor is divided into three discussions, i.e., students' diversity (section 3.5.1.3.1), their learning perception (section 3.5.1.3.2), and their learning behavior (section 3.5.1.3.3).

3.5.3.1 The diversity

From the country's perspective, Indonesians are incredibly heterogeneous despite being homogeneous. Indonesia has 255 million people living on over 17,000 islands and has many different local cultures. It is extremely diversified, with each region and province having distinctive traits and qualities, such as a unique language, cuisine, population, conventions, and values. This quality is paramount to be addressed in teaching and education.

Because learners are crucial participants in all learning processes, their backgrounds and personality traits may impact how well they can learn and participate in the learning process (Kintu et al., 2017). As presented in the result (section 3.4.6.3.3), even within the case of SBM ITB, the way students behave in their learning varies. The variation is according to their original, educational, and financial background; what study program they enroll in; and their current and ongoing business endeavors. For instance, students from big cities tend to have higher-income families, wider networking, and more access to knowledge and information than students from rural and small cities/areas. So, they are more confident to speak up, argue, and opine during and outside the lecture and mentoring session. Recent research looked into the relationship between students' academic achievement and the characteristic known as "the struggle to survive" (e.g., Goren & Yemini, 2016, 2017; Lee et al., 2006). Students who struggled to meet their basic requirements – due to their financial and geographical background – would probably have less interest in becoming more aware of global challenges than students from 'well-off' families.

Th results are similar with Dale and Miller (1972) comparison of the impact of an urban versus rural upbringing on academic performance. They discovered that urban arts students from single-sex schools performed higher than their rural counterparts. At the first-year level, city students performed better overall, but students from medium-sized towns performed worse than city or rural students. However, Goren and Yemini (2017) went on to caution that instructors sometimes overestimate those so-called "privileged pupils" (those who come from larger cities and environments with more resources) since they can be overly preoccupied with their immediate surroundings. As a result, they may need help comprehending issues like global poverty, hunger, or climate change.

According to the lecturers' respondents, bachelor-degree students are considered less diverse than master-degree students (see section 3.4.6.3.1). The situation is common because the former are majorly high-school graduates who need work experience. At the same time, the latter is certainly university graduates whom they

may have worked (internships or even used to be full-time employees) sometimes
before enrolling in an entrepreneurship graduate program. Correspondingly, these
students' backgrounds relate to their current work in their entrepreneurial/business
activities. Some students had started their businesses even before enrolling in the
entrepreneurship education program, and others were still in the planning stage
when they enrolled.

Concerning the above finding, existing literature on entrepreneurship education and
its resultant effects has traditionally focused on how it affects students' perspectives
on entrepreneurship, enthusiasm, and aspirations for founding innovative businesses
(e.g., Athayde, 2009; Dreisler & Nielsen, 2003; Fayolle, 2005; Hytti et al., 2010;
Klapper, 2004; Peterman & Kennedy, 2003; Pittaway & Cope, 2007a). However, in the
case of SBM ITB Indonesia, the situation is the opposite. Students' initial perception
of a positive perspective toward entrepreneurship influences their enrollment in
entrepreneurship education in HEIs. One plausible rationale is that entrepreneurship
has cultural circumstances and boundaries like any other socioeconomic activity.

As explained earlier, every country's national and cultural situation is different. For
instance, Iranian students view entrepreneurship education as something other than
a study program with a profitable prospectus (Farashah, 2013). This condition may
be caused by Iran's lower perception of entrepreneurial opportunity than other
economies. The observed phenomenon can also be attributed to Iran's policies and
economic practices that promote leasing behavior, prioritize official and quasi-state
firms with strong connections, and discourage the involvement and investment of
independent people and organizations (Bjorvatn & Selvik, 2008). Iranian students
understand that actualizing entrepreneurial opportunities cannot be improved by
teaching standard methodologies and cognitive talents for opportunity detection
(Farashah, 2013). In contrast, as was already indicated, the data from Indonesia's
Minister of SMEs in 2018 revealed that small and medium-sized firms employ over
90% of the country's workforce (Rismayani et al., 2021). That staggering amount may
indicate that Indonesians are still encouraged and persuaded to engage in

entrepreneurial endeavors to avoid unemployment and improve their living and purchasing power, even though their perception of entrepreneurship is mainly 'selling' activity, as also found in the result (see section 3.4.6.3.2).

Nevertheless, the current students' diversity and entrepreneurial motivation in the case of SBM ITB is a good sign that this particular entrepreneurship education program in Indonesia has attempted to create a heterogenous environment for multi-various students to learn, respect, and cooperate, and hopefully to impact positively for the better. As a result, many studies have examined its definition and components (Haddad et al., 2021). For Prasad (2006), diversity encompasses acknowledging and valuing distinctions in gender, color, ethnicity, lifestyle, physical attributes, language proficiency, and decision-making approaches. Consequently, Ernst and Young's (2010) delineation of diversity encompasses several factors such as personal expertise, demographics, competences, competencies, academic achievement, and personality types. As defined by Harvey and Allard (2015), diversity encompasses the various individual distinctions that impact the degree of inclusivity, enthusiasm, and employment circumstances within an organizational setting. The examination of age, job profiles, and gender is a subset of diversity that has been the subject of scholarly investigation within the field of education (Padilla-Angulo et al., 2019). Diversity has been found to be positively correlated with increased levels of achievement (Hansen et al., 2015), enhanced creativity and inventiveness (Amabile, 1996), improved critical thinking abilities and confidence in themselves (Bandura, 2001; Loes et al., 2012), and better thought generation (Paulus, 2000).

The following is a more detailed discussion on students' learning perception behavior.

3.5.3.2 Students' learning perception

As mentioned, students' and lecturers' respondents generally agree that most Indonesian view entrepreneurship as similar to 'selling' activity. This means that entrepreneurship is perceived as having or running businesses for economic and

financial pursuit. This 'selling' perception may not be entirely damaging because of what the researcher observed and understood from the interviews and findings explained previously. Students exposed to real business 'selling' practices in the first place developed their motivation, interest, and decision to be entrepreneurs and enrolled themselves in the entrepreneurship education study program at SBM ITB, particularly the graduate MBA program. However, there can also be some potential drawbacks if this 'selling' perception over the 'wide-ideal' definition of entrepreneurship, and eventually, may lead to misperception toward students' entrepreneurial learning.

According to the Indonesian Minister of Cooperation and SMEs in 2019 (as cited in Digdowiseiso & Sugiyanto's (2021) report), the number of SMEs reached 65.47 million units. Compared to the previous year, when there were 64.19 million units, this figure climbed by 1.98%. This sum represents 99.99% of all Indonesian enterprises. On the other hand, large-scale firms made up only 5,637 units, or 0.01%, of the total (Digdowiseiso & Sugiyanto, 2021). Additionally, the large number of SMEs is due to the low cost of starting an informal and small business in Indonesia, but formalizing and legalizing them might be expensive (Amalia & von Korflesch, 2021a). The situation indicates that small and medium-sized businesses are the nation's most prevalent type of entrepreneurship (Larso & Saphiranti, 2016). Most informal SMEs are found in creative and cultural industries, "selling" informal/cheaper services, food, and beverages (Digdowiseiso, 2020). This reality is in line with the finding of this case study, in which students' primary entrepreneurial endeavors are in that industry category (see the result's section 3.4.6.3.1).

Further, Mirzanti et al. (2015) discovered that the macro, meso (firm), and micro levels characterize Indonesia's entrepreneurship policy. The study concludes that Indonesia's entrepreneurship strategy is focused on creating new entrepreneurs and growing their numbers throughout the nation, although the three categorizations have different plans. For instance, through entrepreneurship education programs and infrastructures (macro level), incentives for start-ups and SMEs (meso level), and

business incubators (micro level). As such, it is sensible that Indonesians (and
students in this case study) still perceive doing or running SMEs as the major type of
entrepreneurship and is strongly backed up by government policies.

In addition to these national-economic conditions, researchers have found that
cultural elements are equally important in creating supporting entrepreneurial
environment (Freytag & Thurik, 2007; Fernández-Serrano et al., 2018; Ruda et al.,
2012). An entrepreneurial culture can be characterized as an unofficial entity
encompassing norms, ideals, and standards of behavior (Baumol, 1996; North, 1990).
A high level of social acceptability and approval of business ownership and operation
is another characteristic of an entrepreneurial culture (Kibler et al., 2014). Due to
different cultural norms and values, entrepreneurial activity varies between nations,
with some cultures having a stronger entrepreneurial relationship than other nations
(Yan & Guan, 2019). Indonesia is categorized as having a high/large power distance,
a high collectivism, a high masculinity, and a low/weak degree of uncertainty
avoidance by Hofstede (1997). It does therefore make sense to comprehend why
SMEs are more prevalent as a type of entrepreneurial activity in the nation. In this
case study, students feel confident enough to start small business ideas (SMEs) with
the support of family and the influence of peers/friends. They aspire to be seen as
'heroes' by creating more job opportunities.

This study further argues that 'narrow-minded' entrepreneurship perception can
limit students' learning behavior only to creating and running businesses (SMEs). So,
students may treat entrepreneurship education as merely "training to create and run
businesses." While as explained previously, entrepreneurship education and learning
go beyond that. However, the discussion about misperception of entrepreneurship
can also occur in Western countries where its national culture differs from Indonesia.
According to Kuckertz et al. (2020), entrepreneurship is essential for innovation, job
creation, and economic growth in Germany. However, the nation's researchers,
policymakers, and residents concur that the main objective is never fully fulfilled (Lee
et al., 2011). The research findings indicate that German individuals' perspectives on

corporate failure are shaped by their misconceptions about the fundamental characteristics of entrepreneurship. The extent of business creation is not just determined by the economic conditions of a country or area (Díez-Martín et al., 2016). Instead, it is influenced by the contextual-social environment where it takes place (Cardon et al., 2011; Kuckertz et al., 2020; Ruda et al., 2012).

The above situation is also similar to design thinking teaching in Indonesian universities and colleges. It can be implied from the findings (section 3.4.6.3.2) the professional world of 'design' and 'designer' themselves are still viewed as 'niched.' There is also some tendency for Indonesian people still view design thinking as a beautification, 'nice' packaging over products and services, and not a problem-solving and thinking or teaching methodology as the recent Western ideas view that. As a result, the notion has yet to be widely known across the country. Its practice is mostly done in corporate seminars and workshops in big Indonesian cities. As mentioned earlier too, there have also been very few Indonesian universities that offer the design thinking course. The current scenario highlights the need for increased awareness and comprehension of design thinking, as well as its potential use and influence on the instructional and educational procedures within Indonesian entrepreneurship at the tertiary level (Amalia & von Korflesch, 2021a).

As such, this circumstance may affect how students view design thinking in the classroom. From the results section, the teaching of design thinking, especially in this Indonesian case study, is quite different and partially implemented. The results section has shown that students did and understood, for example, the process of empathy exercise, brainstorming, prototyping, and presenting their ideas to their classmates (see section 3.4.6.3.2). However, design thinking teaching limits only knowledge sharing and understanding of the design tools that can be used in business, and lecturers let the students apply those basics on their own. Meaning there is no big design thinking project for groups of students, for instance:

- to find the root cause of problems,
- find alternative solutions through design thinking iterative phases, and

- attempt to implement those solutions in real practices, like many other studies done in the Western counterparts (e.g., Glen et al., 2015; Melles et al., 2012; Nielsen & Stovang, 2015).

In contrast, Indonesian students, in this case study, are less willing to do the 'ideal' process/stages of design thinking to experience and learn it as a group-work project. They only want to get additional knowledge from the design thinking class offered by SBM ITB to understand how to prepare or run their ongoing business/entrepreneurial endeavors.

Overall, the student's perception of learning EE/DT is pertinent. In this case study, we found two notable findings, i.e., the 'selling' perception concerning entrepreneurship and entrepreneurship education and the 'niche' perception of design thinking and its teaching at the higher education level. The former can be influenced by both the country's economic and cultural circumstances, so students expect that entrepreneurship education is 'training' for them to set up a business. The feasibility of the latter is attributable to a need for more knowledge and understanding of design thinking as a pedagogical and cognitive approach, as well as its potential advantages for the instruction and acquisition of entrepreneurial skills at higher education institutions nationwide. Thus, as seen in this thesis' case study, its current implementation differs from what the Western HEIs have shown in the literature. Nevertheless, these contextual and cultural differences (potential and challenges) should be taken seriously into account that cross-culturally adapting design thinking into Indonesian entrepreneurship higher education is still possible, even though it may take longer time and more effort to realize the mission.

3.5.3.3 Students' learning behavior

Several major challenges and potentials that may be related to the Indonesian students' learning behavior and possibly cultural characteristics were found in this case study. The following is the discussion.

First is time management and punctuality problem. Across the data analysis and results section, one noticeable finding from the lecturers and students is the problem of time management and punctuality in teaching and especially learning. As explained previously, how students learn may be affected by their diversities (in this case study: their origin, financial and educational background, whether they enroll in a bachelor or master study program, and their entrepreneurial/business endeavors). In particular, the students' respondents are enrolled in the MBA creative and cultural entrepreneurship study program, which requires them to have a business plan or even already running a business. Thus, most students' focus is divided into their 'duty' as MBA students (attending classes and doing assignments) and preparing to launch or progress their entrepreneurial/business endeavors. From what the researcher observed and interviewed, balancing those two tasks is strenuous for most students. This hindrance may influence their poor attitudes toward time management. For example, they attend the lecture but with less punctuality, often come to the class unprepared, or ask the lecturers for more time to finish the assignments (see the result's section 3.4.6.3.3).

Many studies have explored different demographic/national groups and their time organization skills, including students and teachers (Adams & Blair, 2019), and employees (Green & Skinner, 2005). The Germans are superior at keeping their timetables on track than both the Japanese and the Chinese, according to Rau et al. (2011) study on ways Chinese, Japanese, and Germans manage their time. The survey also showed that the Germans and Japanese concentrate on their work more frequently and effectively. They also examined how three countries with extremely different cultural contexts organized their time. The investigation concluded that Asians are recognized as skilled time planners, and Germans are exact and consistently consistent. The Chinese, however, were described as the typical East Asian cultural country known for its lax project management and timetables.

That 'time management' problem is connected to the second challenge: the potential misperception over 'independent learning' encouraged by the lecturers and their study program/university. One apparent reason from the finding is the sudden changes in the class schedule and formation implemented by the MBA program coordinator/lecturer (see the result's section 3.4.6.4.1). The program coordinator believed that students' entrepreneurial/business progress outside the classroom is more critical for their learning, so he decided to change the 'obligation' for students to attend the normal classes to 'voluntary,' but more oblige them to do mentoring session with the mentors and follow it by reflective mentoring notes to be assessed by both the mentors and lecturers at the end of the semester. Although these changes in class policy can have purposeful objectives (e.g., to support more mentoring sessions for students), students reacted by thinking that they can 'free' to attend class or not. Even if they come to the class, they do it late and often unprepared – because their major motivation is to focus on their entrepreneurial projects' progress and mentoring, not to 'study' for the lectures/classes.

The issue of time and teaching/learning management of students and lecturers seems also unexceptional and often happens in other teaching settings (see result's section 3.4.6.3.3). For instance, sudden changes on guest lectures' schedules or mentoring schedules that affect students' attendance, and possibly the teaching and learning effectiveness as well. The portion of the national cultural paradigm discussed in the literature shows how people from a particular cultural group manage their time. Included are the ideas of emotion, perception, and use of time (Khan & Panarina, 2017). The passage of time is influenced by both nature and humanity. Time can be invested or spent since, for instance, time is money in American and European civilizations. In cultures where time is viewed as a controlled component, people are more likely to be punctual, agenda-oriented, and monochrome. Deadlines, planning, scheduling meetings, and taking responsibility for delayed deliveries of goods and services are all part of the professional management culture. People tend to be less on time and polychromic in societies (such as Indonesian) where time is believed to

be related to the environment or nature. Thus, how well people manage their time
will depend on how they see the time.

As mentioned previously, there is also the tendency for students may perceive and
treat this MBA study program in SBM ITB as merely 'entrepreneurial training.' There
is a strong tendency for students to prioritize their business progress more and only
want to "immediately implement" the knowledge, theories, and concepts they learn
in class toward their businesses. Therefore, students' learning behavior is preferably
more toward practicalities directly impacting their business progress. They have less
motivation or interest to 'study theoretically,' understand, and research the
knowledge through reading in more detail and more comprehensively. Concerning
this above finding, the arguments in the literature are explained as the following.

The components of an entrepreneurial education program are interconnected, and
in order to create a successful program, it is crucial to understand the dynamics of
these linkages (Alberti et al., 2004). The significance of entrepreneurial education
programs in the present era lies in the content and pedagogical tactics. These
characteristics are considered vital for entrepreneurship education in the current
century, as scholars such as Fayolle et al. (2006) and Volkmann (2004). The objectives
of the curriculum should be seen as the ultimate goal, not pedagogy as a standalone
objective (Fayolle & Gailly, 2008). The subject matter, which has already been
established as a blend of theory and practice, can substantially influence pedagogical
approaches. It is imperative to emphasize that teaching valuable content does not
always require more exploratory ways (such as scenario replications for business) or
more "conventional" ways (such as classroom seminars) (Fiet, 2001a).

In this case study, MBA CCE students of SBM ITB are mixed of students who seek to
start a business and who want to grow and manage their current businesses
(especially in the creative and cultural industry), and even some who only want a
degree or qualification. Therefore, the program's substance will be determined by
both its goals and target audience. After the material is clear and dependent on the

requirements and attributes of the audience, instructional approaches and techniques should be taken into account. Evaluation will be based on pedagogy and content (Alberti et al., 2004). The main objective of the MBA CCE program is a one-year graduate entrepreneurship study program, mainly for supporting students' business plans and ongoing projects through an entrepreneurial mentoring program with business mentors. According to the lecturers and program coordinators during the interview (see sections 3.4.6.5.2), the major students' assessments are throughout students' presentation learning and business performance and their mentoring reflection book. Students are also given other business and management courses, which are assessed through 'conventional' tests.

As such, SBM ITB, as the EE program, has attempted to combine theoretical and practical methods and contents (see the result's section 3.4.6.1 and 3.4.6.4.3). This finding aligns with Hytti and O'Gorman's (2004) study that conventional methods were most frequently used in educational programs, workshops, counseling/mentoring, study trips, company setup, games, and vocational training. Traditional methods can aid in consistently and reliably presenting knowledge (Honig, 2004). That is why it is observed that traditional instructional techniques, including seminars and examination of cases, continue to be widely employed, especially in the case of Indonesia (Amalia & von Korflesch, 2021a). These methods are more likely to use one-way communication, where the teacher speaks directly to the program participant. Due to the absence of engagement, there needs to be more conversation and participant input (Hegarty, 2006). As found in our case study's finding (see sections 3.4.6.5.2), the students' respondents demand more practical learning activities than theoretical ones probably because they view conventional teaching methods as dominant and less effective for their learning journey as entrepreneurial students.

Furthermore, the finding section has other related problems (see sections 3.4.6.3.2 and 3.4.6.5.1). Students seem to dislike doing group work assignments "outside" the lectures, and even if they still have to do it, a free-rider issue occurs (i.e., ask the other

group members to do it for them). Some students feel burdensome as they feel
pressured to progress in their businesses. So, they take the lectures and the related
assignments, especially the ones that require them to do it in a group, less seriously.
They only want to 'finish' the assignments and get the marks done. This finding may
be equivalent to what Hytti et al.'s (2010) claim that individuals with an externally-
driven excitement towards pursuing entrepreneurship tend to prioritize the practical
worth of a course rather than emphasizing the possibility of learning
entrepreneurship. Their primary focus lies in completing the program to obtain a
degree. These pupils hold a more positive perception of their educational results. This
situation is not surprising given that, for the students, completing the course
homework was their main objective, and, as a result, the course met their
expectations. For these students, completing the assignment (e.g., business plan) and
the associated report is sufficient, and their curiosity could be more piqued by the
assignment objective's real viability.

From the above finding, entrepreneurship education should focus on creating new
learning experiments and experimenting with various approaches. The situation is
consistent with Hytti et al. (2010), which stated that it is crucial to acknowledge the
diverse program circumstances and objectives and the unique characteristics of
learner motivation while establishing novel courses. Internal and extrinsic motives,
which are directly linked to learning-course objectives, serve as driving forces for
students to study entrepreneurship. Students are intrinsically driven to study
entrepreneurship do so because it could be a viable career path. They want to
develop entrepreneurial skills (Smith et al., 2006). Their perceptions of their learning
outcomes and their happiness with their business concepts are lower than other
learners. This perspective can be attributed to the presence of pupils who exhibit high
levels of motivation who pursue entrepreneurship only sometimes receive their
'wishful' information. These people could already have a company concept they want
to explore further. However, the course assignment might offer them a different
practical experience than they hoped since it aims to build students' abilities to
develop fresh business ideas.

