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Investigating Self-Regulation for Motivation and Creativity in Entrepreneurship: A Qualitative Study

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Investigating Self-Regulation for Motivation and Creativity in Entrepreneurship:

A Qualitative Study

by

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DEDICATION

This dissertation is dedicated to my loving parents, A Tahir Khan and Robina Tahir, who defied conventional norms and instilled in me the belief in my dreams. Their boundless love, unwavering support, and relentless sacrifices have paved the way for me to complete this academic journey. I carry with me their values, determination, and work ethic as I navigate the challenges of academia and life. This dissertation stands as a tribute to the hardships they encountered so that I could live my dream.

To my best friend, Sanwal, who has been my constant source of inspiration, driving me to work towards something I truly believe in. Sanwal has been my confidant and an indispensable partner in countless adventures. He served as my pillar of strength, and provided continuous childcare support while I was deeply engrossed in my research. I wouldn't have successfully completed this journey without his support. This dissertation is as much his accomplishment as it is mine, I am forever thankful for his presence in my life.

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illuminating even the darkest of moments with their encouragement and belief in my abilities. They have been a continuous source of strength for me throughout this journey.

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ABSTRACT

This qualitative research study investigated the perceptions of instructors in higher education institutions and trainers/mentors in business incubators to support the self-regulatory processes of motivation and creativity among emergent and novice entrepreneurs to initiate and sustain entrepreneurial activities. Seven participants were interviewed (i.e., four higher education instructors, three business incubator trainers/mentors). The data were analyzed using hybrid thematic analysis. The role of instructors and trainers/mentors as mentors may have served as a foundation to support entrepreneurs' self-regulation of motivation and creativity. The findings revealed two themes. The first theme is that entrepreneurship education instructors in higher education and trainers/mentors in business incubators reported that they support the self-regulatory processes of motivation among emergent and novice entrepreneurs through facilitating self-motivation, performance monitoring, and self-evaluation. The second theme is that within the creative processes of innovation and design thinking approach, entrepreneurship education instructors in higher education and trainers/mentors in business incubators reported that they support self-regulatory processes of creativity among emergent and novice entrepreneurs through helping them identify a problem, pivot solutions, and receive validation from instructors/peers/competitors through experiential learning. However, the findings indicated that self-regulation of motivation and creativity in entrepreneurship were not taught explicitly in higher education institutions and business incubators. Further research into self-regulation of motivation and creativity among entrepreneurs is needed to address this gap.

CHAPTER ONE: INTRODUCTION

Context

Entrepreneurship is a form of innovation (Autio et al., 2014). It is a process that involves the successful implementation of creative ideas to produce a new business, product, or to develop new strategies within an existing business (Amabile, 1997). As technology is rapidly developing, the field of entrepreneurship is growing at the same pace. Entrepreneurs use their creativity and passion to solve societal problems through their disruptive innovations, solutions, and strategies. Successful entrepreneurial ventures are crucial not only for the entrepreneurs, but for the entire economy and society. They provide greater employment opportunities to the nation, educate masses to use their resources more efficiently, increase the buying power of the consumers, and promote positive social change (Aulet & Murray, 2013)

The entrepreneurial process begins with finding a problem. Once the problem is identified, an entrepreneur starts exploring different ideas to solve that problem (Rigolizzo & Aambile, 2015). Ideas are generated and evaluated until the most suitable idea to solve the problem is selected. The best idea is then used to create a product/or business to resolve the problem (Rigolizzo & Aambile, 2015). Entrepreneurship requires sustained motivation for individuals to transform an idea into a reality, and to successfully navigate the entrepreneurial process. Intrinsic and extrinsic motivation play a significant role in entrepreneurs striving to accomplish their short- and long-term objectives (Amabile, 1997). Intrinsic motivation channels one's inner creativity, allowing entrepreneurs to experience joy and meaning in their work.

Extrinsic motivational factors like fame, money, and power may assist an entrepreneur in maintaining their efforts after a successful entrepreneurial launch (Amabile 1997).