Another challenge from the result section (see sections 3.4.6.3.2 and 3.4.6.5.1) is
students' lack of reading (i.e., English theoretical business/management textbooks)
in almost all entrepreneurship subjects (including the design thinking course). This
behavior is rooted in the problem of the 'learning passiveness' of the students. The
issues of students' lack of interest in reading and passiveness are also thoroughly
explicated in the existing literature. For example, Masduqi (2014) highlighted the
current theories of English textbook reading with psychological and cultural
conditions affecting the teaching of reading to Indonesian students. He further notes
that for Indonesian students whose perceptions of reading are based on cultural
values from their home languages (i.e., Bahasa Indonesia and other local languages),
the demands of English-textbook reading at the university level are challenging to
realize. Other studies that have similar views are as the following.

Kweldju (1996) observed that today's young generation has a lesser interest in
studying their reading textbooks, even though they are aware of their value. She
contends that the students' limited prior knowledge, inability to understand the
reading materials and the challenging organization of the textbooks are to blame for
their lack of interest. Moreover, students are unfamiliar with the explanation and
discussion genres frequently utilized in reading texts at the tertiary level, as Rukmini
(2004) discovered that first-year university students need more interest in their
reading lessons. Also, most textbooks, particularly for Indonesian secondary schools,
are anecdotal and descriptive. Because of the excessively long reading texts, the
foreign terminology, the need for pre-reading activities to get the students' prior
knowledge going, and the repeated teaching methods, reading lessons were
considered tedious and exhausting (Firmanto, 2005). Additionally, it has been
discovered that students' cultural backgrounds impact how differently they read and,
consequently, how well they read (Masduqi, 2014).

Even though studies have mentioned that improvement in reading occurs when
readers are given enough chances to boost their motivation, confidence, subject-

matter knowledge, and linguistic abilities (e.g., Cahyono & Widiati, 2006; Imran, 2005), again, the main issue is culture. Learner-centeredness, which covers learning objectives, contents, progress, methods and techniques, and evaluation and supports learners' autonomy, needs, and interests, is one of the key components in the literature on successful reading classes (Dardjowidjojo, 1997; Richards & Rodgers, 2014). However, learner-centeredness typically differs from learner expectations, prior educational experiences, and attitudes toward learning. Students from different cultural backgrounds and national schooling systems may not be used to the idea that learning activities are student-centered but rather teacher-centered, like those in Indonesia (Zulfikar, 2009).

Despite those challenges mentioned above, numerous studies have also reported that Indonesian students do have their motivation to start businesses ('actualizing the entrepreneurial opportunity') (see, e.g., Kristiansen & Indarti, 2004; Mahendra et al., 2017; Patricia & Silangen, 2016; Wardana et al., 2021). This case study adds another notable finding related to the above literature studies, i.e., students mostly started the business (idea), not from the problems they have seen in their surroundings (see sections 3.4.6.3.2 and 3.4.6.5.1). They started the businesses from what they had undergone in education and working experience, such as from their hobbies or tedious employment condition, and so want to become the employer instead and open up job opportunities for others. Moreover, the results also show that most students started businesses from their own 'pocket money,' as it seems difficult to get initial capital for individual/SME businesses. Thus, Indonesian students start with business ideas first, then set up or 'launch' their "small/medium" businesses later, not the other way around. This attitude reflects those Indonesian students who seem self-assured to start small businesses, even though they may still lack the 'know-how' in business/entrepreneurship and lack initial capital funding.

The situation is understandable. The major business segment and source of labor in Indonesia are small and medium-sized businesses (SMEs). However, most businesses in Indonesia are informal SMEs (Larso & Saphiranti, 2016), and work in the services

and food and beverage sectors (Digdowiseiso, 2020). These businesses frequently
need access to the financing sector, making it difficult for them to export or sell to
large customers. Such a requirement may discourage businesses in the informal
industry from formalizing their operations because the license fee is high in Indonesia.
Digdowiseiso & Sugiyanto (2021) further revealed that in Indonesia, the cost of
launching a firm equaled around 11% of the country's per-capita income (1,443 USD).
This number is high compared to other nations like Singapore, Thailand, and Vietnam,
which spent 468, 1,161, and 480 USD, respectively (Digdowiseiso, 2020). As such, the
situation is understandable why students find creating small businesses relatively
easy and self-assured because they are informal and less expensive unless they want
to formalize and go bigger.

In comparison to the Middle East, the above finding is quite different. Belwal et al.
(2015) found that while many Omani students are willing to take risks to develop the
skills necessary to thrive in business, others still need to. Because they lack
experience or are afraid of failing, they feel disheartened. However, they support
entrepreneurial education in all sectors, value relationship and networking, and think
higher education institutions are the ideal environments for entrepreneurship
development. It differs from the Oman students' viewpoint that "the thought to start
a business occurs first rather than building it up" (p. 935).

Moreover, individual's entrepreneurial mindset and approach are also greatly
influenced by personal, environmental, and social aspects. For instance, Christofor
(2008) contended that strong individual motivation and commitment motivate
people to engage in the entrepreneurial process, as well as some intrinsic features
within the person (examples of individual accomplishment and self-regulation, and
adventure qualities can be observed in individuals). Initial creative ideas and
environmental uncertainty are important driving forces for becoming an
entrepreneur, according to Brazeal and Herbert (1999). Similar patterns to autocratic
employment ennui and condition can be seen in other investigations (Brockhaus Sr &
Horwitz, 1986; Delmar & Davidsson, 2000; Lu, 2010; Shane et al., 2003). Additionally,

organizational and national risks, including political and economic ambiguity and challenges in securing an early investment (Soetanto et al., 2010), greatly influence whether or not someone chooses to become an entrepreneur.

Lastly, the finding from this study concerning students' learning potential is their diversities that bring positive influences and potential toward their learning behavior. As seen in the results (see sections 3.4.6.3.2 and 3.4.6.5.1), students often found their business partners (classmates in the lectures) to collaborate in their ongoing entrepreneurial projects or even create new businesses. In another interesting situation, the diverse learning environment encourages students to think creatively and innovatively towards creating new business ideas (products and services, especially in creative and cultural industries).

The discovery above aligns with the research conducted by Haddad et al. (2021), which showed that students' evaluations of a varied educational setting had a notable and constructive influence on their attitudes toward entrepreneurship, perceived social expectations and perceived cognitive abilities. Based on the findings of Padilla-Angulo et al. (2019), it has been observed that students who are surrounded by a wide range of ethnic and racial groups tend to possess a more precise comprehension of the feasibility of a novel business endeavor, as well as a heightened inclination to initiate a new enterprise. A striking and statistically significant association was seen between students' attitudes toward entrepreneurship and their perceptions of the diversity within their learning environment. Solomon (2007) discovered a positive correlation between perceptions of various educational settings and personal expectations. This finding lends weight to their assertion that learners must establish connections with their peers. The researchers discovered that social engagement with peers significantly impacts the perspectives and actions of those engaged in the learning process. One of the contributing factors for this phenomenon can be attributed to the research's contextual framework, which involved examining culturally heterogeneous cohorts

inside an academic institution that incorporates entrepreneurship studies into its educational structure and program.

This finding aligns with other studies (such as: Schmutzler et al., 2019; Schwarz et al., 2009) that emphasize the significance of the learning environment in fostering discussions among peers regarding innovative principles throughout distinct cultural settings. Gurin et al. (2002) and Loes et al. (2012) have posited that diversity within an education setting can significantly benefit individuals' perception of their ability to manage their behavior. Greene et al. (2004) emphasize the importance of considering pupil confidence as a measure of alleged behavioral influence. Additionally, Hurtado et al. (1999) emphasizes the importance of having the opportunity to engage with an active society that promotes learning and individual growth through positive interactions within it. This study further suggests that such an environment is crucial in cultivating students' self-efficacy (Williams, 2010).

Although most students in this case study of the entrepreneurship education program are still in the idea's development and planning stage, they mentioned that they receive substantial support from their parents and positive influence from their classmates (see sections 3.4.6.3.2 and 3.4.6.5.1). Through their mapping literature review study, Amalia and von Korflesch (2021a) also confirmed that there is a strong influence by peers and family members towards the learning success of Indonesian students in entrepreneurship education. This result is comparable to an earlier study by Park and Choi (2009), who found that learner support from peers and family is crucial for success in face-to-face and online learning. Learners require support, which can come from classmates in the classroom, coworkers, family, and friends.

Overall, time management, punctuality, and students' lack of interest in reading (especially learning materials and textbooks) are the major challenges concerning Indonesian students learning behavior. These challenges can strongly hinder the cultural adaptation of entrepreneurial design thinking teaching methodology. Students and lecturers must improve their time management to optimize learning

and teaching effectiveness. In contrast, their diversity (background and learning
environment) and intrinsic 'personal' motivation to be entrepreneurs are the major
potentials of their learning aspect. These supporting factors can benefit the learning
and teaching of entrepreneurial design thinking.

3.6 Summary, Insights, and Recommendation from the Discussion

This section will present a summary, insights, and recommendations from the abovementioned discussion. First, it will summarize and explain the novel insights from our case study (section 3.6.1). Building from that, it will provide practical recommendations (section 3.6.2).

3.6.1 Summary and Novel Insights from the Case Study

This part provides a concise overview of the findings and analysis derived from the case study, which primarily aims to address the second issue of interest outlined in the thesis. That is:

Is there a potential for design thinking to be culturally adapted for entrepreneurship education in Indonesian higher education?

Moreover, to guide the coding and analysis of the data, this thesis has created the questions as follows (see section 1.3):

1. What can happen during or how the teachings of entrepreneurship education and design thinking in Indonesian higher education institutions;

2. What components of Indonesian entrepreneurship education could contribute (or even not contribute) to the cross-cultural adaptation process of entrepreneurial design thinking teaching methodology;

3. What are the insights and possibly practical recommendations?

Figure 26 shows the 'summarized' primary findings of how the teachings of entrepreneurship education and design thinking look like in Indonesia.

-Narrow-minded perception of Entrepreneurship (EE);
-Students perceive EE is more toward entrepreneurial training;
-Students favor more practical activities towards their businesses than merely having theoretical lectures;
-Mentoring is the novel teaching method & program;
-EE is designed to support students' entrepreneurial endeavors outside the program; and
-Critical issues in management & punctuality for both students and educators

Entrepreneur-ship Education

Design Thinking

-DT is not yet well spread in Indonesian entrepreneurship higher education;
-Students perceive DT as "additional", in hope to get "creative insights" for their business projects;
-DT teaching is partial, mostly conventional lectures and small exercises – possibly perceived not as problem solving methodology;
-Students have lack of reading interest & doing DT exercises;
-Critical problems of time management & punctuality remain exist.

Design thinking is partially implemented in the Indonesia's entrepreneurship higher education. The primary purposes are introducing creative & visual thinking, empathy & prototyping small exercise, and presenting "design ideas" for business purposes. Limited, more teacher-centered, lack of students' collaboration, and poor time management.

Students develop their own entrepreneurial motivation and interest before they decided to pursue/enroll EE program

SBM ITB has attempted to create diverese, blended (theoretical & practical), and mentorship learning environment for EE and DT, although some cultural-related issues persist

The cultural contexts affect how EE/DT is taught and how the teaching strategies should be culturally tailored to better serve in diverse and different cultural context

Figure 26. Summary of The Notable Primary Findings of This Thesis' Case Study[49]

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[49] Author's own figure

This case study was carried out in the School of Business Management, Bandung Institute of Technology (SBM ITB), particularly in the MBA program study of creative and cultural entrepreneurship (MBA CCE) in Bandung, Indonesia. This entrepreneurship education MBA program requires students to study the usual business and management courses inside the class. More importantly, the aim is to support students in planning and proposing their business or entrepreneurial endeavors, even if some are already running and growing their businesses. Apart from the conventional lectures, one unique teaching method is mentoring. Here the business mentors' primary role is to share their real practice business experiences and insights with students.

Moreover, entrepreneurship education is perceived by students as 'training' since the major perception of students and general people in Indonesia is also still relating the term narrow-mindedly with selling and small business creation activities. However, this mindset and perception may not be necessarily damaging because the finding suggested that students develop their motivation and interest to learn and do entrepreneurship before enrolling in the program. One can imply that students already have intrinsic motivation from themselves and decide to pursue entrepreneurship education to become 'knowledgeable' or educated entrepreneurs. In other words, students' internal interest, motivation, and entrepreneurial behavior led them to pursue entrepreneurship education. It is sensible when the way students learn favors more practical learning activities that are connected and directly benefit their entrepreneurial endeavors.

Concerning design thinking, the finding was that the teaching has yet to be well-spread across the country. From the case study, students were found to perceive the course as 'additional' for their insight, hoping that it could benefit their creative mindset in planning, running, and managing businesses. This perception is also understandable because the design thinking teaching in Indonesia (particularly in the MBA CCE program SBM ITB) is rather partial, i.e., design thinking is possibly perceived

not as problem-solving teaching and thinking methodology. Like the
entrepreneurship course, students were given conventional lectures about design
theories and small exercises related to empathy, brainstorming, prototyping, and
presentation of business ideas. However, those exercises were separately carried out,
not in the form of students' design thinking project assignments, to find the root
causes of particular problems and propose solutions. As such, the teaching
implementation is limited, lacking student collaboration, more teacher-oriented, and
hemmed with poor time management for both design thinking lecturers and students.
Building from those rationales mentioned above, one can doubt there was an
'optimal' cross-cultural adaptation in the entrepreneurship education program at
SBM ITB teaching design thinking. The reason was that its implementation is 'adding'
the entrepreneurship education course, not integrated as have been seen in the
Western literature studies.

Nevertheless, from the finding and discussion of this thesis' case study, it can be
concluded at least two vital points can be concluded. First, despite all the struggles
and challenges, SBM ITB, as an Indonesian higher education institution, has
attempted to create a diverse, blended, and more contemporary teaching and
learning environment for educators and students to collaborate and work together
within the formal entrepreneurship education setting. Second, this study also highly
acknowledges cultural and social context issues that influence teaching and learning.
As such, this study concludes that there is a strong need to understand, comprehend,
and address all the contextual and cultural differences in entrepreneurship education
and design thinking teachings between Western and Eastern countries (in this case,
Indonesia). That aims to tailor the teaching and learning approaches to better serve
that diverse and different cultural setting.

In that sense, several contributing factors (i.e., potentials and challenges) were found
to integrate more optimally design thinking in the Indonesian entrepreneurship
higher education level. Those factors are depicted in the following Figure 27.

The country's circumstances, educational system, and University/HEIs factors

- Abundant natural resources, and huge demograhic young generation
- Big numbers of necesesity-based SMEs/entrepreneurs
- Narrow minded entrepreneurship (EE) perception
- Partial implementation DT teachings in EHE
- RIgid and less accomodative national education bureaucracy system

Educators factors

- Diverse educators
- Business mentors and mentoring program
- Versatile lectures and its critical roles
- Challenges on mentoring format & teaching organization, lack of time management in teaching and mentoring
- Students' perception on mentoring: to "coach", "guide", and "monitor" their entrepreneurial projects

Students factors

- Students' diversity: heterogenous and its effect to students' learning behavior
- Students' learning perception: EE is limited to creating/running businesses & DT is partial
- Students' learning behavior: Challenges: time management & punctuality problem, favor more practicalities than theories, lack of reading & passive learning. Potentials: students are diverse, wide opportunities to collaborate, confident to learn new things.

Figure 27. Summarized Points from the Finding and Discussion of the Case Study on Contributing Factors for CCA on EDT in Indonesia[50]

Figure 27 presents three major factors in adapting entrepreneurial design thinking in Indonesian higher education. They are the country's circumstances, educational curriculum system, the university/HEI, educators, and students. For the **first** factor, the country's abundant natural resources and demographic population can contribute to design thinking in its entrepreneurship higher education curriculum. In the case of Indonesia, its huge young people population involved in the SMEs seeking to fulfill necessity and entrepreneurial opportunities means the country has a marked

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[50] Author's own figure

tendency for entrepreneurship and entrepreneurship education to grow and become
a critical element in the country. Although design thinking is not yet well-known in
Indonesia's national higher education level, its implementation was also reported as
still partial in this case study. However, that small step to introduce design thinking
in the country's entrepreneurship higher education curriculum (in this SBM ITB case)
is already a good sign that students and educators in Indonesia have started to know,
learn, and embrace design thinking, an innovative teaching methodology for
entrepreneurship education.

One big challenge, however, is the country's education bureaucracy. The more rigid
it is, the more demanding the adaption process of entrepreneurial design thinking.
This study has thoroughly explained the discussion and found one important
suggestion based on the country's circumstances and cultural-social context. One
may need influential and possibly powerful people to spread awareness and
acceptance and legitimize design thinking in the Indonesian entrepreneurship higher
education curriculum system. In this case, the role of 'influencer' or public figures (i.e.,
entrepreneurs or businessmen/women, educators – teachers, lecturers –
government politicians, policymakers) plays a significant contribution if they are
interested in design thinking as a novel and innovative teaching and thinking
methodology in entrepreneurship education, to realize the legitimizing process of
design thinking in Indonesia.

Correspondingly, the **second** contributing factor is educators. From the finding and
discussion, it can be deduced that the involvement of mentoring with actual business
mentors is prominent for a more innovative entrepreneurship education program.
This strategy was also complemented by diverse educators, especially the versatile
lecturers who can combine theoretical entrepreneurship/business concepts and real
practices in the lecture. The situation has created a need for Indonesian
entrepreneurship higher education to collaborate with more local entrepreneurs and
to support and encourage more business lecturers to implement their knowledge
into real business practices. So, they can share authentic experiences and teach

livelier and more relatable entrepreneurship theories. However, two critical points could hinder teaching effectiveness. They are educators' lack of teaching organization, time management, and students' narrow perception of entrepreneurship education merely as 'training.' In particular, the latter gives the impression that students only want to study practical knowledge that can be implemented immediately towards their entrepreneurial/business projects and does not prefer studying theoretical textbooks–especially reading. In this case, students always seem to have a high demand to be 'guided,' i.e., wanting the mentors to monitor and check their business progress and the lecturers to remind them about the class assignments, etc. Therefore, some 'disciplinary' changes may be needed to improve the situation. As shown earlier (see section 3.5.2), educators can introduce and provide students with printed teaching and learning materials for the lectures or mentoring and possibly implement the peer assessment to evaluate each other (especially during the peer project presentations).

That selective learning behavior is linked to the **third** contributing factor: students. Their heterogeneity, diversity, and learning perception influence the way they learn. Apart from the learning selectiveness over practicalities, other major notable challenges concerning students are students' delinquency and learning passiveness (i.e., lack of reading interest). These two obstacles seem ingrained since their child-school age. The Indonesian national school-educational system needs to effectively promote active learner participation in the learning process since it tends to be teacher-centered. Additionally, there is a tendency to see time in a polychromic manner, with a connection to the environment and nature. It is imperative to recognize and tackle these two factors to customize entrepreneurial design thinking within Indonesia's higher education context. Despite the hurdles, the students' diversity has a positive influence because students are eager to learn and collaborate, especially in their entrepreneurial endeavors. Indonesian students found their intrinsic personal motivation to learn entrepreneurship by observing the country's potential and successful local entrepreneurs in the creative and cultural industries as well as their peers and classmates with diverse backgrounds and business ideas and

progress, which drive them even more strongly to shape their entrepreneurial
mindset and to actualize their business projects, even before they graduate from the
EE program.

Lastly, building on from the previous design thinking and cross-cultural adaptation
literature in Chapter 2 (i.e., Bentley et al., 2005; Hofstede & Hofstede, 2001; Holden
& Von Kortzfleisch, 2004; Kim, 2001; Shafaei & Razak, 2016), this thesis' case study
further implies that those all contributing factors are connected to the seven
educational value-differentials (see Figure 28 below). The factors are the institution,
educators, and students. This study of cultural variations aids in comprehending and
facilitating the cultural adaption of entrepreneurial design thinking in the Indonesian
cultural entrepreneurial higher education setting.
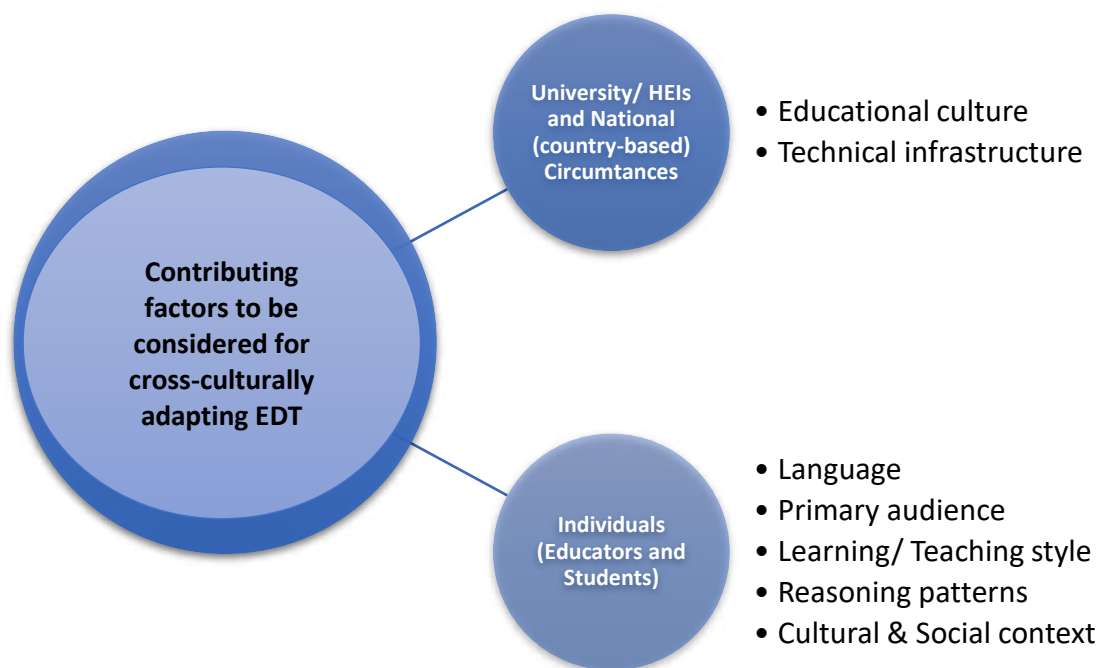
*Figure 28. Contributing Factors of CCA on EDT in Indonesia and The Links to the Eight Educational Values
by Bentley et al. (2005)[51]*

The following is a more-detailed explanation concerning the above-mentioned
contributing factors of cross-cultural adaptation on entrepreneurial design thinking

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[51] Author's own figure

in Indonesian higher education and their connection to Bentley et al. (2005) eight education values. They are education culture, technical infrastructure, language barrier, primary audience, learning and teaching style, reasoning patters, and cultural and social contexts.

3.6.1.1 Educational culture

Education is valued differently in different cultures. Mental functioning is shaped by culture and society; people have preconceived ideas about how to answer questions and solve difficulties. Thus, the culture of education impacts how pupils perceive, react, and reason.

This value is in line with Kim's (2001) environmental factors of the university receptivity and conformity to change when accepting students studying abroad in the host country/university. Similarly, instructors and course designers should consider these variances when creating courses for students in different cultural settings. For example, students' passiveness and lack of reading interest in Indonesian higher education, as found in our case study, may be due to systemic and cultural issues. So, when Western educators and course designers want to 'cross-culturally' adapt a foreign teaching methodology to Eastern countries, they must first have (inter-)cultural sensitivity and communication training. That preparation enables individuals to transcend and get over traditional ethnocentrism in education.

As explained in the discussion (section 3.5.1), the primary educational culture in Indonesia is teacher-centered because the country's system used to be a centralized government. However, top-down authority control is still prevalent, including how educators have to adhere to the organizational culture upheld by the teaching profession. This circumstance demonstrates how dependent instructors are on institutional policies. The situation is different from the Western countries. Western educators have more freedom to choose the teaching materials. The teaching methodology and content are not uniformly used across the nation. Each instructor

has more distinctive pedagogical independence, depending on their personalities and interests – unlike the many cases of Asian/Eastern counterparts.

Therefore, those differences in systemic educational culture should be highly considered in how to adapt entrepreneurial design thinking that requires 'systemic' flexibility in the educational setting. For instance, to teach the 'ideal' process stages of design thinking, educators and the education system create a collaborative and project-based learning environment, which may be impractical if the approach is top-down and teacher-centered. Another example is the 'ideal' cycle of the design thinking manner. With this idea, students are expected to find the root cause of problems until they see it saturated and converge to a few alternative solutions. However, this process takes time. With limited time in the curriculum semester, for example, within the Indonesian university education (due to the previous issues of the teacher-centered and top-down system), this iterative concept is less likely to be implemented. Nevertheless, by providing students with the so-called 'small design thinking' exercises during lecture hours (as shown in this thesis' case study), Indonesian educators can still introduce the phases and process of design thinking and connect them with some relevant business theories and students' entrepreneurial projects.

3.6.1.2 Technical infrastructure

Only some learners everywhere in the world have access to the same learning-technical resources. The Implementation of effective learning will be hampered, for example, by a lack of essential technological learning tools and difficulty getting wide access to computers, transportation, or a university's proper learning infrastructure. The objective should be to provide educators and learners with the required competencies and foster collaboration to eliminate superfluous obstacles and modify educational frameworks, thereby attaining the most favorable learning results. In other words, the aim is to facilitate the transfer and adaptation of a Western educational program or approach. Nevertheless, it should be noted that not all

colleges in Indonesia possess the necessary readiness and sufficient access to the
infrastructure and technology required to effectively implement the "ideal" phase of
the design thinking procedure and instruments, as evidenced by the Western
instances documented in the literature.

As an ideal learning progression, developing an increased understanding of a certain
domain through observation, experiments, and iterative prototyping is essential to
design thinking. The university must have the relevant and proper infrastructure to
support that learning. For instance, a circular open-space discussion area that can
connect multidisciplinary faculties, a well-updated library interactive programs for
supporting students' reading interest, and technological tools for students to design
prototypes.

The MBA program at SBM ITB, as in this thesis' case study, is a private HEI with many
students from high-income families living in big cities. It is therefore sensible if they
can offer the design thinking course in their business school. However, other HEIs in
the rural areas or provinces in Indonesia may have a different capacity from that.
Even if they can introduce design thinking, it will be done only with minimal effort.
This factor of technical infrastructure for the university/HEIs should be taken
seriously, especially by government politicians and Indonesian policymakers. That is
also the reason why there is a need for influential people in the higher-up
government body to actualize and legitimize this teaching methodology in the
national educational system so that the proper policy can be passed to all
universities/HEIs across the country and provide them with adequate funding can be
provided to build the relevant infrastructure needed to implement entrepreneurial
design thinking in their respective institutions.

3.6.1.3 Language

Culture and language are intertwined. With understanding the other, it can be easier
to comprehend one. According to academics, acquiring a second language inside an

educational setting exhibits notable distinctions compared to developing a foreign language. Particularly non-English speakers could believe that Western teaching methods and learning approaches, such as those found in English-based textbooks, have little to offer them because they need help comprehending the content and technique. Even with the SBM ITB, which has gone international certification and has some international students who do exchange programs, the language barrier in the learning process remains. For example, it is unavoidable that almost all the design thinking reading materials and case studies are in English, while both students and educators are local Indonesian whose speak most of the time Bahasa Indonesia. Thus, their rationale thinking is in Bahasa Indonesia, not English. Some design thinking terms also take time to be translated into Bahasa, e.g., prototyping.

Due to this language barrier, there is a greater demand for "native-language" content development from local businesses or educational institutions that do not want to use English. It is, therefore, paramount to provide more localized entrepreneurial and design thinking teaching and learning materials, including reading textbooks, mentoring notes, and case studies, especially in Bahasa Indonesia, to be offered and 'printed' in the lectures and mentoring or as take-away assignments. In particular, the latter can minimize students' confusion concerning the lecturers' instructions during the class hour.

3.6.1.4 Primary audience

While certain cultural groups prioritize the significance of their surroundings, others advocate for a broader worldwide perspective. The most crucial factor to consider is how educators and all other relevant stakeholders (i.e., university teaching and administrative staff) can accept students from diverse cultural origins across the country.

From our case study, SBM ITB has profoundly attempted to offer a diverse learning environment and multidisciplinary educators for heterogenous types of students

within its learning ecosystem. However, not all HEIs in Indonesia is ready to embrace such diversity and heterogeneity of educators and learning audiences (students), especially in the rural areas and provinces where localities and homogeneity are still dominant and less flexible in accepting "the modern way" of learning and teaching community. As such, this issue can hinder the optimal introduction and adaptation of design thinking across Indonesian HEIs, where diversity and multi-ethnicity are vital components for human-centered, empathetic, and communicative teamwork. Nevertheless, we may suggest that providing educators and all relevant university stakeholders with intercultural and communicative training and adequate educational policy concerning implementing cross-culturally adapted entrepreneurial design thinking can reduce local friction.

3.6.1.5 Learning and teaching style

Due to the different cultural upbringings, students embrace the learning technique differently. Thus, Eastern and Western pupils' teaching and learning styles, social interactions, and communication methods vary. Compared to Western students, Asian students tend to ask the lecturer and their classmates fewer questions. Western pupils often prefer peer-oriented learning approaches, valuing the importance of peer relationships in their educational experiences. In contrast, Asian pupils commonly rely on written instructions as a primary source of guidance. The latter is proven in the finding and discussion section. Indonesian students often need help in the learning process, where the lecturers must provide written instruction for their tasks or assignments.

Additionally, compared to Western students, Asian students ask the instructor and fellow students fewer questions. Also, while Western students are outspoken, most Asian students prefer to learn in silence out of fear of making mistakes and facing scorn from their peers. This behavior is also proven in this case study, whereby students are seen as 'passive,' lack of learning curiosity within the lesson/lecture time.

The biggest issue is poor time management. However, the latter is not only the students' primary challenge but the educators too.

Those value differences in learning and teaching styles should be highly considered when adapting cross-culturally design thinking in the Eastern country's entrepreneurship higher education. Educators in Eastern countries should improve their organization and time management skills in teaching to design cross-cultural curricula to support student learning through incorporating collaborative learning. This idea will hopefully:

- Foster cross-cultural understanding of what, why, and how design thinking functions in their entrepreneurship education curricula;

- Raise students' awareness of the global and design thinkers' mentality;

- Allow each student to think outside of their cultural context; and

- Highlight the most exemplary aspects of each culture.

Activities for teaching should incorporate many exchanges, teams, and communications. Some possible ways can be done, such as relating the theoretical lectures with the actual students' entrepreneurial projects or local business cases, simulating the instances within the lectures or mentoring sessions and encompassing it in the group discussions, and creating some visual prototypes for students to learn immediately solving the problems in connection with design thinking elements.

3.6.1.6 Reasoning patterns

When finding solutions to problems, people of different cultures might have different ways of thinking and diverse perspectives on what it means to be objective. The cognitive processes involved in attending to, remembering, using speech, addressing issues, and generating decisions can alter one's views by employing intellectual exertion. Easterners (Asians) and Westerners differ in their reasoning patterns. Numerous studies have explicated this arrangement (see section 2.3.1). For instance, Norenzayan & Nisbett (2000) found that Westerners consider conduct as a direct

representation of an actor's disposition. However, Asians view behavior as the outcome of an intricate interplay between dispositional and other situational or contextual elements. The former adopts a holistic way of thought, concentrating on the field in which an item is situated and deriving causality from the object's interactions with the field. The latter prefer analytical thought, concentrating on the object and the field, focusing on the item, identifying its attributes, and explicitly attributing causality. As such, when narrating identical crimes, Chinese-language media – as an example – use more situational attributions. However, the utilization of dispositional justifications is more prevalent in English-speaking publications, hence emphasizing the significance of linguistics in causal argumentation.

The above reasoning pattern differences between Westerners and Easterners (Asians) should be particularly considered when adapting cross-culturally entrepreneurial design thinking. Design thinking teachings in the West can be carried out in one whole-complete student project with an 'ideal' iterative process possible because the students and educators think in a causality and holistic manner to find the root cause of the specific problem and propose solutions. However, this type of reasoning pattern can be challenging when implemented in Eastern countries where people's mental reasoning is attributive. Similarly, from the time perspective. Westerners see time as a resource that can be spent or invested (causality), whereas Easterners see it with feeling and perceptions (attributive). Therefore, it is sensible if the students and educators in this case study were seen as less punctual and less organized in time management because Indonesian perceive time as relative and more relaxed in teaching and learning. In this case, one can follow what the SBM ITB has implemented, i.e., allocating design thinking as a legitimate course in the EE program but only giving the students small exercises related to design thinking characteristics and process – not creating it as a big project to be done in one whole semester as usually done in the Western universities.

3.6.1.7 Cultural and social context

Culture permeates education. The social and cultural environment that learners are
exposed to influences how they react to new information. Hofstede & Hofstede (2001)
four main components of cultural diversity are masculinity, individuality, power
distance, and uncertainty avoidance. For instance, it is important to consider how
learners' cultural backgrounds—whether high or low context—interact with the
social context. High-context cultures internalize information into people or situations,
whereas power-distant societies acknowledge or recognize that power is not
dispersed equally. A prevalent theme among collectivistic (low-context) cultures is
the requirement for people to stay in touch with their relatives and loved ones.

On the contrary, the role of the teacher would need to transform that of an advisor
and mentor, necessitating intervention solely in low-context societies characterized
by individualistic tendencies, wherein learners desire greater autonomy in their
learning. In cultures represented by collectivism, low-context communication, and
high-power distance, in order to effectively facilitate educational experiences,
teachers are required to play an active part in constructing the starting point and
adopt a proactive approach. Work in teams should be limited to situations where
learners can collaborate on intricate and challenging tasks. In the context of a culture
based on collectivism, it remains imperative for teachers to be present to provide
guidance and facilitate people or communities in accomplishing objectives.

This element could be associated with the observations made by Kim (2001)
regarding the inclination of both students and teachers to modify and adjust their
approaches. There are variations in communication styles between students from
Eastern and Western cultures. A strong emphasis on contextual factors often
characterizes Asian cultures, whereas Western cultures prioritize clear and plain
communication, which may lack ambiguity. Hence, it is imperative to consider the
above cultural and contextual diversity attributes to modify the Western
entrepreneurship pedagogical approach for cross-cultural implementation.

Finally, this thesis has proposed as in Chapter 2 (see section 2.3.2) the conceptual
framework and model on how to cross-culturally adapt entrepreneurial design
thinking from the West to the Eastern countries by referring to the previous studies
of Kim (2001) and Shafaei & Razak (2016). Figure 29 is the conceptual model extended
to include the all-above findings from our case study. Some of these findings also
have been published recently (Amalia & von Korflesch, 2023).
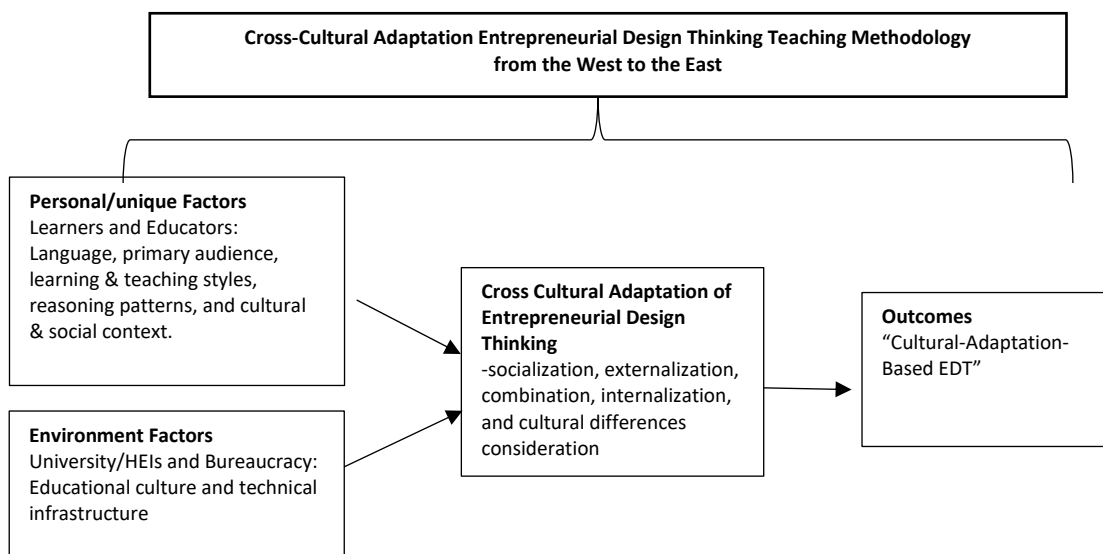
Figure 29. Conceptual Model "Cross-Cultural Adaptation on Entrepreneurial Design Thinking"[52]

This thesis' conceptual model is shown in Figure 29. We added new elements to the
initial framework that describes the mechanism of cross-cultural adaptation and how
we might approach the process conceptually. Finally, the goal is to implement
entrepreneurial design thinking as a teaching approach while adapting it to the needs
of Eastern nations and cultural viewpoints on entrepreneurship education, in this
case: Indonesia. As found and discussed earlier, the contributing factors that need to
be considered are individual factors (students and educators) and environmental
ones (the university/HEIs and its systemic bureaucracy). The former consists of

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[52] Author's own formatting figure, adapting and referencing from Bentley et al. (2005); Hofstede
(1986); Hofstede & Bond (1984); Kim (2001); Shafaei and Razak (2016), and been publsihed recently
in Amalia and von Korflesch (2023)

language, primary audience, learning and teaching style, reasoning patterns, and cultural & social context. The latter includes educational culture and technical infrastructure. Those factors can either support or hinder the cross-cultural adaption of this entrepreneurial design thinking methodology as a teaching approach from the West to be implemented in Indonesia. Thus, this study further suggests the four practical recommendations of socialization, externalization, combination, and internalization, which will lead to our conceptual outcomes of cultural adaptation-based entrepreneurial design thinking. The following section is a further explanation.

3.6.2 Practical Recommendations

Across the finding and discussion sections, several cultural and contextual potentials and challenges have been shown that strongly need to be considered in adapting cross-culturally entrepreneurial design thinking to Indonesia's entrepreneurship higher education. By contemplating the previous seven value educational differences and the findings that have been collected in this thesis' case study (section 3.5.1 – 3.5.3), this study followed some elements acknowledged by Holden and Von Kortzfleisch (2004) to adapt the EDT in the form of more practical recommendations as depicted in the below Figure 30. The recommendation consists of four primary points, i.e., socialization, externalization, combination, and internalization.

Socialization	• EDT should be systematically intriduced earlier in the curriculum of bachelor-study EE program • Start with "small exercises" of DT phases, gradually to form students iterative DT project assignment • Improve educators' teaching organization and time manegement
Externalization	• Collaborate with more diverse local entrepreneurs, SMEs, industries, and corporations for creating more practical and ablicable EDT cases and projects • Establish wider networking with more influential and 'popwerful' people to legitimize EDT in HEI level and spread it across the country's EE program study
Combination	• Create EDT projects that are relatable with students' entrepreneurial projects • Invite, collaborate, and create more practical guest lectures
Internalization	• Internal bureaucracy with faculty collaboration, • EDT for commercialization research products, • Create more EDT ecosystem • Gradual improvement on university infrastructure

Figure 30. Practical Recommendation as The Outcomes from This Thesis' Case Study[53]

3.6.2.1 Socialization

The socialization proposal is mainly about how entrepreneurial design thinking as the entrepreneurial teaching methodology from the Western culture can be accepted and legitimized in Indonesia's national higher education system. This study suggests introducing entrepreneurial design thinking in the business or management university curriculum from the bachelor's degree gradually to the master's degree. This step can be done by starting with small exercises or phases of the entrepreneurial design thinking process. Then, systematically and progressively, educators and program coordinators can create students' iterative entrepreneurial design thinking projects, possibly on a small scale within the university's capacity. For instance, how to promote more environmentally sustainable 'snack-stall' SME business owners in the university Mensa/cafeteria or create an open eco-green study-work space language for students from multidisciplinary faculties inside the campus. However, in this socialization process, educators and possibly all the relevant policymakers need to improve their time management, especially for teaching organizations, to be more optimal and effective.