Creativity also plays a central role in entrepreneurial activity, including the generation of novel, useful ideas to solve a problem, and the production of a new product or a service (Amabile, 1997). The creative idea generation process requires continuous revisions; it is a self-regulatory process that assists the entrepreneur in transforming an idea into a reality, while sustaining and maintaining creative efforts during hardships (Ivcevic & Nusbaum, 2017).

Although motivation and creativity are central to entrepreneurship, they are rarely explicitly taught to students in entrepreneurship programs in higher education institutions or to novice entrepreneurs in business incubators and accelerators. The motivational intent to pursue a creative venture is essential to accomplish entrepreneurial goals. Motivation towards accomplishing goals may help entrepreneurs to persist when facing challenges in creating a novel product/business (Fillis & Rentschler). There might be many different motivational factors that help an entrepreneur to persevere. Creativity can be implemented at all stages of the entrepreneurial process – creativity may involve a novel idea that leads to a creative product/service or a novel implementation of certain processes/strategies that make a product/service unique (Fillis & Rentschler, 2010).

Entrepreneurs need to self-regulate their learning and creativity successfully to navigate the entrepreneurial process. Higher education and business incubators/accelerators aim to assist entrepreneurs in transforming entrepreneurial creativity into a successful entrepreneurial product/venture. However, self-regulated learning and self-regulation for creativity are often not an explicit part of entrepreneurship education as well as on-the-job training and mentoring.

Entrepreneurs need to receive the proper education and training to understand and learn these self-regulatory processes so that they may see their ideas become a reality.

Problem of Practice

Entrepreneurship is a relatively new but rapidly growing field. The literature includes research studies on academic entrepreneurship as well as entrepreneurship education, mentoring, intent, and mindset (Kuratko, 2005; Naumann, 2017; Wood, 2011). Over the last decade, educational institutions have seen an increase in student enrollment in entrepreneurship programs (Duval-Couetil et al., 2021). Students must learn business operations and develop their entrepreneurial abilities within Entrepreneurship programs. Similarly, novice entrepreneurs (e.g., 5 years or less experience) need to learn how to adopt better strategies for their entrepreneurial venture within business incubators and accelerators. However, there is limited research investigating entrepreneurial students' learning within higher education institutions, as well as novice entrepreneurs' learning within business incubators and accelerators.

My problem of practice focuses on how instructors in higher education institutions and trainers/mentors in business incubators may support student entrepreneurs' and novice entrepreneurs' learning, respectively. The field of entrepreneurship is evolving; many individuals want to create their own product or service and enjoy the freedom of owning their own business. To comply with this rising demand, higher education institutions have started to build on-site innovation labs and incubators, add entrepreneurship courses within their existing degree programs, and establish new degree programs or majors in Entrepreneurship (Duval-Couetil et al., 2013). According to the Association to Advance Collegiate Schools of Business (AACSB), the number of undergraduate-level programs in this discipline increased by 23.75 percent

between 2017–2018 and 2019–2020 globally. Schools in northern Europe and North America represent the largest share of this growth.

The Princeton Review and Entrepreneurship magazine publishes an annual ranking of undergraduate and graduate schools for entrepreneurship programs in the USA. The rankings are based on the results of a survey that includes 40 data points for each school. As of summer 2022, 300 schools in the USA reported data about their entrepreneurship offerings in the survey ("Princeton Review Releases Top Entrepreneurial Schools for 2023", 2023). The results are used to rank the top 50 undergraduate and graduate entrepreneurship programs in the country. The survey includes six sections: (1) academics, (2) students and faculty, (3) alumni entrepreneurship ventures, (4) outside classroom activities, (5) competitions hosted by the school/program, as well as (6) scholarships and financial aid granted. A list of courses offered by each school within their entrepreneurship degree programs is provided. Entrepreneurship courses often focus on entrepreneurial law, finance, and marketing. Courses targeting self-regulated learning skills, such as setting entrepreneurial goals, monitoring progress, and preparing for potential risks and failures are often missing from the list of courses. Courses targeting self-regulation of creativity are also often missing, and do not explicitly aim to assist students in learning how to nurture their idea to product completion by developing skills such as revising and strategizing, when necessary, as well as planning and persistence throughout the creative process. Similarly, workshops and trainings provided by business incubators typically do not train novice entrepreneurs to develop their self-regulatory processes of motivation and creativity throughout the entrepreneurial process.

Purpose of Study

The purpose of this qualitative research was to learn more about how entrepreneurship education instructors in higher education institutions and trainers/mentors in business incubators perceive that they support student entrepreneurs' and novice entrepreneurs' self-regulatory processes of motivation and creativity, respectively. Specifically, this study investigates the experiences and perceptions of university instructors and corporate trainers/mentors regarding what works – and does not work – to support student entrepreneurs' self-regulatory processes of motivation and creativity as they develop their business ideas. This provided a deeper understanding of how course instructors and corporate trainers support students in higher education and novice entrepreneurs in the field to maintain motivation and cultivate their creative persistence as entrepreneurs.

Research Questions

This qualitative research investigated the perceptions of entrepreneurship education instructors in higher education institutions and trainers/mentors in business incubators to support the self-regulatory processes of motivation and creativity among emerging and novice entrepreneurs to initiate and sustain entrepreneurial activities as they develop their business ideas. This dissertation in practice investigated two research questions:

1. How do entrepreneurship education instructors in higher education institutions and trainers/mentors in business incubators perceive that they support emergent and novice entrepreneur's self-regulatory processes of motivation to initiate and sustain entrepreneurial activities, respectively?
2. How do entrepreneurship education instructors in higher education institutions and trainers/mentors in business incubators perceive that they support emergent and novice

entrepreneurs' self-regulatory processes of creativity to initiate and sustain entrepreneurial activities, respectively?

Investigator Positionality

While pursuing my master's degree in Entrepreneurship, I worked as a program assistant at my university's student innovation incubator (SII). This SII is a business incubator specifically designed to support the needs of young entrepreneurs who are full-time university students. The aim of this SII is to help students to make their business ideas a reality by providing professional mentoring and access to resources to build a prototype or business. As a program assistant, I helped student entrepreneurs to make business plans, legally incorporate companies, identify target audiences, access funding through on campus business plan competitions, and develop marketing strategies. Students had different academic backgrounds and prior experiences, and not all of them knew how to set up a business. Hence, as a program assistant it was my job to educate and guide students so that they could start their own business. Although the university provided educational workshops and seminars that helped students to understand their business and become successful entrepreneurs, these workshops were designed for the entire entrepreneurial community and were not tailored specifically to student entrepreneurs.

Working as a program assistant at the SII gave me an opportunity to implement the knowledge that I had gained from my graduate studies in entrepreneurship to help student entrepreneurs turn their business ideas into a reality. This opportunity allowed me to apply what I was learning in my own graduate program, to teach the basic principles of business management to novice entrepreneurs. It also helped me to recognize the unique needs of student entrepreneurs. As a program assistant, I observed that students often struggled when dealing with

challenges and setbacks. I observed students in the SII struggle how to deal with failure, remain motivated to reach their goals, sustain creativity, and exhibit resilience in the face of adversity.

A successful entrepreneurial venture requires technical abilities to start, manage, and operate a business. It also requires the ability to stay motivated to achieve entrepreneurial goals, revise strategies, and maintain entrepreneurial creativity. Although I provided technical business education to student entrepreneurs in the SII, many student entrepreneurs were unable to bring their innovative business ideas to fruition. I witnessed many student entrepreneurs lose their motivation to continue their venture, often because of being overwhelmed by a fear of failure or by business management issues. Eventually, it became challenging for me to support student entrepreneurs in the SII. This challenge became an impetus for me to start my doctoral journey, to find a way to help student entrepreneurs achieve their goals and realize their business ideas.