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[53] Author's own figure

3.6.2.2 Externalization

In externalization, the respective university or entrepreneurship study program should be more open to a new collaboration with local entrepreneurs and business owners in the SMEs, cooperatives, various industries, and perhaps, big corporations. This way, one can develop more practical and applicable teaching content for entrepreneurial design thinking that suits local needs. It is relatable for students to comprehend how the design thinking process and tools can benefit their local entrepreneurial endeavors. Another suggestion is to develop more networking, particularly for the higher-up people in the government bodies. Such networking is needed to legitimate the entrepreneurial design thinking in the national education system – most likely with a long bureaucracy and sophisticated paper works. However, university staff and educators must brace themselves if we want to implement this teaching methodology within the particular internal HEI and externally across the country.

3.6.2.3 Combination

The findings and discussion sections have been seen that Indonesian students wish to have more practical tasks than merely studying theories from textbooks and lectures. Combining the relevant theories on entrepreneurial design thinking with students' entrepreneurial projects can be worth trying. However, this idea may require educators to master entrepreneurship and design thinking concepts to relate to students' business cases. University and entrepreneurship study programs can invite and collaborate with multi-disciplinary guest lecturers and business mentors. They can provide conventional speeches and more practical workshops on how those mentors implement elements and tools of design thinking in running, solving problems, and managing their day-to-day businesses within their local markets.

3.6.2.4 Internalization

Internalization requires internal politics to win the various faculties' heads and members so that entrepreneurial design thinking teaching methodology can be accepted and embraced to collaborate and maximize the university's scientific and entrepreneurial advantages. For the case of SBM ITB, if they can internalize this entrepreneurial design thinking, and all the faculties are willing to implement it, one notable result is that commercialization of scientific and laboratory products can be actualized. That aim requires all university stakeholders to collaborate and work it together this objective.

Finally, to primarily answer the second research question of this thesis: Is there any potential to cross-culturally adapt entrepreneurial design thinking in Indonesian higher education? This study can conclude that, yes, there is potential. However, the implementation can be a different version of what entrepreneurial design thinking looks like in the West (see section 2.2.3.2) and, perhaps, can be slowly introduced and integrated in Indonesia and suggest to name it the approach 'cultural-adaptation-based entrepreneurial design thinking' (Figure 31).
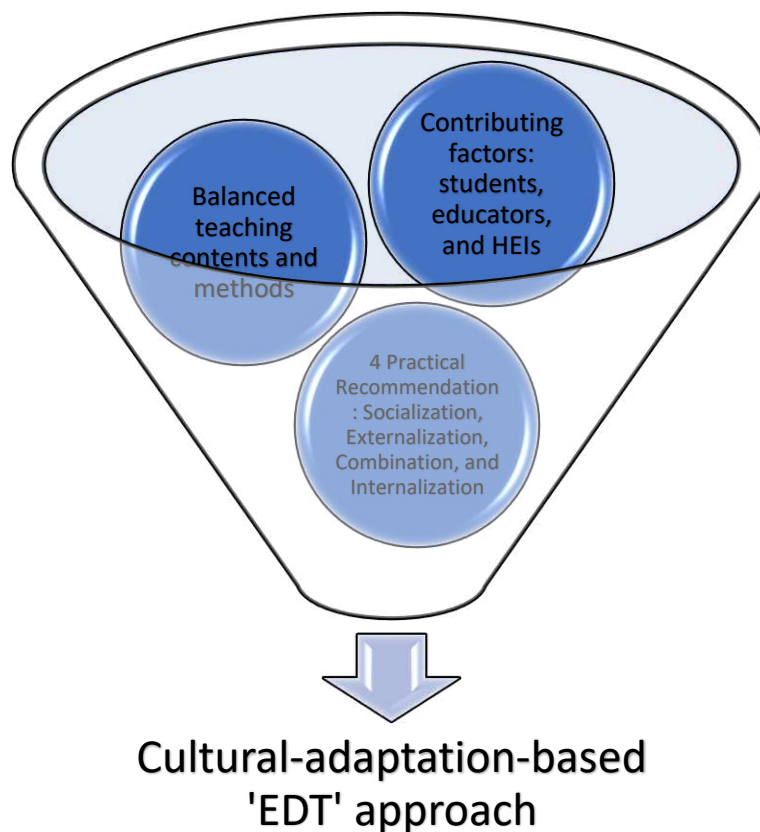
Figure 31. Cross-Cultural Adaptation of Entrepreneurial Design Thinking[54]

This approach is primarily by balancing and combining the conventional theoretical lectures (about entrepreneurship, design thinking, and how they are conceptually connected) with students' entrepreneurial or business endeavors, just like the MBA CCE of SBM ITB has realized in this case study. This way, educators and students (as well as the university/HEI program coordinators and staff as the contributing actors) can work, collaborate, and learn through design thinking, relatable exercises, practical-oriented guest lectures, and company visits. For example: to the local garment or clothing businesses); support and relate the business mentoring with more design thinking instruments (such as: business model canvas, lean strategy); and provide students with adequate time in one semester to form their thoughts and ideas in the form of presentation and exhibition and possibly by inviting local

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[54] Author's own figure

entrepreneurs to see and give feedback for their efforts. The latter can open up new networks for students and local business people. All of the above are encouraged by the four practical recommendations explained earlier, i.e., socialization, externalization, combination, and internalization.

Indeed, these are all recommendations derived from our case study. Any variance and complexities in the actual practice are inevitable. Nevertheless, the process is highly intricate by studying all the cultural and social factors influencing the process of cross-cultural adaption to teach methodology from Western to Eastern countries. It further requires multi-various educators, curriculum designers, and policymakers to come together and embrace this new Western teaching practice to improve the national entrepreneurship higher education teaching method.

CHAPTER 4: SUMMARY, CONCLUSION, AND OUTLOOK

The dissertation's final chapter provides a comprehensive summary of the research findings, their significance, and their implications for both scholarship and practice while also identifying the study's limitations and providing recommendations for future research. Section 4.1 first gives a comprehensive overview of this thesis. Section 4.2 of this thesis examines the contribution of this study to the existing body of knowledge and its implications for practice. In addition, the study's limitations are pointed out, and the need for future research in this area is emphasized.

4.1 Summary of Research and Its Limitation

In this sub-section, this doctoral thesis research will be summarized (section 4.1.1) and explain some of its limitations and shortcomings (section 4.1.2).

4.1.1 Research Summary

The primary aim of this dissertation is *to examine the differences in culture and the potential adaptation of the design thinking technique within the context of entrepreneurial higher education in Indonesia*. More precisely, two central research questions guide this thesis as the following:

1. *What theoretical concepts stand behind design thinking, and how is design thinking theoretically connected to entrepreneurship education?*
2. *Is there a potential for design thinking to be culturally adapted for entrepreneurship education in higher education in Indonesia?*

The examination of these research inquiries was carried out through a series of four main procedural steps; all checkpoints mentioning these steps are written below in bold. The following concisely reviews the study methodologies and the accompanying outcomes discussed before.

CHAPTER 4: SUMMARY, CONCLUSION, AND OUTLOOK

The **first procedure** examined the contemporary studies of entrepreneurship education and design thinking. This phase aimed to ascertain the research gap, necessity, and motivation of this dissertation. The initial stage of the study was an examination of the historical backdrop, followed by an assessment of the recent research state in entrepreneurship education. The reviews highlight significant concerns (see sections 1.1.1, 1.1.2, and 1.1.3).

Since its emergence in the 1970s and 1980s, entrepreneurship has been characterized by its interdisciplinary nature (Hägg & Kurczewska, 2021). Consequently, this field has faced internal and external scrutiny over its scientific rigor and authenticity. The discipline of entrepreneurship has incepted earlier and has exhibited a more accelerated progression compared to the establishment and advancement of entrepreneurship education. Both reciprocate each other and have grown simultaneously, although both are also struggling with their conceptual and methodological debates. Since early studies, entrepreneurship education debates have evolved regarding what and how to teach entrepreneurship, so its research map still needs to be completed. Regarding educational theories, the research investigation on entrepreneurship education is still limited, in the exploratory stage, and majorly focused on the economic and business aspects of the curriculum. Nevertheless, the research development has continuously grown to include curricula and teaching challenges.

There is an increasing call for a stronger empirical focus to establish full academic legitimation of entrepreneurship education as a specific scientific domain. There is a persistent endorsement for conducting additional studies employing a multidisciplinary research strategy, incorporating theories derived from several fields. There is a need to provide more theoretical references from both fields of entrepreneurship and education to drive for more practice-based, context-related applications in education practice. Furthermore, there have been entrepreneurship pedagogical shifting and changes from the 1980s until the present time, from teacher-centered to more student-oriented active-based learning. In particular, the latter emphasizes action-oriented, experiential, and constructivist approaches, such

as "lean start-up, design thinking, and business model canvas" (Hägg and Gabrielsson, 2020, p.7). However, some prominent scholars are also concerned about the vulnerability in the loose connection of the entrepreneurship education field that is only becoming research orientation instead of practice direction.

Overall, past studies focused on how the field is becoming more accepted. Also, how the teaching methods have changed from teacher to student-centeredness, it was remarkable that the focus mentioned above of the present research domain in entrepreneurship education was a call towards more socially-based, contextual studies. There is also a need to encourage a more interdisciplinary theoretical approach (than only using prevailing theories) to produce more practical-oriented research to sharpen the meanings and use of entrepreneurship education. Also, research on entrepreneurship education might need to fully cover the cultural context of design-based teaching methods, especially when moving to a different culture and adapting to it.

This idea is the starting point for this thesis, which looks at the position of design thinking in a higher education setting where entrepreneurship education is taught. So, future research on entrepreneurship education should use multidisciplinary theories, look at the social and possibly cultural context and place entrepreneurship education takes place, and use the new constructivist learning approach. Design thinking is often mentioned as a way to do this. However, the research on "entrepreneurial design thinking" does not look at how the two fields are connected theoretically or how to adapt this well-known teaching method from the West to different cultures. This current investigation has attempted to fulfill those research gaps and needs.

In the next phase, the research state of design thinking, which consists of a brief starting point and recent development, as well as the current situation of research on design thinking in the context of entrepreneurship education, was reviewed. The review underlines some important notes as the following.

CHAPTER 4: SUMMARY, CONCLUSION, AND OUTLOOK

Design Thinking is a relatively recent phenomenon that has garnered significant attention from scholars motivated to investigate its underlying principles and practical implications, with a particular focus on its relevance within the domains of commerce, leadership, and entrepreneurship. The fundamental essence of design thinking is its emphasis on innovation and a human-centric approach, strongly intertwined with entrepreneurship education, particularly as a pedagogical approach and instrument. The manifestation of design thinking into entrepreneurship education seeks to offer students a sequential and iterative entrepreneurial experience while providing them with dependable pedagogical concepts and elements.

Design thinking is also a constructivist teaching paradigm in entrepreneurship education, encouraging students to construct their knowledge through real-practice experiences. Design-based entrepreneurship education approach can strengthen systematic self-reflection and learn for students by creating artifacts, collaborating with multi and inter-disciplinary team works, and practicing empathy and effectuation as primary principles in the journey. This approach promotes entrepreneurial mindsets, motivation, and satisfaction since students are encouraged to go through the non-linear learning process, centralize their thinking and action within creativity and innovativeness, and emphasize the outcomes into practical approaches. Utilizing design thinking can be a valuable instrument in the pedagogical approach to instructing entrepreneurship. In particular, at the higher education level, the new millennial generation demands more student-centered collaboration with instructors and practical business people to provide more business world-relevant pedagogy and prepare them with the actual practice of entrepreneurship and business. Western universities, especially in the US and Europe, have gained trust in implementing design thinking in their higher education curriculum. However, the case is still rare in developing countries, in particular, whether this teaching methodology is applicable and how to adapt it cross-culturally in Eastern (Asian) nations.

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Furthermore, the researcher intentionally added synopses of two notable research publications (Amalia & von Korflesch, 2021a, 2022c) inspired by this thesis as the **second procedure** (see section 1.1.4). The objective was to conduct an empirical investigation on the progress of entrepreneurship education in Western nations and Indonesia. What subjects have been instructed, and by what methods have they been delivered? What insights can be gained from the examination of these disparities? The ensuing discourse can be succinctly stated as follows.

The researcher has authored a single scientific publication about the literature review of Indonesian entrepreneurial higher education mapping (Amalia & von Korflesch, 2021a). The study found that the circumstances and development of entrepreneurship education in Indonesian higher education are infant and have raised many challenges. Some of the problems that have been covered are

- the issue pertained to the disproportionate dispersion of entrepreneurial education programs nationwide;
- the 'centralization' of the national education system;
- the few entrepreneurial, even from school, academic institutions;
- the cultural belief, the misconception, and misperceptions of becoming entrepreneurs;
- the persistent 'traditional' method of teaching 'About' entrepreneurship.

However, they are just like the tip of the iceberg, meaning many more interesting issues to be studied.

Accordingly, the researcher also had authored another publication concerning the systematic literature review from the Western (European and American) counterparts (Amalia & von Korflesch, 2022c). Systematically reviewing the course content and pedagogy/teaching methods in entrepreneurship education, especially from well-developed countries in Europe and the United States, is valuable and necessary. The reason is that exploring what curricula in entrepreneurship education provide and how their content is delivered had to contend with the need for enhanced consensus over the precise delineations of entrepreneurship and entrepreneurship education. This obstacle has meant that entrepreneurship courses

differ widely and have only minor common content. Nevertheless, the results show that the general approaches to teaching substance and pedagogical methods in entrepreneurship education have three themes: 'About,' 'For,' and 'Through' entrepreneurship. Moreover, the 'For' type of entrepreneurship education is the most frequent content of curricula and teaching methods in Western countries.

Studying and reviewing the above developments of entrepreneurship education in the West and Indonesia was not merely comparing them to each other. Nevertheless, it is noteworthy that there needs to be more research addressing the adaptation of entrepreneurship design thinking, a renowned Western instruction method, to the context of Eastern countries. This study was also in favor of seeking which elements support the adaptation and which ones do not support it. What knowledge and suggestions can be offered to improve the literature and real-world examples about this subject, particularly in the case of Indonesia as a growing Asian nation. From these reasonings, this thesis has attempted to fill the gap.

In a nutshell, the existing literature body about the intersection of design thinking and entrepreneurship education has primarily concentrated on investigating on how design thinking could be used to make more practical and hands-on learning in entrepreneurship education. Design thinking helps teachers bring in traits, processes, tools, and a framework that help students become more constructivist and reflective when dealing with real entrepreneurial problems, supporting students' entrepreneurial efforts, and building an entrepreneurial identity. However, the field is also worth investigating because there need to be more theoretical ideas behind design thinking. Even though studies concerning design thinking and entrepreneurship education is becoming more popular, more research is needed to know how design thinking is used in higher education entrepreneurship programs, especially in Eastern countries. Also, this thesis aims to explore if this Western way of teaching, called "entrepreneurial design thinking," can be used in different cultures.

The **third step** was an extensive study of the conceptual principles and theoretical foundations of entrepreneurship education, design thinking, and cross-cultural

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adaptation. This phase was undertaken with the primary objective of addressing the first study query posed in this thesis, i.e., what theoretical concepts stand behind design thinking and how design thinking is theoretically connected to entrepreneurship education. This step further explicated and provided a conceptual and theoretical fitness of cross-cultural adaption in the entrepreneurial design thinking research spectrum (see sections 2.2.3.1 until 2.3.2, respectively).

The first discussion covers the literature underpinnings, debates on entrepreneurship education and basic concepts of entrepreneurship education. In particular, the latter includes the definitions, objectives, categories, teaching contents and methods, the heterogeneity characteristics, and the expected outcomes of the audience. Identifying and addressing the above entrepreneurship education core elements are paramount to establishing a solid understanding of the field before this study further integrate it multidisciplinary with other fields' theories, such as design thinking and cross-cultural adaption.

Moreover, this thesis also covered the fundamental theories of entrepreneurship education. This sub-section includes the historical and philosophical understanding and learning paradigms in the educational philosophy connected to entrepreneurship education. The latter primarily discussed

- pragmatism as orientation in the beginning era of entrepreneurship education;
- behaviorism as rationalism and knowledge in learning theories; and
- constructivism to bring human beings and their complexities in learning.

This study further explicated the constructivism paradigm as the existing literature has mentioned that it is the most related approach to learning theory in entrepreneurship education. The general rationale is that entrepreneurship education emphasizes action, experience, and problem-based learning, which also follows design thinking.

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From this sub-section, the basic concepts and theoretical literature portion of entrepreneurship education highlights the following points:

- Entrepreneurship is an interrelated technique of generating, identifying, and seizing chances that combine innovative thinking with taking decisions in action;
- Learning is developing, a sense-making process in which individuals develop the ability to act differently, striking a balance between knowing, doing, and understanding; and
- People learn by establishing meaning through situational experience and creating new facts.

Hence, the present study has concluded that the pedagogical approach toward entrepreneurship education should emphasize cultivating a mindset and behavior rather than a mere sequential set of actions. In this scenario, utilizing practice-oriented techniques can facilitate students' comprehension, cultivation, and application of the requisite proficiencies and methodologies essential for success in entrepreneurship. These pedagogies encompass engaging in business initiation inside the framework of their academic curriculum, using activities and models to teach, using design-based learning methods, and doing self-reflection. Students can construct their understanding of the world through self-directed and active learning, which involves engaging in experiential learning and observing social models. The utilization of the constructivist learning paradigm is employed to elucidate this perspective. The underlying premise posits knowledge acquisition as being contingent upon the learner's personal experiences within the external environment while the teacher facilitates the learning journey.

Accordingly, the subsequent sub-section is the literature on design thinking, which consists of

a) the roots;
b) the related fundamental theories; and
c) the conceptual understanding.

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For the former, this study has delineated each generation of design thinking from the 1960s up to the present time. The d.school at Stanford University has many ties to IDEO and the idea that started it all, today's era of "design thinking." IDEO's CEO, Tim Brown, and the company have been a big part of the recent managerial discourse. From there, IDEO's user-centered design changed how people thought about design thinking. So, in the latest organizational discussion, design is seen as a broader way to think about innovation. Nevertheless, although design thinking is a pragmatic approach that facilitates the cultivation of new ideas and creativity in design, the field is also based on highly theoretical underpinnings.

That is why the sub-section of fundamental theories of design thinking was elaborated. This study derived the theories from the studies of von Thienen et al. (2018, 2019, 2021) and separated them into three categories: theories of creative thinking, visual reasoning, and ambidextrous reasoning. Following those three theories, this research then linked them with the basic conceptual components of design thinking (definitions, characteristics, and processes) as the last sub-section within the literature on design thinking.

Understanding the roots above, fundamental theories, and basic conceptual elements of design thinking is paramount. This study finally developed the structured framework of *theoretical foundations behind design thinking* to answer the first half of this thesis's research question number one as the following (section 2.2.3.1).

The two major design thinking concepts consist of discourse roots and thinking theories. The former said design thinking had two discourses (i.e., design and management discourse); while the latter includes the three Arnold and McKim-based thinking theories: creative, visual, and ambidextrous. In particular, the two thinking ideas of creative and visual are intricately connected to the root of design discourse. Meanwhile, ambidextrous thinking can be associated with the root of management discourse.

Within the realm of design discussion, Herbert Simon introduced the concept of design thinking, characterizing it as a discipline that pertains to the study of the artificial. Simon (1969) foundational work states that the design's epistemology is pragmatic. Ideal target systems are crucial for early scenario definition. In The Reflective Practitioner, Schön (1930-1997), a pragmatist philosopher, further urged researchers and practitioners to rethink technical knowledge excellence (Johansson-Sköldberg et al., 2013). Despite various disagreements, Simon's pragmatist approach in "The Science of the Artificial" has established certain essential underpinnings and offered "the science of design" as a research platform. Design knowledge comes from experiencing, engaging, commenting on the process, and using the artifacts (Cross, 2001). Designers' and their so-called "designerly" ways of understanding, reasoning, and acting underlie the process.

In contrast, contemporary design thinking is grounded in theoretical frameworks that emphasize utilizing creative, visual, and ambidextrous cognitive processes (von Thienen et al., 2018, 2019, 2021). Numerous scholarly definitions, conceptions, and interpretations exist within the academic realm. In the past, design thinking referred to the cognitive processes employed by individuals in the design field. The phrase pertains to a cognitive approach and a systematic approach to resolving intricate issues in various domains beyond design. It also encompasses a mindset for addressing intractable problems and identifying potential breakthroughs. This framework offers theoretical constructs, a systematic approach, and analytical instruments to comprehend the impact of emotional and cognitive aspirations on problem-solving. The need for greater clarity in defining design thinking has arisen due to the inherent tension between scientific rigor and professional applicability. Three design thinking domains have been identified by Clark and Smith (2010), Kimbell (2011), and Lindberg et al. (2011). Design thinking may be understood and conceptualized in three distinct ways: as a cognitive style, as a professional philosophy, and as a design process. Each perspective offers valuable understanding into the grain and use of design thinking in many contexts. By examining design thinking from these three angles, a comprehensive understanding of its multifaceted nature can be achieved.

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This study highlighted five fundamental elements of design thinking (Amalia & von Korflesch, 2021b). *Design thinking* is a cognitive approach that places humans at the center of problem-solving processes. It emphasizes empathy, collaboration, communication, experimentation, iteration, and a diversified thinking style. Furthermore, it requires a strong attitude and character. Design thinkers exhibit cognitive and behavioral attributes that align with each design thinking trait, enabling them to address complex challenges by developing new solutions. Additionally, this study has highlighted five essential characteristics, namely Empathy, Integrative-Whole Thinking, Experimentation, Multidisciplinary Teamwork, and Iterative-Communicative Process.

This study subsequently established a connection between the aforementioned theoretical foundations of entrepreneurship education and design thinking. The linkages mentioned above were established after the investigation conducted by von Kortzfleisch et al. (2013), wherein a comparative analysis of the two domains was undertaken to discern their fundamental resemblances. This study additionally synthesized the distinctions in the pedagogical approaches employed for teaching entrepreneurship, specifically comparing the rational/conventional analytical approach with the design thinking approach. This study elucidated the use of the proposed methods in the context of higher education, as documented in the relevant literature (see Section 2.2.3.2 for additional information).

In general, this study found that traditional university pedagogy, especially in entrepreneurship, has dominated its teaching technique, which is incompatible with how entrepreneurs should learn. Entrepreneurship requires active, experimental, and action learning, teamwork, and learning by doing, while traditional teaching is "passive" (Wright et al., 1994). Several studies recommend modernizing higher education entrepreneurship. Alternatives particularly include design thinking, which pertains to a cognitive framework and corresponding behavioral approach that can solve complicated business challenges and complement today's graduates' analytical skills (Johansson-Sköldberg et al., 2013; Simon, 1969; Wang & Wang, 2011) User-

centered design, open collaboration, integrative and iterative thinking, and exploratory phases define design thinking. It could be one of the best ways to educate entrepreneurship in higher education, concentrating on how entrepreneurs prepare for the unknown.

Furthermore, design thinking requires intentional learning. Design thinking in education and universities is well-known. Most undergraduate and postgraduate programs are based on the human-centered approach. On practical design thinking courses, students from different disciplines work together on similar problems, create multiple views on problems or opportunities, and undertake projects in working groups with industry partners and end-users. Some studies have even sought to integrate design thinking into managerial business and product innovative development courses (Melles et al., 2012), business and entrepreneurship courses (Glen et al., 2015; von Kortzfleisch et al., 2013). Finally, experience-oriented knowledge (Melles et al., 2012) and reflective practice (Schön, 1983) help prepare young graduates further for today's ever-changing business and financial world.

The last sub-section of basic concepts and theoretical foundations reviewed the existing cross-cultural adaptation theories and models (see section 2.3). Following Becker (2005), Bodley (2000), and Hofstede (1983), this study defined *culture* as the individual attitude of people programming on what they believe, do, and produce as members of one community that distinguishes them from another. Values, national identity, or attributes can categorize cultures and affect social behavior and interests. Thus, Easterners and Westerners have different knowledge about cultures and learning approaches. Teaching methods must alter multiculturally to help students learn deeply.

This study further identified two distinct categories of cross-cultural adaptation theories, i.e., human and non-human. The former focuses on research concerning cross-cultural shock and adaptation of sojourners' movement from their homeland to the host country. In contrast, the latter focuses on knowledge transfer and learning research, including adapting teaching methodology from one culture to another. The

significance of cross-cultural adaptation in modifying the learning and teaching approach is exemplified by the widespread availability of Western scientific understanding and programs facilitated by technological advancements. To effectively embrace the present-day world of technological educational instruction, it may be necessary for traditional offline education to undergo transformation and adjustment in order to align with online-based learning. This theory is in line with this thesis objective that seeks to answer whether the innovative Western teaching methodology of entrepreneurial design thinking is applicable to be cross-culturally adapted to Eastern countries, in this case: Indonesia.

This thesis has also attempted to illustrate in conceptuality how one can adapt Western teaching methods to a new culture. As mentioned earlier, it was also one of this thesis's significances to comprehend the theoretical fitness of cross-cultural adaption in the research spectrum of entrepreneurial design thinking. This study developed from Shafaei and Razak's (2016) theory on international students' cross-cultural adaption in Malaysia. Those researchers created a model of theory and framework to elucidate the underlying process and connection of cross-cultural adaptation. The process was also influenced by Kim (2001) and Hofstede, (1986) on human cross-cultural adaptability and Hofstede and Bond (1984) on national culture. The study by Shafaei and Razak hypothesized how environmental (university) and individual (Eastern lecturers and students) factors may affect the cross-cultural adaptation of foreign teaching methodology. These include a university's (environment, structure, and culture) sensitivity to change and willingness to adapt. Also, it needs students' and lecturers' adaptability, learning, teaching, communication patterns, and cultural characteristics.

To illustrate entrepreneurial design thinking's cross-cultural adaptation, this study used Holden and von Kortzfleisch's (2004) knowledge transfer theory. Entrepreneurial design thinking is "adapted" to different cultural contexts, not "transferred." However, certain theoretical components are necessary when adapting a Western teaching technique to an Eastern culture or nation. They are internalization, combining, externalization, and socializing. When "adapting" a

teaching approach from the West to the East, this study further consider the eight educational values suggested by Bentley et al. (2005) on cultural differences (see Figure 19 in section 2.3.2).

The qualitative case study on Indonesia was undertaken as **the fourth step**, as outlined in Chapter 3, with the primary objective of addressing the second research question posed in this thesis*: Is there a potential for design thinking to be culturally adapted for entrepreneurship education in higher education in Indonesia?*

This primary data collection process took for 12 weeks from August-November 2017 in the School of Business and Management Bandung Institute of Technology (SBM ITB) MBA program of creative cultural entrepreneurship (CCE), Bandung, Indonesia. During the period, the researcher conducted class observation and a semi-structured interview with the students, lecturers, and program coordinator at SBM ITB, which offers entrepreneurship education and design thinking in Indonesian higher education institutions. The observation in the entrepreneurship education and design thinking classes was captured during lessons using field notes, and interviews conducted outside the lecture were recorded using a voice recorder. The main aim of the observation was to understand how entrepreneurship education and design thinking course were conducted in the Indonesian higher education context, which can most likely show some cultural differences compared to the existing Western examples. This component includes how educators (lecturers and mentors) teach in class and mentoring, how students learn, and all the unique diversities, insights, and challenges during the lessons. In addition, the interview's main aim was to comprehend the lecturers' and students' perceptions, personal values, attitudes, and mindsets regarding entrepreneurship education and design thinking.

This thesis employed the qualitative case study and thematic analysis for the data analysis method (Braun & Clarke, 2006; Merriam & Tisdell, 2015; Terry & Hayfield, 2021; Yin, 2003). *Thematic analysis* is a versatile analytical approach that allows researchers to develop themes—meaning-based patterns—to represent their interpretation of qualitative data. This kind of study focuses on the results

contextualization, resonance, and transferability. Instead of seeking out the truth, the researcher was more concerned with producing knowledge representing situated truths in circumstances where they might provide insight through theory, research, and cultural knowledge. Reliability is not the ultimate measure of rigor; rather, it is engagement with the data.

There are also six decisions that the researcher had considered before this study began, i.e., determining the themes, types, and claims of the analysis; ways of identifying the themes; level of the themes; the epistemology of the analysis; and the relationship with the research questions. These issues had no strict regulations. Combining such options is feasible. Thematic analysis is flexible, allowing the researcher to choose themes differently. However, the essential thing is that the researcher remains consistent in their topic choices throughout the study. This thesis used more constructionist data analysis. The thesis followed constructivism. Therefore, the researcher integrated facts and theoretical analysis with underlying themes from the collected data. This study followed and took notes on every step of the thematic analysis procedures, i.e., data familiarization, initial code creation, themes generation, themes refinement, themes definition, and report production (see section 4.4).

Overall, it was evident that cultural differences concerning the teaching conduct of entrepreneurship education and design thinking between Indonesian higher education institutions as the Eastern country and Western ones existed both in our literature reviews and in the findings of this thesis case study. There are further several contributing factors that can be considered as potentials and challenges, whether it is possible to culturally adapt the teaching methodology from the Western countries to the Easter ones, in this case: Indonesia. Those factors, in general, are

- students' cultural-related characteristics, learning behavior, perception, and expectation;
- educators' cultural-related characteristics, teaching roles and methods, and teaching challenges;

- as well as the entrepreneurship education/design thinking program structure and university bureaucracy/national systemic issues.

There is one further notable finding from this case study. That is, the presence and implementation of entrepreneurial mentoring as a teaching method and learning program in Indonesian entrepreneurship higher education that plays a critical role in supporting students' entrepreneurial learning and journey (see detailed results and discussion in sections 3.4.6 and 3.5, respectively).

This study also found some suggestions from the findings on improving students' entrepreneurial learning journey and educators' teaching process. The recommendations are to improve punctuality and time management; provide students with printed/written learning materials and instructions; give students more flexibility in moving from one mentoring to another; provide students with more diverse and balanced learning contents and methods; and enable students to evaluate each other, especially during peer-presentation sessions (see section 3.6.2).

Furthermore, this thesis built on the previous design thinking and cross-cultural adaptation theoretical literature in Chapter 2 (particularly (Bentley et al., 2005; Hofstede & Hofstede, 2001; Holden & von Korflesch, 2004; Kim, 2001; Shafaei & Razak, 2016)). This thesis also implied that all those contributing factors (the institution, educators, and students) are connected to the seven educational value differentials. They – as summarized below – are educational culture, technical infrastructure, language, primary audience, learning and teaching style, reasoning patterns, and social and cultural context. These variables facilitate comprehension of cultural disparities and inform the development of cultural adaptation strategies for entrepreneurial design thinking in the Indonesian cultural entrepreneurial higher education setting.

Educational culture: Indonesia's education system in general is still teacher-centered. Top-down authority control remains, including instructors' adherence to the teaching profession's organizational culture. This circumstance shows how teachers depend

on institutional policies, unlike the West, whereby instructors' personality and interests determine their pedagogical independence. To teach design thinking's "ideal" process stages, educators and the education system must develop a collaborative, project-based learning environment, which may only be viable in a bottom-up, student-centered system. Consequently, how to adapt entrepreneurial design thinking in Indonesia should involve gradual changes in education that should consider those disparities in systemic educational culture.

Technical infrastructure: Global learners have different resources. Lack of crucial technical learning tools and limited access to computers, transportation, and a university's learning infrastructure will hinder successful learning. This thesis' case study, SBM ITB, is a private university with most MBA students from high-income households in big cities. Thus, their business school can provide the necessary infrastructure and tools for design thinking. Other Indonesian HEIs in rural areas or provinces may have varying capacities. That is one of the critical elements that must be considered to cross-culturally adapt entrepreneurial design thinking from the developed Western countries to Indonesia.

Language: Non-English speakers may think Western teaching methods, including those in English-based textbooks, are useless because they need help understanding the material and procedure. The language barrier persists at SBM ITB, despite offering international certification and an exchange students' program. It is also unavoidable that most design thinking reading materials and case studies are in English because it is from a Western country. In contrast, students and educators are local Indonesians who speak Bahasa Indonesia. Their reasoning thinking is also in Bahasa Indonesia, not English. Providing more localized design thinking teaching and learning materials in Bahasa Indonesia may lessen this language obstacle.

Primary audience: From our case study, SBM ITB has strived to provide a diversified learning environment and multidisciplinary educators for its diverse student body. However, not all Indonesian higher education institutions are willing to "immediately implement" such diversity and heterogeneity of instructors and students. In

particular, in rural areas and provinces where locals and homogeneity are still prevalent and less flexible in accepting "the new style" of learning and teaching communities. This situation can limit the optimal introduction and adaption of design thinking in Indonesian higher education institutions, where diversity and multi-ethnicity are essential for human-centered, empathetic, and communicative teamwork.

Learning and teaching style: Students learn to study differently because of their cultural upbringing. When implementing cross-cultural design thinking in Eastern countries' entrepreneurial higher education, the value distinctions in learning and teaching techniques should be carefully considered. In order to create cross-cultural curricula that enhance student learning by embracing collaborative and optimal design-thinking learning, educators in Eastern nations need to develop their organizational and time management abilities in the classroom.

Reasoning patterns: People from different cultures may approach problems differently. For example, when implementing cross-cultural entrepreneurial design thinking, Westerners and Easterners (Asians) differ in their reasoning patterns. Design thinking training in the West can be completed in one student project with an "ideal" iterative process within a specific period since students and instructors analyze causally and holistically to uncover the problem's fundamental cause and provide remedies. This reasoning pattern can be difficult to apply in Eastern countries with attributive thinking, especially concerning the time perspective. Adapting entrepreneurial design thinking in the Eastern culture should strongly consider this reasoning patterns element.

Social and cultural context: Education is permeated by culture. The learning environments' social and cultural contexts impact how students respond to new information. It is essential to consider cultural and contextual variables to adapt the Western teaching methodology of "entrepreneurial design thinking" cross-culturally. There are distinct communication patterns among students from Eastern and

Western regions. Western societies generally have a low-context communication style, whereas many Asian civilizations exhibit a high-context communication style.

Additionally, the present study has consolidated the comprehensive results and discourse and provided practical suggestions for the cross-cultural adjustment of entrepreneurship in Indonesian institutions of higher learning. Figure 32, presented below, encapsulates these findings (see Section 3.6.1 and 3.6.2 for a more extensive analysis).

Figure 32. Summary of This Thesis' Case Study[55]

Overall, the practical recommendation from our study to do the adaptation process is as the following. The socialization concept focuses on integrating entrepreneurial design thinking, a Western teaching technique, into Indonesia's higher education system. Concerning externalization, the relevant institution or entrepreneurial study program should be more receptive to a new partnership with as many outside parties or stakeholders as feasible. Moreover, it would be worth a try to include and combine the pertinent ideas on entrepreneurial design thinking into the students' entrepreneurial projects. Finally, internalization involves internal politics to win over the heads and members of the various faculties so that the entrepreneurial design thinking teaching approach may be adopted and embraced to optimize the university's scientific and entrepreneurial advantages through collaboration.

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[55] Author's own figure

Lastly, to answer the main part of the second research question of this thesis: Is there a chance that entrepreneurial design thinking could be adapted across cultures in Indonesian higher education? Yes, there is potential. However, the implementation could be a different version of what entrepreneurial design thinking looks like in the West (see section 2.2.3.2 and 3.6) and could be slowly introduced and integrated in Indonesia. This study calls it "cultural-adaptation-based entrepreneurial design thinking."

The approach is mostly based on how the MBA CCE of SBM ITB has combined conventional theoretical lectures (i.e., teaching "about" entrepreneurship and design thinking) and how they are related conceptually to students' business or entrepreneurial projects. The strategies are:

- teachers and students can work, collaborate, and learn together through design-thinking-related exercises, practical guest lectures, and company visits (e.g., to local clothing industries or food businesses);

- encourage and relate entrepreneurial mentoring with more design-thinking tools;

- give students ample time in one semester to form their thoughts and ideas into solid presentations and virtual exhibitions; and

- encourage students to meet local business people, make new connections, and widen their views on how design thinking 'ideology' can be used in their entrepreneurial projects and journeys.

All of these suggestions come from our case study. In practice, there will always be differences and complexities. Still, it is complex after looking at all the cultural and social factors that affect the process of adapting teaching methods from Western to Eastern countries. The process requires many teachers, curriculum designers, and policymakers to work together through the socialization, externalization, combination, and internalization mentioned above. Finally, this research can be a starting point to examine and adapt this new teaching method from the West to improve how entrepreneurship is taught in higher education in the East.

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4.1.2 Limitation and Further Recommendation

As explained in Chapter 3, this study primarily used the qualitative case study and thematic analysis method. The approach certainly has its advantages and disadvantages. However, this study employed it because the method can provide a thorough investigation and present the circumstances in a sophisticated, rich, and elegant manner. Moreover, this study executed the data collection and analysis procedures with cautious and detailed aspects to ensure validity and reliability.

Nevertheless, this thesis has some limitations. The participants in this case study were a very minimal number (i.e., eight students, four lecturers, including one program coordinator). However, the researcher has optimized the whole 12-week or one teaching semester for class observations and intensive interviews for collecting insightful primary data. Following that, the data collection involved individual participant semi-structured interviews. Another method, such as focus groups, may have been more beneficial to collect in-person data and allowed participants to talk casually in a more open and natural environment. Focus groups with young students are particularly advantageous in qualitative research (Bagnoli & Clark, 2010; Gibson, 2007; Rajmangal, 2017). With facilitation and support from the researcher, participants often build on each other's responses, creating candid and natural answers (Leung & Savithiri, 2009; McKee et al., 2014). Thus, this aspect was probably the one that the researcher missed. However, with the very limited capacity, the researcher tried her best to maximize the process by collecting the whole data in a sophisticated manner.

Additionally, the time gap between the data collection period and this thesis submission is relatively long (i.e., the researcher's health circumstance and a three-year Covid period had affected the overall process). Nevertheless, Merriam and Tisdell (2015) and Patton (2015) have assured that a qualitative study, which follows a constructivist theoretical framework, is concerned with how respondents of the study experience and comprehend the world. Their experiences' interpretation is the most critical element in shaping the findings of this study. In other words, the focus

is not on "real-time" data but on the overall meanings and interpretations this study has gathered and compelled in great detail. Also, the researcher ensured that this thesis' case study firmly adhered to internal and external validity and credibility, following Lincoln and Guba (1985) and Maxwell (2013). The final limitation is that all the findings must be tested quantitatively for more empirical evidence. However, this situation does not mean our thesis is 'atheoretical.' This study has provided extensive theoretical literature, first-hand data gathering, and eye-opening findings and discussions.

As for further recommendation, the findings from this study can be valuable for unlocking more new research to be conducted in the problem context of entrepreneurship education, design thinking teaching methodology, and cross-cultural adaptation issues. For example: to further test empirically and to what extent one can "adapt" culturally the Western teaching methodology of entrepreneurial design thinking in Indonesia (or perhaps with a different case in other Eastern cultures). Other suggestions: to assess and evaluate the response of students, educators, and university staff concerning the implementation of entrepreneurial design thinking in their respective institutions quantitatively; and to design and propose education policy and to push forward this innovative Western teaching methodology to be actualized in the national education curriculum.

4.2 Contribution and Implication to Research and Practice

This sub-section will finally explain the research contribution of our doctoral thesis (section 4.2.1) and its practical implication (section 4.2.2), in which this research could bring valuable benefits to society as a whole.

4.2.1 Research Contribution

This study greatly contributes to the problem area because it has thoroughly explored, combined, and integrated multidisciplinary research bodies, i.e., entrepreneurship education, design thinking, and cross-cultural adaptation. It has also scrutinized theoretical research frameworks that connect design thinking and entrepreneurship education and how the theories of cross-cultural adaptation fit in the research spectrum of entrepreneurial design thinking.

This work is further pertinent because the cross-cultural adaptation theories are more prevalent in the existing studies, typically to investigate human' transfer' from one country to another. Nevertheless, it went beyond the 'normal and comfortable' zone to study the "non-human" cross-cultural adaptation, i.e., teaching methodology. This study then applied the theories mentioned above to the real unique case study in a developing country (i.e., Indonesia), from the researcher's perspective, no previous study has attempted to do so.

Moreover, this research has empirically investigated the advancement of teaching contents and methods between entrepreneurship education in the US and Europe as so-called 'Western' countries and Indonesia as the Eastern ones. The primary objective was not simply to compare them, rather, to gather valuable insights on what one can learn from the two cultures and whether one can adapt cross-culturally 'entrepreneurial design thinking' as the well-known innovative teaching method for entrepreneurship education in the West to Indonesia. The main rationale is that the country has abundant potential (natural and human resources) and, more

importantly, the contextual and cultural challenges that may impede the cross-cultural adaptation process of the teaching methodology.