Theoretical Framework

This study is informed by an integrated theoretical framework of Self-Regulated Learning (Zimmerman, 2002) and Self-Regulation for Creativity (Ivcevic & Nusbaum, 2017). Together, these theories inform the process of translating a creative idea into a product, service, or performance, including finding creative solutions to market a product and managing an entrepreneurial venture (Amabile, 1997). Self-regulated processes for learning and creativity can help to initiate and sustain entrepreneurial activity at any stage, it may inform instructors' and trainers' perceptions and experiences of supporting student and novice entrepreneurs.

Self-Regulated Learning.

Self-regulated learning (SRL) is a motivational framework that provides insight into how individuals become effective learners and refers to "the self-directive *process* through which learners transform their mental abilities into task-related academic skills" (Zimmerman, 2001, p.

1). Self-regulated learning assists individuals to become better learners, including engaging in goal setting, monitoring one's behavior and progress towards goals, and evaluating one's successes and failures. This self-regulated learning process facilitates learners to self-refine their skills continuously so that they can take on challenges and stay self-motivated towards pursuing their goals. Novice learners can enhance their self-motivation when and if they use self-regulatory processes through self-monitoring and detecting subtle progress in their learning; this eventually increases their self-satisfaction and their beliefs in their personal efficacy (Zimmerman, 2002).

Self-regulated learning skills include: (1) setting proximal goals, (2) adopting strategies for goal achievement, (3) monitoring one's performance to observe signs of progress, (4) restructuring one's physical and social context to make it compatible with the goals, (5) time management, (6) self-evaluating one's methods, (7) attributing causation to results, and (8) adapting future methods (Schunk & Zimmerman, 1994; 1998; Zimmerman & Schunk, 2001). SRL is dependent on several underlying motivational beliefs such as self-efficacy and interest. Self-motivation is increased when one effectively engages in self-regulatory processes (Zimmerman, 2002). For instance, individuals who can effectively monitor their progress in learning enjoy higher levels of self-satisfaction and self-efficacy beliefs (Schunk, 1993). Although not often explicitly taught in entrepreneurial programs and business incubators/accelerators, SRL is necessary for entrepreneurs to transform a novel creative idea into a product/service.

The self-regulation process includes three cyclical phases: (1) the forethought phase, (2) the performance phase, and (3) the self-reflection phase. The forethought phase includes conducting a task analysis to identify goals and plan how to achieve them. This requires self-

motivation, including self-efficacy, outcome expectations, intrinsic interest/value, and a mastery goal orientation (Zimmerman, 2002). This planning phase allows one to evaluate a task, set goals, and plan a strategy to achieve them. An entrepreneur is motivated during the forethought phase through a self-belief in their abilities, intrinsic motivation, and valuing the outcomes of the entrepreneurial venture. However, a self-regulated entrepreneur is aware that this phase is just the first step towards an entrepreneurial venture. The performance phase includes self-control and self-observation to monitor performance and progress towards one's goals. Self-control refers to the deployment of specific methods or strategies selected during the forethought phase, whereas self-observation refers to the self-recording of events to understand the underlying cause (Zimmerman, 2002). The phase of implementing creative ideas to innovate new products or strategies requires self-control and observation to deploy planned strategies and observe the cause-effect of them within an entrepreneurial venture. The self-reflection phase includes self-evaluation of one's performance to assess what methods/strategies were effective and what were not (Zimmerman, 2002). Adaptive self-reactions that result from self-reflection include feelings of self-satisfaction and positive affect regarding one's performance, which increases motivation (Zimmerman, 2002).

***Self-Regulation for Creativity*.**

Self-regulation can be applied not only to learning, but to creativity as well. Self-regulation for creativity includes factors involved in assisting an entrepreneur to navigate the process in making their idea a reality. Self-regulation for creativity includes two processes: (1) revising and re-strategizing throughout the process of generating a creative idea to a completed product; and (2) sustaining and maintaining efforts in the face of obstacles when striving to complete a creative product (Ivcevic & Nusbaum, 2017).