Additionally, although this study followed the existing technique of thematic analysis (Braun & Clarke, 2006; Terry & Hayfield, 2021) in analyzing the primary data (interview excerpts and observation notes, involved an actual case from a developing country with real students and educators participants as the real subject of the case), this study thoroughly carried the whole process out with all-encompassing steps, detailed reflexive notes and tracks, and lengthy duration period, which contributed significantly in the rich literature research body of the qualitative study.

From this thesis' extensive reviews of literature and case study findings, this study discovered and gathered valuable contributing factors that either can support or hinder the cultural adaptation process. They include the students, educators, the university/HEIs, and the country's bureaucracy. This study further connected them with seven educational value differentials from the literature that must be considered before the adaption. They are educational culture, technical infrastructure, language, primary audience, learning and teaching style, reasoning patterns, and social-cultural context for Indonesian entrepreneurship higher education institutions to adapt the entrepreneurial design thinking in their curriculum system. Four major practical recommendations from this study were suggested and can be used to do the adaption process. They are socialization, externalization, combination, and internalization. In this context, this study further proposed a conceptual model on how the cross-cultural adaptation of entrepreneurial design thinking can be carried out in the case of Indonesia. Besides, the model developed by this study can also be extended and adjusted with other developing countries cases.

This study has contributed novel theoretical perspectives by examining contemporary research areas about cross-cultural adaptation concerning non-human entities, specifically knowledge and instructional methodologies. Moreover, it has paved the way for further exploration in this field. The study also generated practical

suggestions about adapting entrepreneurial design thinking from Western to Eastern cultural contexts. The results of this study have made a valuable contribution to entrepreneurship education and design thinking by using a novel approach that integrates the cross-cultural adaption perspective.

4.2.1 Implication to Practice

This study believed that design thinking as a Western teaching methodology for entrepreneurship education is valuable and helpful for improving the recent research on entrepreneurship higher education, especially in Indonesia. This study has further proved qualitatively that the cross-cultural adaptation process of entrepreneurial design thinking in Indonesia can be very obscure, but it can also be worth trying. The primary rationales are that this thesis' case study, 'SBM ITB,' has shown that adapted design thinking as a teaching methodology for Indonesian entrepreneurship higher education is possible. However, this study needs to make more adjustments and improvements, both internally and externally. As such, this study suggests combining the prevailing teaching methods of entrepreneurship in most Indonesian higher education institutions with a student-centered approach that emphasizes business mentorship, employs design thinking tools and means, and relates them with students' entrepreneurial projects. However, this endeavor needs cooperation and collaboration with all relevant stakeholders, i.e., lecturers, study program coordinators, curriculum designers, university staff and leaders, and education policymakers. Indeed, the process will take time to realize, but each stakeholder has a significant responsibility in implementing the adaption.

This study has generated several practical suggestions and implications from the findings and discussion sections, especially for Indonesian educators, university program coordinators and teaching administrators, and government and policymakers. For example: prioritizing to improve punctuality and time management in teaching and learning; and providing students with printed learning materials, especially for regular lectures, in-class assignments, take-away tasks, or mentoring notes.

Moreover, educators may need to give students more opportunities to go 'flexible' in attending mentoring. This suggestion can be carried out by enabling students to go from one mentor session to another different mentor session to learn more diversely from multiple types and experiences of mentors. The EE coordinator, educators, teaching staff, and administration may also need to diversify the curriculum (teaching contents and methods). Providing more balanced theoretical and practical methods and materials during lectures, guest lectures, and mentoring is one of the most demanded suggestions from students. In particular, exposing students to actual case studies related to students' entrepreneurial journeys or "viral" cases of local SMEs in the country can increase students' interest in learning. Another suggestion is adding more assessment tools to evaluate students' learning process. For example, peer assessment during students' peer presentations enables them to assess and evaluate each other and avoid having "personal chit-chat" irrelevant within the lectures and presentations' hours.

Finally, government, legislators, and educators should prioritize the teaching of entrepreneurial design thinking as an essential topic. Along with establishing educational policies, all relevant parties—including those in the business and industrial sectors—should work together to expand the number of courses offered and create programs nationwide with more up-to-date and balanced course materials and teaching strategies. They should also update the learning and teaching facilities (such as by developing e-prototypes) and make funding for students' entrepreneurial projects easily accessible. These steps are essential to take in order to make sure that the goals and procedures of teaching "entrepreneurial design thinking" methodology are in line with both the needs of the country for economic competitiveness and well-being and the current state of globalization. As a result, it is also imperative that funds be allocated to entrepreneurship education training and human resources. The central and provincial-local governments must extend their support to this strategy by providing sufficient funds for entrepreneurial education programs, student experiential learning activities, collaborations with businesses, and ongoing studies and educational initiatives.

CHAPTER 4: SUMMARY, CONCLUSION, AND OUTLOOK

This study offers valuable insights into strategic management, specifically targeting scholars, education legislators and lawmakers, and college leaders in Indonesia. The aim is to enhance entrepreneurial education by integrating innovative teaching methodologies from Western practices. The receiving country's colleges and universities can benefit by adapting an innovative teaching technique from the Western context, such as entrepreneurial design thinking. The national system was established in response to the prevailing competitiveness within the higher education and business school sectors in Indonesia. The inventiveness of this pedagogical approach resides in its ability to tailor itself to the cultural idiosyncrasies and viewpoints of Indonesian students, faculty members, and the scholarly milieu.

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Appendices

Appendix A – List of Identified Literature and The Category Based on Their Roots[56]

Authors	Definitions, Interpretations, and Conceptualizations about Design Thinking	Category	
Simon, 1969	Everyone who comes up with a course of action intended to change existing situations into better ones is a designer.	(1) Design thinking in the design methodology movement (creation of artifacts) era	The discourse of design thinking within the design realm
Rittel and Webber, 1972	Proposed the notion 'wicked problems' to refer to the ill-formulated classical social system, confusing information, and conflicting values within clients and decision-makers. The idea later helped to establish the iteration of design methods.		
Rolf Fast, 1980, 1993	Design's idea is cognitive and creative action.	(2) Design thinking in the cognitive-reflective design practice era	
Cross, 1982	Designers solve the problem by synthesizing the problem, not by analyzing it, unlike science.		
Schön, 1983	Reflection is the essence of design work, enabling designers to improve competence and re-creation continually.		
Rowe, 1987	Acknowledged the term's first important use, "design thinking," as a human-centered approach for solving real problems.		
Buchanan, 1992	Introduced the idea of placement as an essential tool for designers to contextualize their design ideas in the designing process.	(3) Design thinking in the design as problem-solving activity and process method era	
Lloyd and Scott, 1995	Design thinking is a continuous and engaging process in which designers (a) figure out what is in a representation of ideas for solving a problem, (b) figure out how to connect ideas that address the issue, and (c) figure out what things suggest more design actions.		
Liu, 1996	Design thinking refers to designers' cognitive processes and perspectives in problem-solving and decision-making approaches. It encompasses how designers perceive and subsequently engage in critical thinking.		
Kolodner and Wills (1996)	Designers take part in several different systematic design processes (a) preparation, (b) integration, and (c) strategic command.		
Lawson, 1997	We all design; we can learn to design better.		
Suwa, Gero, and Purcell, 2000	Design thinking is a contextualized process whereby designers actively engage with design difficulties or must adapt the environment to align with their design approach.	(4) Design thinking in the design as a	

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[56] By the author

Cross, 2001	Design is a discipline based on reflective practice, and its forms of knowledge are the independent domain of design practice.	way of reasoning and making sense of things	
Stempfle and Badke-Schaube (2002)	Generation, exploration, comparison, and selection were suggested as the most important parts of design thought that can be used to solve many different kinds of problems.		
Braha and Reich, 2003	The design approach is a universally applicable procedure in which creators modify either the initial or existing design, as well as the specifications and specifications, in response to newly acquired knowledge.		
Boland and Collopy, 2004	The design mentality encompasses a perspective that regards each design effort as a potential avenue for innovation, characterized by a fundamental principle and a commitment to improving the environment beyond its initial state.		
Lawson, 2006	He derived the psychology of the creative design process.	(5) Design in the creation of meaning. People's interest in design increased to make it the core of their business mindset as well as other non-design purposes	The discourse of design thinking within the management realm
Brown, 2008	Design thinking endeavors to encapsulate this particular procedure and show it as a method for innovative problem-solving, even applicable to individuals not specifically trained in design. This discipline applies the designer's perspective and methodologies to align the requirements of individuals with what is technically feasible. A sustainable business strategy may transform it into consumer worth and market opportunities.		
Clark and Smith, 2008	Design is about making intent real. There is plenty of unintentional to go around. When planning, something new exists in the world with purpose. Design thinking is a exceptionally under-estimated tool for creating strategic business plans that are increasingly driven by modern innovation. The more we use design thinking to innovate and solve problems across many professions, the more design we can bring into significant conversations and decisions that shape our collective future in the business world.		
Cooper, Junginger, and Lockwood, 2009	Design thinking unearths the company's potential during design research activities that manages uncertainties and ambiguities.		
Plattner et al., 2009	The design thinking methodology is a systematic and user-centric technique to address real-world challenges. Rather than prioritizing technical problem-solving by designers, the primary emphasis lies in perceiving and comprehending the demands and desires of the user.		
Hatchuel and Weil, 2009	*Design* is a cognitive process that begins with conceptualizing a somewhat unfamiliar entity and endeavors to generate further concepts and novel insights.		

Bucolo and Matthews (2010)	A fundamental element of design thinking is its ability to capture new knowledge, whereby practitioners might differ in their techniques and tools. Still, it will be the combination of applying design tools with a strong understanding of organizational innovation that identifies design thinking's strategic value.
Lockwood, 2010	Design thinking is employing a designer's sensitivity and means to problem-solving, whatever the problem is. It is a methodology for delegation and teamwork, empowerment, also solving the problem.
Baeck and Gremett, 2011	Design thinking is an innovative and user-centric approach to problem-solving that surpasses conventional design methodologies. Design thinking challenges conventional wisdom and adopts a more exploratory and experimental approach.
Liedtka and Ogilvie, 2011	*Design thinking* is a systematic approach that aligns individuals' demands with technical feasibility and a sustainable company strategy that can effectively cater to user value.
IDEO, 2012	Design thinking is about understanding that anyone can make a difference and having a deliberate process to get novel and pertinent solutions that give positve results. It provides the designers confidence in their creative capacities and convert difficult problems into designing possibilities.
Curedale, 2013	Design thinking is a problem-solving approach that places humans at the center of the process and is particularly effective in addressing complex and challenging issues. The approach is characterized by collaboration and teamwork, integrating multiple disciplines. The tool encompasses a range of techniques that anyone can utilize across several professional domains, including corporate managers, school administrators, and educators, regardless of their background in design.
Mootee, 2013	Design thinking is seeking a facinating equilibrium between business and art, structured and ill-defined information, insitnct and logic, ideas and realization, casual and conventional, and superiotity and delegation.
Oh and Nah, 2014	Design thinking is a perspective of looking at the problem and a thinking methodology for finding innovative solutions to the problem we face.
Erdeldinger and Ramge, 2015	Design thinking is innovative thinking with a radical user-orientation. It is based on the interdisciplinary principle and connects the attitude of openness with the need for results.

Appendix B – List of Design Thinking Characteristics and Design Thinkers' Behavioral and Mental Qualities

Design Thinking Characteristics	Design Thinker Cognitive and Behavior Attributes	Source
Human-centered and empathetic	Empathy entails a deep understanding and appreciation of human values, as well as the ability to see and comprehend the worth and wants of customers.	Brown, 2008; Clark and Smith, 2008; Dorst, 2011; d.school, 2011; Dunne and Martin, 2006; Holloway, 2009; Junginger, 2007; Kelley and Kelley; 2013; Liedtka and Ogilvie, 2011; Lockwood, 2009; Martin, 2009; Owen, 2007; Porcini, 2009; Ward et al., 2009;
	Observational and Curious	Badke-Schaub et al., 2010; Bauer and Eagen, 2008; Brown, 2008; Jung, 1921; Michleweski, 2008; Owen, 2006
	Environmental awareness	Owen, 2007
Collaboration and Communicative Teamwork	Collaboration across disciplines and acceptance of diversity.	Badke-Schaub, 2010; Boland and Collopy, 2004; Brown, 2008; Burdick and Willis, 2011; Clark and Smith, 2010; Drews, 2009; Dunne and Martin, 2006; Gloppen, 2009; Jevnaker, 2000; Liedtka and Ogilvie, 2011; Michleweski, 2008
	Ability for teamwork	Owen, 2007; Parlett and King, 1970; Peacock, 1989
	Cross-disciplinary pollination	Hall, 2016; Maciver et al., 2016; Yilmaz, Paepcke-Hjeltness, and Dhadpale, 2016
	Interdisciplinary teams	Brown, 2008, 2009; Buchanan, 1989; Clark and Smith, 2008; Dunne and Martin, 2006; Gokhale, 1995; Hackman, 1983; Holloway, 2009; Lockwood, 2010; Perry and Euler, 1988; Sato et al., 2010
	Able to visualize ideas and communicate	Brown, 2009; Carr et al., 2010; Drews, 2009; Hassi and Laako, 2011; Lockwood, 2010; Junginger, 2007; Owen, 2007; Rylander, 2009; Sato et al., 2010; Ward et al., 2009
	Tolerant (deferring judgment)	Berger, 2009; Burdick and Willis, 2011; Clark and Smith, 2010; Hassi and Laakso, 2011; Jevnaker, 2000; Kelley and Kelley, 2013; Kelley and Littman, 2005
Experimentation and Iterative	The Experimental, pragmatic and explorative mentality	Brown, 2008; Cross, 2004; Dalsgaard, 2014; Frase, 2007; Holloway, 2009; Lockwood, 2010
	Ideation and time-framing experimentation	Baeck and Gremett, 2011; Brown, 2008; Efeogli, Moller, Serie, and Boer, 2013; Mehta, 2014; Oh and Nah, 2014; Thoring and Müller, 2011

	Thinking by Doing	Boland and Collopy, 2004; Brown, 2008; Brown and Wyatt, 2010; Carr et al., 2010; Dunne and Martin, 2006; Fraser, 2007, 2009; Holloway, 2009; Koria et al., 2011; Lockwood, 2010; Plattner et al., 2009; Rylander, 2009; Sato et al., 2010
	Experiential intelligence	Boland and Collopy, 2004; Brown, 2008; Brown and Katz, 2011; Clark and Smith, 2010; Goldschmidt and Rodgers, 2013; Kelley and Kelley, 2013; Lietdka and Ogilvie, 2011; Martin, 2009; Michlewski, 2008
	Action-oriented behavior	Schweitzer, Groeger, and Sobel, 2015; Badke-Schaub, 2010; Hassi and Laakso, 2011; Michlewski, 2008; Buchanan, 1992; Beverland and Farrelly, 2007; Kelley and Kelley, 2013; Goldschmidt and Rodgers, 2013
Versatile and Broad-spectrum Thinking Styles	Situated and systemic thinking	Gray, 2016; Kotlarewski et al., 2016; Nelson and Stolterman, 2012; Stolterman, 2008; Stewart, 2011; Woolrych et al., 2011; Yilmaz, Paepcke-Hjeltness, and Dhadpale, 2016
	Critically questioning	Adams et al., 2011; Badke-Schaub et al., 2010; Boland and Collopy, 2004; Buchanan, 1992; Dorst, 2011; Goldschmidt and Rodgers, 2013; Kelley and Kelley, 2013; Martin, 2009; Michlewski, 2008; Miller and Moultrie, 2013; Paton and Dorst, 2011
	Integrative (divergent and convergent) thinking	Boland and Collopy, 2004; Brown, 2008, 2009; Clark and Smith, 2008; Drews, 2009; Dunne and Martin, 2006; Dym et al., 2005; Fraser, 2009; Guilford, 1967; Hassi and Laako, 2011; Holloway, 2009; Lindberg et al., 2010; Martin, 2005, 2009, 2010; Porcini, 2009; Runco, 1991; Runce and Acar, 2012; Sato et al., 2010
	Holistic thinking	Dunne and Martin, 2006; Fraser, 2009; Hassi and Laako, 2011; Holloway, 2009; Sato, 2009
	Abductive reasoning	Dew, 2007; Dunne and Martin, 2006; Fraser, 2009; Gray et al., 2015; Hahn, 2016; Hassi and Laako, 2011; Lawson, 1980; Lindberg, Meinel, and Wagner, 2011; Lockwood, 2009; Newell and Simon, 1972; Newell, Shaw, and Simon, 1967; Yilmaz and Daly, 2016
	Reframing the problem or situation	Beckman and Barry, 2007; Boland and Collopy, 2004; Dew, 2007; Drews, 2009; Lockwood, 2010
	Think and work systematically	Bauer and Eagen, 2008; Brown, 2008; Efeoglu, 2012; Frase, 2009; Hassi and Laako, 2011; Martin, 2009; Owen, 2007; Sato, 2009
Firm Mentality and Personality	Inquisitive and open to learning	Adams et al., 2011; Badke-Schaub et al., 2010; Berger, 2009; Brown, 2008; Boland and Collopy, 2004; Buchanan, 1992; Cooper et al., 2009; Dorst, 2011; Jenkins, 2010; Kelley and Kelley, 2013; Liedtka and Ogilvie, 2011; Matthews et al., 2011; Michlewski, 2008; Miller and Moultrie, 2013; Plattner et al., 2012

	Being mindful	Badke-Schaub et al., 2010; Berger, 2009; Brown, 2008; Brown and Katz, 2011; Buchanan, 1992; Flavell, 1976; Martin, 2009; Michlewski, 2008
	Accept uncertainty, ambiguity, and risk.	Adams et al., 2011; Boland and Collopy, 2004; Brian, 2011; Cooper et al., 2009; Goldschmidt and Rodgers, 2013; Liedtka and Ogilvie, 2011; Kelley and Kelley, 2013; Kelley and Littman, 2001; Michelewski, 2008; Rylander, 2009
	Strong motivation to make a difference	Berger, 2009; Boland and Collopy, 2004; Dorst, 2011; Jenkins, 2010; Kelley and Kelley, 2013; Martin, 2016; Paton and Dorst, 2011
	Being a model behavior	Bandura, 1925; Beverland and Farrelly, 2007; Brown, 2008; Hassi and Laakso, 2011; Jevnaker, 2000; Kelley and Kelley, 2013; Michlewski, 2008; Paterson et al., 2007
	Optimistic	Beverland and Farrelly, 2007; Brown, 2008, 2009; Dunne and Martin, 2006; Efeogli, Moller, Serie, and Boer, 2013; Frase, 2007; Gloppen, 2009; Kelley and Kelley, 2013; Lockwood, 2010; Hassi and Laako, 2011; Matthews and Wrigley, 2011; Owen, 2007
	Future-oriented	Drews, 2009; Hassi and Laako, 2011; Junginger, 2007; Lockwood, 2010; Martin, 2009; Porcini, 2009
	Creative	Badke-Schaub et al., 2010; Baeck and Gremett, 2011; Cox, 2005; Jevnaker, 2000; Kelley and Kelley, 2013; Miller and Moultri, 2013; Owen, 2007; Schweitzer, Groeger, and Sobel, 2015; Waloszek, 2012
	Inventive	Owen, 2007
	Generalist	Owen, 2007

Appendix C - The dimensional nature of cross-cultural adaptation, from

Anderson's (1994) Theory of Cross-Cultural Adaptation

CULTURAL ENCOUNTER

AFFECTIVE
-excitement
-passive
-high
expectations
-confidence
-apprehension
-surprise
-craving for
home
-resentment
-boredom

COGNITIVE
-cognitive "freeze"
-alertness
-selective perception
-low self-awareness
-disorientation

BEHAVIORAL
-Cooke's touring:
see/hear/taste
-observe
-start to meet survival
needs
-cultural
ambassadorship

AFFECTIVE
-crisis: romance gone
-crisis: work now
routine
-crisis: mourning
separation
-crisis: self-changing
-criticism, hostility
-lowering self-
confidence
-increasing
professional/
academic satisfaction

OBSTACLE

COGNITIVE
-exploratory set:
awareness of
more subtilties
-perceptual filter
being over-
whelmed
-
role/expectation
conflict
-defense vs

BEHAVIORAL
-develop job role
-tackle complexities
-seek modus vivendi
-cliquish, griping
behavior
-try out behavior

OVERCOMING

RESPONSE GENERATION

AFFECTIVE
-exhaustion
-irritation
-regression
-grief
-shame
-apathy
-learn from hosts
-detachedness
-amusement

COGNITIVE
-rejection
-blame self
-redefine situation
-wish-fulfilling fantasies
-minimize differences
-crisis: old identity groups
-identity detaching from
home
-introspection

AFFECTIVE
-self-confidence
-tension gone
-satisfaction with
relationship
-feeling
belongingness
-needs being met
-personal growth

COGNITIVE
-insider
awareness
-accept, adapt,
integrate
-cognitive
reframing
-cultural
relativity
-expectation
more realistic
-sense of shared

BEHAVIORAL
-no solution persists
-do nothing
-fight: retaliation
-mark time
-fight: return home
-distract: alcoholism
-change environment:
eliminate obstacle
-change self: reduce
dissimilarities

BEHAVIORAL
-communication
effectiveness
-increasing coping
skills
-strategies
increasing
-behavior more
assertive
-means of
livelihood

RETURNEES

ESCAPERS

BEAVERS

TIME SERVES

ADJUSTERS

PARTICIPATORS

Appendices

Appendix D - The acculturation model, from Ward, Bochner, and Funham (2001) and Zhou et al. (2008)

societal background
social influences
political variables
cultural influences

group of settlements
social influences
political and economic variables
cultural influences

factors at the social level

Transcultural adjustment
Life evolves cultural exchange

Tension

deficiencies in skills

Tension management techniques

learning culturally tailored capabilities

reaction

constructive

behavioral

mental

results

emotional

socio-cultural

Personalized Phase Components

traits of the individual

personality Fluency in both languages, training, and experiences Migration-related values and acculturation techniques based on cultural identity

Situational qualities

time since last cultural encounter
level of contact between groups and within them
quality of group interactions inside and between groups
Duration of adjustments in life due to cultural disparity
social assistance

Appendix E - The correlations between the educational goals of British educators and their Chinese students, from Zhou et al. (2008)

broader cultural distinctions

intellectual and cultural variations

various educational traditions

from British educators' perspective

from Chinese educators' perspective

on teaching

on pupils' learning

on teaching

on pupils' learning

teaching British pupils

teaching Chinese pupils

for British students

for Chinese pupils

teaching British students

teaching Chinese pupils

for British students

for Chinese pupils

CONFORM
less likelihood of learning-related issues

MISMATCH
more learning-related problems likely

Appendices

Appendix F - Napier's (2006) model on knowledge transfer in Vietnam

```
                    ┌─────────────────────┐
                    │ Position within the │
                    │ Relationship        │
                    └─────────────────────┘
            ↙                                      ↘
┌──────────────────┐   ┌──────────────────┐   ┌──────────────────┐
│ Active Capacity  │ ← │ Knowledge        │ → │ Active Capacity  │
│ (transmitter or  │   │ Transfer from the│   │ (transmitter or  │
│ recipient).      │   │ Explicit to the  │   │ recipient).      │
└──────────────────┘   │ Explicit and Tacit│   └──────────────────┘
        │              └──────────────────┘            │
        ↓                      ↑                        ↓
┌──────────────────┐   ┌──────────────────┐   ┌──────────────────┐
│ Transmitter or   │ → │ Both route       │ ← │ Transmitter or   │
│ recipient        │   │ conditions       │   │ recipient        │
│ atmosphere.      │   │                  │   │ atmosphere.      │
└──────────────────┘   │ Interactively    │   └──────────────────┘
                       │ transmits        │
                       │ translation      │
                       └──────────────────┘
```
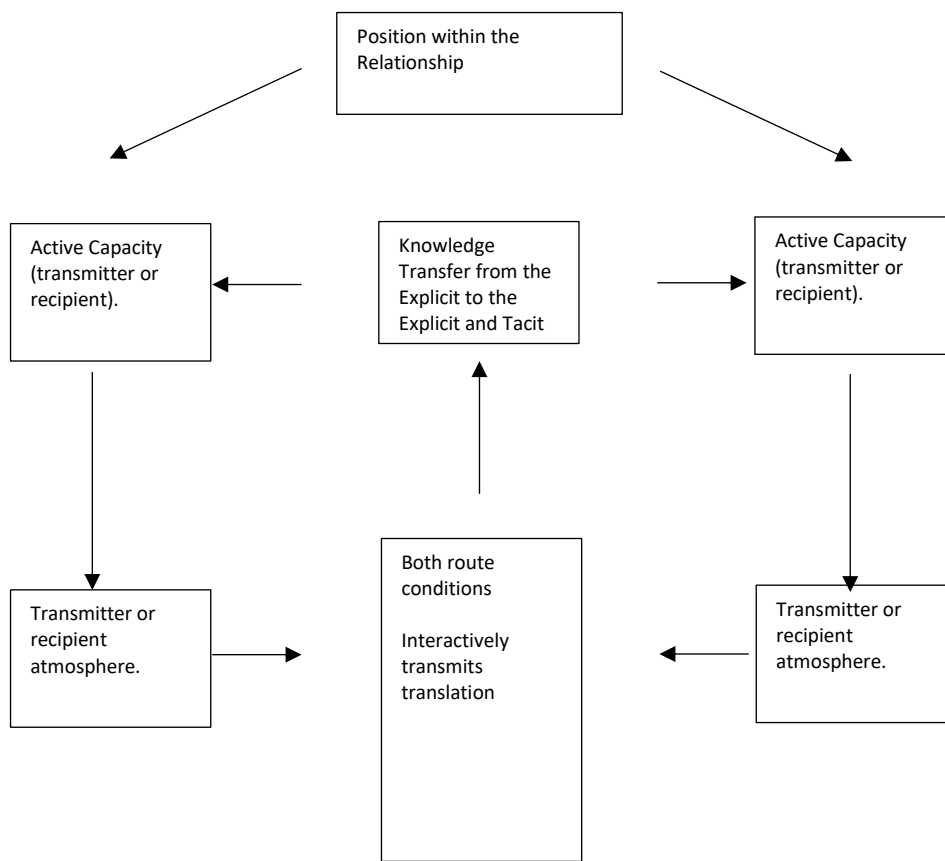
Appendix G - The procedure of adjusting to a new culture (CAP) model by Edmundson (2004)

	Level 1	Level 2	Level 3	Level 4
The first step in the process involves evaluating the type of content and examining relevant examples.	Fundamental knowledge, such as product knowledge and corporate procedures, is essential for individuals to possess in order to effectively navigate and operate within an organization.	Low-level cognitive hard skills refer to basic cognitive abilities that involve simple information and concepts. An example of such talents can be found in computer-related tasks.	Natural talents: handling projects, providing persuasive demonstrations, and executing effective marketing, encompass a range of complicated knowledge and abilities.	The primary focus of the skills discussed is to non-technical abilities sometimes referred to as soft skills. These encompass several aspects such as attitudes, beliefs, and behaviors, including but not limited to negotiation skills, motivation, teamwork, and conflict resolution.
Step 2: Determine the pedagogical framework, encompassing instructional methods, activities, and other relevant components.	The instructional approach employed is instructivist-objectivist, characterized by the use of behavioral targets and the pursuit of sharply-defined goals. The communication style utilized is low-context, emphasizing explicit and direct	The instructivist-objectivist paradigm has a closer relationship to the constructivist-cognitive paradigm.	The constructivist-cognitive paradigm is more closely associated with than the instructivist-objectivist paradigm.	The approach employed in this study is constructivist-cognitive, with a focus on cognitive objectives. The aims of the study are not clearly defined, resulting in a lack of concentration. Additionally, the communication style utilized in this study is characterized by high-context communication.

	information exchange.			
Step 3: Determine media	Lecture, pamphlet, and straightforward demonstration	Satellite transmissions, audioconferencing, and recordings.	Threaded discussions, online conversation, list servers, and e-mail	Web conferencing, Web-based training, media transmission, and videoconferencing
Step 3: Determine the cultural elements at the national level that are pertinent to the learners, as well as the crucial cross-cultural dimensions (with their associated features and features) of the educational program. The features of e-learning seem to exhibit a strong correlation with cultural aspects seen at the national level. According to scholarly research, it has been found that a user's cultural profile, as exemplified in the works of Hofstede, has a great importance in influencing the interests of trainees about these characteristics				
Important cross-cultural aspects	Withstand	← Participative learning→		Fundamental
	External	← Source of inspiration→		Internal
	Non-present	← Pupils' control →		Free
	Pedagogic	← Educators' responsibility →		Encourage/promote
	No-mistake studying	← Utility of mistake →		Experiential learning
In the fourth step, it is important to identify the cultural dimensions at the national level that are relevant to the learners, as well as the cross-cultural dimensions that are related with the course. These dimensions encompass various aspects and qualities that are significant in understanding and supporting the cultural diversity within the learning environment. The subsequent dimensions of e-learning are associated with the prospective preferences exhibited by various groups of e-learners. Before making any modifications or advancements to an e-learning course, it is crucial to evaluate the preferences of the target audience. It should be noted that these preferences might be influenced by factors beyond national cultural dimensions.				
cross-cultural elements that are helpful	Mathemagenic	← Consumer activity→		Prodcutive
	Abstract	← Worth from experience →		Solid
	Non-present	← Taking into account the individual variances →		Multidimensional
Step 5: Adaptation techniques	Translation	Localization	Modularization	Inventiveness

Appendix H - The Framework for Analyzing Cultural Components of Acquiring Knowledge from Linder-VanBerschot (2010)

Relationships with other people		
Cultural aspects	**How this dimension is manifested in learning situations**	
Equal treatment vs superior power	**More equal treatment**	**More superior power**
How is unfairness dealt with?	Teachers who are treated as equals are more likely to be involved and even pushed.	Teachers are regarded as unquestionable authorities.
How do you show your status and get respect?	Students take responsibility for learning activities	The only people to blame for anything that goes wrong in the classroom are the teachers.
How should people with different levels of power talk to each other?	Dialogue and talks are important ways to learn.	The instructor is the most important communicator in the classroom.
(Hofstede and Hofstede, 2005; Lewis, 2006)		
The struggle between individualism and collectivism	**More individualism**	**More collectivism**
Which comes out on top, the individual's needs or the needs of the group?	There is an expectation that the student will participate.	Students speak up limited situations

How much do you value connections with other people?	The development of cognitive abilities, such as the ability to learn, is the foundation of individual progress.	The acquisition of skills and information is the foundation for social development.
(Hofstede and Hofstede, 2005; Nisbett, 2003)	One of the most important aspects of education is allowing pupils to voice their opinions.	The student is required to adapt the point of view of the lecturers.
	The pursuit of one's own interests is what drives laborious effort.	The pursuit of one's personal best is what drives one to put forth the effort.
The debate between "nurture" and "challenge"	**More care and attention**	**A greater challenge overall**
Which of these two sets of goals—cooperation and security or recognition and advancement—is considered to be the more important?	The standard of behavior is the average.	The model student is always the best student.
Which, helpful acts or challenging acts, are more likely to result in greater learning outcomes?	Everyone in the class receives compliments.	Excellence alone is worthy of recognition.
(Hofstede and Hofstede, 2005)	The spirit of working together is fostered.	Competition is cultivated
	The only way to move forward is through trial and error.	The prospect of failing is one that should be avoided at all costs and may even be seen as catastrophic.
	Less ostentation	Greater boldness and confidence
	Seek out healthy connections and a sense of safety.	Seek out both challenges and acknowledgement.
Epistemological Perspectives		
Cultural aspects	**The manifestation of this dimension in learning settings**	
Seeking stability versus being willing to accept uncertainty	**More emphasis on finding stable ground**	**More tolerance for ambiguity and uncertainty**
How is uncertainty dealt with?	Structured learning activities	Learning activities more open-ended (discussions, projects)
Is it avoided or accepted?	Focus on getting right answers	Focus on process and justice opinions
Is the importance of structure thought to be greater than that of flexibility?	Ambiguity to be avoided	Ambiguity is a natural condition
What is the current state of knowledge - is it considered to be established or undergoing ongoing development?	Teachers expected to have the answers	Teachers can say "I do not know"
(Hofstede and Hofstede, 2005; Nisbett, 2003)	The topic of discussion pertains to the comparative efficacy of single textbooks against instructor authority in the context of academic instruction.	Many resources used
	Fortuitous circumstances play a role in the achievement of students, exemplified by	It is not having the proper answers but rather demonstrating that you have

	instances such as correctly selecting the topics to focus on while preparing for examinations.	the ability to think critically that is the key to academic achievement.
	Additional strain	Less anxiety and stress
Comparing logical arguments with being reasonable	**More logical arguments**	**More becoming reasonable**
How are arguments formulated and constructed?	The primary objective is to employ logical argumentation as a means to ascertain truth.	The primary objective should be to attain practical and socially acceptable results.
Which holds greater significance, logical coherence or practical outcomes?	Insistence on single truths-based don logical reasoning	The recognition and validation of numerous truths grounded in individual experiences.
How is the management of dispute typically approached?	Debate/ argumentation is a learning activity	Consensus building can be regarded as an educational endeavor.
	The paramount importance is in being correct.	The paramount significance lies in the cultivation of virtuous qualities.
(Nisbett, 2003)	The inclination to question and contest the assertions or actions of teachers or fellow students in instances where they are perceived to be erroneous or displaying inconsistency.	The willingness to embrace disagreement in order to sustain a mutually beneficial and peaceful exchange of ideas.
Causality v. complex (analysis and holism)	**A stronger emphasis on the link between events**	**More attention should be paid to structures and circumstances.**
How does one normally determine the chain of events?	More goal orientation expected of learners	More willing to work within situational constraints
Is it attributed to just one possible source, or is it attributed to the larger context instead?	Knowledge tied to cause-effect explanations	The body of information that is connected to the explanation of various systems and circumstances
(Nisbett, 2003)	Put your attention on established facts and guidelines.	Knowledge of both the present and the past should be given priority.
	Characteristics of the learner are responsible for either academic success or failure.	Understanding if our successes or failures were due to the circumstances
Temporal Points of view		
Cultural aspects	**How this dimension is expressed in different types of learning scenarios**	
Time on the clock versus time of an event	**More emphasis on the clock**	**More emphasis on the event**
To what extent do individuals adhere to an external standard of time, as opposed to permitting the natural progression of events to dictate their pace?	Instructional activities start and stop promptly	Instructional activities may be permitted to persist provided they demonstrate utility.
Which holds greater significance, adherence to	Meetings conducted beyond the regular class hours are	The demarcation between class and non-class time

deadlines or the cultivation of relationships?	subject to stringent time constraints.	exhibits a greater degree of flexibility.
(Levine, 1997)	The implementation of stringent time limits and corresponding repercussions for failing to meet them.	Efforts persist in the pursuit of enhancements with diminished emphasis on meeting specified timeframes.
	Favors the use of processes	Willing to sidestep established protocols
	Learners engage in solitary labor toward predetermined goals.	Learners are outgoing and expressive, and they may choose to disregard your ideas.
Comparison of linear time and cyclical time	**More linear time**	**More cyclical time**
Is there a prevailing perception among individuals that time is akin to a road, with goals serving as indispensable destinations, or do individuals perceive time as a series of interconnected cycles in which they engage intermittently throughout their lifespan?	Time must be organized in this way.	The human race changes over time.
(Hall, 1983; Lewis, 2006)	The process of education follows a logical sequence with well-defined prerequisites and checkpoints.	Learning is considered as repeated practice with the goal of gradually enhancing one's level of perfection.
	Learning cannot proceed without the establishment of objectives.	Goals are secondary, and one must adapt to the environment in order to derive as much benefit as possible from it.
	If one is concerned about their level of achievement, they should not waste time and their activities should be prompt and decisive.	There is time for observation and contemplation; rushing is unproductive and can get in the way of progress.
	It is important to make the most of every opportunity. The same opportunities do not always present themselves.	Opportunities present themselves repeatedly as a result of the cyclical nature of time. When that time comes, one might make decisions that are more prudent.
	The past does not matter in any way. The focus should be on long-term objectives.	Because cycles keep occurring, the past continues to have an effect. One moves forward while carrying what came before.
	It's possible to get stuck in a "rut" if you do the same thing over and over again.	Learning is greatly facilitated by repetition.
	Students want to see direct applications of what they learn.	It's possible that students will have more patience to find relevant material.

Appendix I – Interview Guidelines/Questions

Interview Questions (for Lecturers)
Theme: Perceptions and Mindsets over Design Thinking and Entrepreneurship Teaching and Potential in Creating a Culturally Adapted Teaching Model

Start with:
Hallo, how are you?
Let me introduce myself. My name is Ria. I am a PhD student of Uni-Koblenz and recently collecting my data for my thesis. The purpose of this interview is to gather some information and insights concerning students' and lecturers' perceptions and mindsets over design thinking and entrepreneurship teaching in the university level, as well as the potential in creating a culturally adapted teaching model.
I would like to ask several questions regarding that matter. Please note that there is no right and wrong answer. You can regard this interview as an informal/casual conversation, thus I hope you could feel free to talk. Your answers will be recorded for the analysis purpose, and therefore I would like you to sign the consent form as an agreement that you are willing to participate in this interview.

- Could you tell me a little bit about yourself?

Entrepreneurship Lecturer

- Do you enjoy teaching entrepreneurship here?

- Could you tell me about your teaching entrepreneurship experiences?

Teaching Philosophy

- What do you think entrepreneurship education mean?

- What does education mean in the context of entrepreneurship?

- How do you perceive entrepreneurship education? (in general and in Indonesia specifically)

- What is your philosophy in teaching entrepreneurship modeling?

- In your opinion, what are the roles of educators in entrepreneurship class?

- In your class, what are the objectives of teaching business initiation?

- In your class, what are the goals of teaching business initiation? (In regards to cognitive knowledge transfer, emotional and motivational abilities, competencies and skills, open category, and changes in behavior).

- What do you think about the development of entrepreneurship education in Indonesia recently?

- What are the differences between teaching entrepreneurship in the university level in the past and now?
- What are the challenges in teaching entrepreneurship in the university level in today's era?

- How to encourage students to be more creative in seeking entrepreneurial opportunities and to become entrepreneurs?

- What are your opinions in integrating innovation, technology and creativity with the entrepreneurship teaching? And how?

- What do you think about integrating entrepreneurship education and design thinking?

Teaching Methods

- Describe you teaching methods in business initiation class. (In order to enhance and provide a greater degree of self-directed learning, beyond the confines of the educational setting and free from the constraints of conventional and contingent learning methods)

- What do you consider your strengths in teaching business initiation?

- What do you consider your weaknesses in teaching business initiation?

- How do you plan your teaching in business initiation class? (What texts or books do you use?)

- Describe how you use technology in teaching business initiation.

- What critical approaches do you find the most persuasive approach in business initiation? How do they translate into your teaching?

- How do you know you have been successful in teaching business initiation?

- What are your challenges in teaching business initiation?

- Do you think it's possible to have a standardized teaching method for teaching business initiation? Why?

Teaching with Students/ Motivation

- Describe your students: their background, the psychological characteristics, the social environment.

- In your opinion, what characters of Indonesian university students in general? And in your business initiation class?

- In your opinion, what are the roles of students in entrepreneurship class?

- How do you motivate your students?
- If you have a student who is poorly motivated in class, but you know he or she appears to be a good student, what would you do?

- How do you feel about teaching business initiation to students with mixed abilities?

- Tell me about your experiences you had in teaching business initiation to diverse students (in terms of academic, different religions, races, gender)?

- What do you expect your students to have after completing business initiation course?

Evaluation/Assignment

- What would you like to evaluate from your students?

- How would you evaluate your students' learning?

- Describe your evaluation method and criteria in business initiation course.

- What types of assignments do you give to your students in business initiation class?

- What is your objective(s) to give assignment(s) to your students in business initiation class?

- Do you think it is possible to have standardized evaluation for entrepreneurship education throughout Indonesia?

Interview Questions (for Lecturers)
Theme: Perceptions and Mindsets over Design Thinking and Entrepreneurship Teaching and Potential in Creating a Culturally Adapted Teaching Model

Start with:
Hallo, how are you?
Let me introduce myself. My name is Ria. I am a PhD student of Uni-Koblenz and recently collecting my data for my thesis. The purpose of this interview is to gather some information and insights concerning students' and lecturers' perceptions and

mindsets over design thinking and entrepreneurship teaching in the university level, as well as the potential in creating a culturally adapted teaching model.
I would like to ask several questions regarding that matter. Please note that there is no right and wrong answer. You can regard this interview as an informal/casual conversation, thus I hope you could feel free to talk. Your answers will be recorded for the analysis purpose, and therefore I would like you to sign the consent form as an agreement that you are willing to participate in this interview.

- Could you tell me a little bit about yourself?

Design Thinking Lecturer

- Could you tell me about your teaching design thinking experiences?