The revise and re-strategize process involves three elements: (1) regulating expectations, (2) making adjustments, and (3) managing ambitious goals (Ivcevic & Nusbaum, 2017). Creative ideas start with a vision and are often achieved by individuals reflecting upon and analyzing anticipated obstacles and consequences (Ivcevic & Nusbaum, 2017). Managing expectations early in the creative process allows individuals to control, plan, and mitigate the impact of risks and uncertainties in actualizing a creative idea (Ivcevic & Nusbaum, 2017). Regulating expectations may help entrepreneurs to prepare themselves mentally and emotionally for anticipated obstacles and challenges. It is often necessary to make adjustments throughout the creative processes to make a creative idea feasible or to adopt strategies for efficiently using resources and promoting productivity. Adjusting requires time and energy to find the root cause of a problem or obstacle to actualizing a creative idea (Ivcevic & Nusbaum, 2017). Restricting to one method and process might become a hurdle in the entrepreneurial creative process, whereas revamping approaches may allow an entrepreneur to explore new ideas, products, and strategies. Lastly, managing ambitious goals involves managing risk in setting goals and deciding when to disengage from pursuing goals when they become unfeasible (Ivcevic & Nusbaum, 2017). Managing ambitious yet realistic goals can be intrinsically motivating and extrinsically rewarding. Entrepreneurial ventures may suffer when there are no defined measures for disengaging from a risky activity or when regulating goals is ignored (Rigolizzo & Aambile, 2015).

The sustain and maintain process includes three elements: (1) planning and implementation, (2) persistence in the face of obstacles, and (3) managing emotions. Planning and implementing may help individuals to proactively anticipate problems and create processes and strategies to overcome challenges. Planning how to address unfulfilled goals can free up

cognitive resources required for creative thinking and sustained progress towards achieving one's goals (Masicampo & Baumeister, 2011). For example, writers create an outline before writing, it helps them stay focused and organized throughout the creative writing process. Planning also involves creating implementing intentions that helps guide goal pursuits (Ivcevic & Nusbaum, 2017). Persistence in the face of obstacles refers to channeling one's self-efficacy and intrinsic motivation to continue the creative process during challenging times. For example, creative individuals like poets persist even during the challenging times. Their creative work is guided by their sense of efficacy that helps them believe in themselves and their ultimate success. These individuals are intrinsically motivated for their specific domain of work, and they know how to motivate themselves when facing obstacles (Ivcevic & Nusbaum, 2017). Managing emotions refers to regulation of emotions and managing them to support the creative process, whereas a lack of emotion management hinders creative process (Ivcevic & Nusbaum, 2017). For instance, positive emotions such as the joy and achievement of accomplishing goals increase individuals' persistence, whereas negative emotions like frustration and failure can lead to disengagement from the creative process (Ivcevic & Nusbaum, 2017).

Definition of Key Terms

Entrepreneurship

Entrepreneurship is a diverse field; there is no one definition of the term entrepreneurship. Entrepreneurship is mostly defined as a process of starting a new enterprise for any type of business or service. Entrepreneurship is also conceptualized as a force for creating a better world, including businesses focusing on social entrepreneurship (Sarasvathy & Venkataraman, 2011; Shepherd & Patzelt, 2011).

Entrepreneurs

Entrepreneurs craft new enterprises to introduce creative and innovative solutions to solve an existing problem. Entrepreneurs also create jobs that support the economy and improve the social economic status of the community and integrate their resources to use the latest technology efficiently and introduce new products to the market. According to Baumal (1968), there are two types of entrepreneurs: replicative and innovative. Replicative entrepreneurs engage in the formation of existing businesses and do not bring any new ideas, products, or services to the target audience. Innovative entrepreneurs launch new products and services that alter or disrupt the market.

Entrepreneurial Activity

Entrepreneurial activity is the enterprising human action in pursuit of the generation of value through the creation or expansion of economic activity, by identifying and exploiting new products, processes, or markets, and involves identifying opportunities within economic system (Ahmad & Seymour, 2008).