- What do you think teaching design thinking mean?

- What does education mean in the context of design thinking?

- How do you perceive design thinking education?

- What is your philosophy in teaching design thinking?

- How do you address cultures of design thinking from the 'west' to students here?

- In your opinion, what are the roles of educators in design thinking?

- In your class, what are the objectives of teaching design thinking?

- Do you think design thinking has the potential to be spread and well established as a new approach in teaching in the university level in Indonesia? Tell me your opinion.

- In your class, what are the goals of teaching design thinking?
(In regards to cognitive knowledge transfer, emotional and motivational abilities, competencies and skills, open category, and changes in behavior).

Teaching Methods

- Describe you teaching methods in design thinking class.
 (In order to enhance and provide a greater degree of self-directed learning, beyond the confines of the educational setting and free from the constraints of conventional and contingent learning methods)

- What do you consider your strengths in teaching design thinking?

- What do you consider your weaknesses in teaching design thinking?

- How do you plan your teaching in design thinking class?
  (What texts or books do you use?)

- Describe how you use technology in teaching design thinking.

- What critical approaches do you find the most persuasive approach in design thinking? How do they translate into your teaching?

- How do you know you have been successful in teaching design thinking?

- What are your challenges in teaching design thinking?

- Do you think it's possible to have a standardized teaching method for teaching entrepreneurship? Why?

Teaching with Students/ Motivation

- Describe your students: their background, the psychological characteristics, the social environment.

- In your opinion, what characters of Indonesian university students in general? And in your design thinking class?

- What are your opinions about "norm-based perceptions and cultural mindsets of Indonesian students (and lecturers) over a new western creative concept can be a big challenge that hinders the effective implementation of design thinking"?

- In your opinion, what are the roles of students in design thinking?

- How do you motivate your students?
- If you have a student who is poorly motivated in class, but you know he or she appears to be a good student, what would you do?

- How do you feel about teaching design thinking to students with mixed abilities?

- Tell me about your experiences you had in teaching design thinking to diverse students (in terms of academic, different religions, races, gender)?

- What do you expect your students to have after completing design thinking course?

Evaluation/Assignment

- What would you like to evaluate from your students?

- How would you evaluate your students' learning?

- Describe your evaluation method and criteria in design thinking course.

- What types of assignments do you give to your students in design thinking class?

- What is your objective(s) to give assignment(s) to your students in design thinking class?

- Do you think it is possible to have standardized evaluation for design thinking in the University level throughout Indonesia?

Interview Questions (for Students)
Theme: Perceptions and Mindsets over Design Thinking and Entrepreneurship Teaching (Education)

Start with:
Hello, how are you?
Let me introduce myself. My name is Ria. I am a PhD student of Uni Koblenz and recently collecting my data for my thesis. The purpose of this interview is to gather some information and insights concerning students' and lecturers' perceptions and mindsets over design thinking and entrepreneurship teaching in the university level. I would like to ask several questions regarding that matter. Please note that there is no right and wrong answer. You can regard this interview as an informal conversation, thus feel free to talk. Your answers will be recorded for the analysis purpose, and therefore I would like you to sign the consent form as an agreement that you are willing to participate in this interview.

- Could you tell me a little bit about yourself?

- What is your motivation to take MBA CCE?

- Do you have your own business? Have you ever started your own business? If so, tell me about it?

- Have you heard about design thinking previously? From where?

- What do you know about design thinking?
- What do you know about business initiation?

- Have you done any projects or assignments similar to design thinking? How was it? Can you tell me about your experience?

- How do you perceive design thinking (class)?
- How do you perceive entrepreneurship (business initiation)?

- Describe your design thinking project/assignment?
- Describe your business initiation project/assignment?
- What is it all about? Describe your experiences?

- What tools or resources do you use for your design thinking project/assignment?
- What tools or resources do you use for your business initiation project/assignment?

- Describe how you work in a team-based project to do a design thinking assignment?
- Describe how you work in a team-based project to do an business initiation assignment?

- What characteristics of design thinking do you apply in your team and project?

- How do you motivate different personalities within your group?

- What things you like from design thinking?
- What things you don't like from design thinking?
- What is the best thing about design thinking?
- Are you comfortable in implementing design thinking in your project?

- What things you like from business initiation class?
- What things you don't like from business initiation class?
- What is the best thing about business initiation class?

- Do you have difficulties in learning design thinking? What are they?
- Do you have difficulties in learning business initiation? What are they?

- What are your challenges in doing design thinking project/assignment?
- What are your challenges in doing business initiation project/assignment?

- What do you think about the teaching method/style of your lecturer in design thinking class?
- What do you think about the teaching method/style of your lecturer in business initiation class?

- Do you think learning design thinking at graduate level is useful for your future? Why? Tell me about it.
- Do you think learning business initiation at graduate level is useful for your future? Why? Tell me about it.

Interview Questions (for Students)
Theme: Perceptions and Mindsets over Design Thinking and Entrepreneurship Teaching (Education) – BUSINESS INITIATION CLASS

- Describe your business mentoring sessions recently with your assigned business mentor(s)

- How is your business progress? Could you tell me your story?

- How does the business mentoring session affect or impact your business progress?

- Do you work in a team based in your business? Describe how you work in a team in your running business?

- Concerning the business initiation class, how is the class so far and what are assignments given to you? Could you tell me about that?

- I would like to know your opinion about 'Creativity'. What do you know about 'creativity' or 'being creative'? Do you think it is important, especially in a business? Why or what not? Do you think you are creative? Why? Could you give me examples on creativity in business applications?

Interview Questions (for Students)
Theme: Perceptions and Mindsets over Design Thinking and Entrepreneurship Teaching (Education) – DESIGN THINKING CLASS

- Describe your design thinking class and assignments. Could you tell me your experiences?

- What tools or resources do you use for you to learn about design thinking and when you did the assignments?

- Describe how you work in a team-based project to do the design thinking assignment?

- What characteristics of design thinking do you apply in your team and project?

- I would like to know your opinion about 'Creativity'. What do you know about 'creativity' or 'being creative'? Do you think it is important, especially in a business? Why or what not? Do you think you are creative? Why? Could you give me examples on creativity in business applications?

Appendices

Appendix J – Sample Consent Form Signed by Respondents

Informed Consent Form, page 1

<u>Title of Research Study</u>

I would like to invite you to participate in a research study examining _teaching Entrepreneurship_ , which will add to the knowledge related to _Entrepreneurial Design Thinking_ My name is Ria Tristya Amalia and the data collected in this interview will help fulfill the requirements for a Doctor of Entrepreneurship, Innovation, and Technology Management at the University of Koblenz-Landau, Germany. I am under the supervision of my research supervisor Univ.-Prof. Dr.rer.pol.habil. Harald F.O. von Korflesch.

Participation   Requires   of   You: To   be   interviewed _30 – 60 minutes_ . There is no planned use of deception involved in this study.

Your Privacy: Your participation in this study and your responses will be kept confidential. Any reference to you will be by pseudonym, including any direct quotes from your responses. This document and any notes or recordings that might personally identify you as a participant in this study will be kept in a locked place that only the researcher will have access to. Only the researcher and the research supervisor might know who has participated in this study. Three years after the completion of this research study all personally identifying information will be destroyed.

Risk to you: There are five acknowledged risks generally associated with participation in research studies such as this one: Physical, psychological, social, economic, and legal. The researcher foresees minimal risk for those who choose to participate in this study. There are no foreseen physical risks associated with this study; other risks might include the following:

You might experience anxiety, discomfort, or negative or negative emotions as a result of responding to the questions asked of them in this research study. If you experience a negative reaction, you may choose to skip the question, to withdraw from the study, or you may contact my research supervisor, especially if your discomfort continues after the study. See the contact information on the page below.

You might experience social, economic, or legal implications if you share your responses or your participation in this study with others. If you choose to participate in this study, you are encouraged to keep your participation in this study and your responses confidential. The researcher will maintain your confidentiality throughout the study, and will destroy the records of your participation three years after the study is completed.

Benefits to You: There are not foreseen direct benefits to you regarding participation in this study beyond the general knowledge that you are assisting in furthering the knowledge related to this research topic, and assisting the researcher in completing the doctoral degree requirements. There is no compensation associated with participation in this study.

Informed Consent Form, page 2

Title of Research Study

This document acknowledges you understand of your rights as a participant in this study, which the researcher has explained to you prior to signing this document.

I acknowledge that the researcher has explained my rights, the requirements of this study, and the potential risks involved in participating in this study. By signing below and providing my contact information I am indicating that I consent to participate in this study, that I am at least 18 years of age, and I am eligible to participate in this study.

You may withdraw from this study at any time by notifying me by email. If you have any concerns regarding your participation in this research study you may contact my research supervisor, Univ.-Prof. Dr.rer.pol.habil. Harald F.O. von Korflesch. You may ask a copy of this document for your own records.

Signed Name: _____ Date: 18 / 08 / 2017

Printed Name: SONNY RUSTIADI

Phone   Number,   Email   Address,   or   Postal   Address:

_____

_____

Thank you for your participation

Ria Tristya Amalia
Doctor (candidate) of Entrepreneurship, Innovation, and Technology Management
University of Koblenz-Landau, Germany
Email Address: riaamalia@uni-koblenz.de

Univ.-Prof. Dr.rer.pol.habil. Harald F.O. von Korflesch
Director and Founder of Zentral Institute for Scientific Entrepreneurship and International Transfer (ZIFET) and Management of Information, Innovation, Entrepreneurship and Organization Design (Mi2EO)
Email Address: harald.vonkorflesch@uni-koblenz.de

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Informed Consent Form, page 2

<u>Title of Research Study</u>

This document acknowledges you understand of your rights as a participant in this study, which the researcher has explained to you prior to signing this document.

I acknowledge that the researcher has explained my rights, the requirements of this study, and the potential risks involved in participating in this study. By signing below and providing my contact information I am indicating that I consent to participate in this study, that I am at least 18 years of age, and I am eligible to participate in this study.

You may withdraw from this study at any time by notifying me by email. If you have any concerns regarding your participation in this research study you may contact my research supervisor, Univ.-Prof. Dr.rer.pol.habil. Harald F.O. von Korflesch. You may ask a copy of this document for your own records.

Signed Name: Mediane Nurul Fuadar   Date: 23rd August 2017
Printed Name: _____
Phone   Number,   Email   Address,   or   Postal   Address:
_____
_____

Thank you for your participation

Ria Tristya Amalia
Doctor (candidate) of Entrepreneurship, Innovation, and Technology Management
University of Koblenz-Landau, Germany
Email Address: riaamalia@uni-koblenz.de

Univ.-Prof. Dr.rer.pol.habil. Harald F.O. von Korflesch
Director and Founder of Zentral Institute for Scientific Entrepreneurship and International Transfer (ZIFET) and Management of Information, Innovation, Entrepreneurship and Organization Design (Mi2EO)
Email Address: harald.vonkorflesch@uni-koblenz.de

Appendix K – Audit Trail Table

For raw data, notes, interview excerpts, including all the data in the NVivo software are available upon request.

Phase	Time/Duration	What the researcher has done	Other additional notes
Data familiarization	September 2017 (during data collection) – December 2018	Engaging with the data (after collecting them), by creating the transcription and translating them into English Fully immersing herself into the data Creating "rough" codes as she transcribed, translated, and read the class observation notes. Recorded all details and thoughts that came up. Reading, studying relevant literatures and comparing, analyzing, and examining with her data. Documented her journals in Ms Word and NVivo software.	Sample her journals in NVivo software (Figure i below)
Initial code creation	January 2019 – October 2020	Classified the transcripts (interview and observation notes) and created a linkage for data preservation. Attempted to code the data more methodically and rigorously by assigning names or labels to the data that represents its relevance. Interpreting the data meaning for each code by connecting the initial codes with the relevant literature and theories. Iteratively immersed herself in the data and literature and frequently wrote down any thoughts and aspects of the data. Attempted to go for latent coding, for deeper interaction with the data. Regularly read the data sources (transcripts, notes, literature) and kept her reflective notes.	The whole process was taken a long time to deepen her interaction with the data and make it digestible pieces, because she is also only the sole researcher. See Figure ii below.

Themes generation	September 2021 – August 2022	Re-read all codes meticulously and reflecting the significant patterns that appear during both codes and themes creation phase. Viewed each pattern broadly, means in the narrative way (to create insightful and sensible story supporting the answer for this thesis research question). Conducted both clustering and promoting means to create prototyping/potential themes, which were treated as initial themes for the researcher to interact further with the data. Engaged with the data, analyzed it, and connected them with codes. Redeveloped, reconnected and refined the initial themes with the codes and the data extracts.	The process was taken long time, because this stage was iterative, recursive and reflective. Also, because the researcher was doing this solely.
Themes definition	June 2022 – September 2022	Reviewed the coded data (and themes) and the overall data set. Checked the links between the prototyping themes and the codes, as well as with the overall data. Examined the prototype themes and analyzed them further meticulously. Reviewed the themes by asking multiple questions to provide solid insights, relating them with the data, codes, and researcher's reflective notes. Tested the relationship for prototype themes by using NVivo software (see Figure iii and iv below).	
Report production	August 2022 – March 2023	Writing the results	

Figure i. This Thesis' Dataset in NVivo

Figure ii. Sample Coding Process

Figure iii and iv. Sample Testing Relationship Between Themes in NVivo

Name		Files	Referen...	Created On
CHAT		15	17	11. Aug 2022 a
How EEDT class prog affects stud v mentoring		15	28	13. Jun 2022 a
Indo stud overview v stud entre journey		5	5	13. Jun 2022 a
Mentoring		30	243	11. Aug 2022 a
Mentoring (2)		18	84	11. Aug 2022 a
passive		9	21	8. Nov 2022 a
practice	Query Results List	18	117	11. Aug 2022 a
Punctuality		8	12	11. Aug 2022 a
punctuality (2)		8	12	8. Nov 2022 a
reading		27	58	11. Aug 2022 a
reflective		9	27	11. Aug 2022 a
role lecturers		9	78	1. Nov 2022 a
SPOON FED		5	7	11. Aug 2022 a
Stud expectation v mentoring		9	17	13. Jun 2022 a
the way lecturers teach and stud learn v Indo stud overvi...		20	48	13. Jun 2022 a
The way lecturers teach v mentoring		12	19	13. Jun 2022 a
the way stud learn v mentoring		8	12	13. Jun 2022 a
theoretical		19	85	8. Nov 2022 a
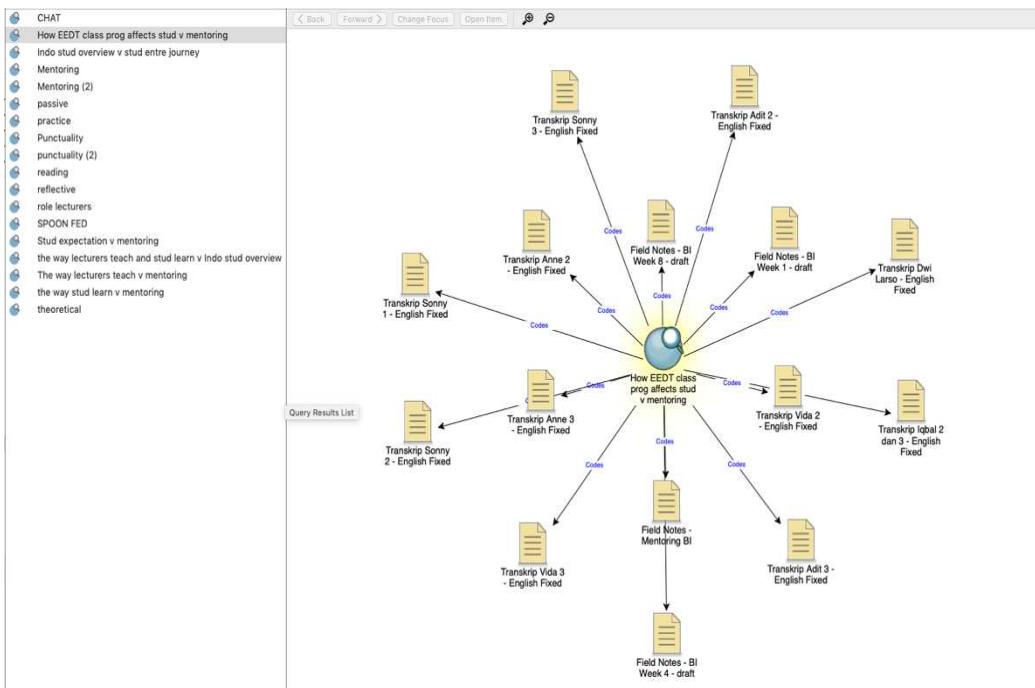
Curriculum Vitae

Personal Information

Full name	: Ria Tristya Amalia
Date of birth	: 25-05-1990
Place of birth	: Jakarta, Indonesia
Nationality	: Indonesian
Address	: Raiffeisenstraße 49, 56072 Koblenz, Germany
Email	: riaamalia@uni-koblenz.de
Mobile	: (49) 15733241107

Working Experiences

04.2017 – now	Research Assistant, University of Koblenz Koblenz, Germany
09.2014 – 06.2015	Student Mentoring Assistant, Newcastle University Newcastle, United Kingdom
11.2012 – 12.2013	English Lecturer, National English Center Jakarta, Indonesia
08.2011 – 06.2012	Research Assistant, International Islamic University Malaysia Kuala Lumpur, Malaysia
07.2010 – 02.2012	Student Tutoring Assistant, International Islamic University Malaysia Kuala Lumpur, Malaysia
05.2011 – 08.2011	Internship, PT. Bank Mualamat Indonesia, Kuala Lumpur Office Kuala Lumpur, Malaysia

Educations

07.2016 – now	PhD in Entrepreneurship and Management, University of Koblenz Koblenz, Germany
09.2014 – 09.2015	Master of Science (MSc) in Finance, Newcastle University Newcastle, United Kingdom
11.2008 – 06.2012	Bachelor of Business Administration (BBA) in Finance, International Islamic University Malaysia Kuala Lumpur, Malaysia

Awards and Scholarships

07.2017 – 11.2017	Research field grant, School of Business Management, Bandung Institute of Technology, Indonesia (SBM ITB) and University of Koblenz LPDP grant for PhD's research
06.2016 – 05.2020	PhD scholarship, University of Koblenz The Indonesia Endowment Fund for Education (LPDP), Indonesia Ministry of Finance
04.2015 – 08.2015	Research grant, Newcastle University, United Kingdom LPDP grant for student's research excellence
09.2014 – 08.2015	Master scholarship, Newcastle University, United Kingdom The Indonesia Endowment Fund for Education (LPDP), Indonesia Ministry of Finance (full coverage of tuition fee)
10.2012	The Best Student in Finance, Faculty of Economics and Management, IIUM The 28th IIUM Convocation
08.2009 – 07.2012	Bachelor scholarship, Faculty of Economics and Management, IIUM The IIUM scholarship for academic excellent (full coverage of tuition fee)

Publications

Amalia, R.T., von Korflesch, H.F.O. (2023). Entrepreneurial Design Thinking© in Higher Education: Conceptualizing Cross-Cultural Adaptation of the Western Teaching Methodology to the Eastern Perspective. In: Block, J.H., Halberstadt, J., Högsdal, N., Kuckertz, A., Neergaard, H. (eds) Progress in Entrepreneurship Education and Training. FGF Studies in Small Business and Entrepreneurship. Springer, Cham. https://doi.org/10.1007/978-3-031-28559-2_10.

Amalia, R.T. and von Korflesch, H.F.O. (2021) 'Entrepreneurship education in European and American higher education: a systematic literature review', *Journal for International Business and Entrepreneurship Development*, 13(3–4), pp. 311–349. doi:10.1504/JIBED.2021.120858.

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Amalia, R. T.; von Korflesch, H. F. O. (2021). Comparing and Contrasting Entrepreneurial Education in the European and American Higher Education Systems. Presented at the 17th Academy for Global Business Advancement (AGBA) Conference, Turkey - Istanbul on August 2-4, 2021.

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Amalia, R. T.; von Korflesch, H. F. O. (2020). Practical teaching of Entrepreneurship in Higher Education with The Design Thinking Approach: The Case of Indonesia. *Presented at the 24th Annual Interdisciplinary Conference on Entrepreneurship, Innovation, and SMEs (G-Forum)*, virtual edition, 28 September - 2 October 2020.

Amalia, R. T.; Maioli, S. (2015). Do Migration and Remittances Promote Solution Against Poverty in Indonesia?. Master Dissertation, Newcastle University, United Kingdom.