Entrepreneurial Motivation

Entrepreneurial motivation is the process that activates and motivates the entrepreneur to invest time, energy, and resources towards a goal that supports an entrepreneurial activity. It refers to an internal or external force or drive that affects the direction, intensity, and persistence in an entrepreneurial activity (Shane et al., 2003).

Entrepreneurial Creativity

Entrepreneurial creativity is the generation and implementation of novel and appropriate ideas to establish a new venture, business, or program to deliver products or services. Novel, useful ideas may include: (a) the product or service themselves, (b) identifying a market for the

product or service, (c) identifying ways of producing or delivering the product or service, (d) and obtaining resources to produce or deliver the product or service (Amabile, 1997).

Study Limitations

The aim of this study was to create highly contextualized knowledge to inform a problem of practice in supporting student and novice entrepreneurs' development of self-regulated learning and creativity within entrepreneurial education programs in higher education institutions as well as within business incubators. The study focused on the perceptions of higher education instructors and business incubator trainers/mentors within these contexts, and does not necessarily aim to produce broader, generalizable knowledge. Each study participant was selected due to their unique position within their organization. Responsivity and ability of each participant to tell their story impacted the results of this study.

The investigator's own subjective feelings and beliefs may have influenced data collection and analysis in the form of investigator bias (Simons, 2009). My connection/relationship with the USF Center for Entrepreneurship as a student could have imposed a bias in my analysis, as my beliefs, assumptions and perspective are based on my personal experiences. Similarly, learnings as a previous mentor of student entrepreneurs at the USF Student Innovation Incubator may have impacted the nature of my research.

Significance of the Study

The aim of this qualitative research was to gain a deeper understanding of the perceptions of instructors in entrepreneurial education programs and trainers/mentors in business incubators regarding how to support student and novice entrepreneurs in developing self-regulated learning and creativity. This study may inform best practices to promote student and novice

entrepreneurs' self-regulation of learning and creativity, as well as their sustained engagement in entrepreneurial activity within higher education and business incubators.

CHAPTER TWO: LITERATURE REVIEW

This chapter reviews theory and research related to entrepreneurship education, including the transformation of entrepreneurship curriculum and pedagogy. Literature on self-regulation of learning and self-regulation of creativity are also reviewed. Relations among entrepreneurship, self-regulatory processes of learning, and self-regulatory processes of creativity are discussed and gaps in the literature are identified.

Entrepreneurship

There are multiple definitions of entrepreneurship. Gartner (1988) concluded in his research that finding a common definition of entrepreneurship remains "elusive" (p. 47). Two major definitions of entrepreneurship used by scholars are: (1) to create something new and (2) to use the resources efficiently (Davisson, et. al, 2006; Hessels et al., 2008; Shane, et. al., 2000). An entrepreneur is defined as one who innovates when they introduce something new in the market; this can be a product, service, or process of integrating existing resources (Schumpter, 1934). Over the years, the definition of an entrepreneur has evolved, yet the basic definition remains the same; an entrepreneur is someone who can create something new (Keister, 2005). Common traits of successful entrepreneurs are found in the literature including risk-taker, decision-maker, manager, leader, innovator, creator, and achiever (Drucker, 1985; Gartner, 1988; Hitt et al., 2011; Kuratko et al., 2011; Schumpeter, 1934; Shane & Venkataraman, 2000).

Entrepreneurship Education

Entrepreneurship education involves the delivery of knowledge and skills to learners (Kakouris & Liargovas, 2020). The current study is informed by Neck and Corbett's (2018) definition of entrepreneurship education as developing the mindset, skill set, and practice necessary for starting new ventures, yet the outcome of the education is to live a more efficient and productive life even if one does not start a business. Just as there is no consensus in the literature regarding the definition of entrepreneurship, there is no consensus on what entrepreneurship includes as a teaching subject (Fayolle & Gailly, 2007).

Entrepreneurship education is important because it "serves to motivate potential entrepreneurs and helps to ensure a critical mass of inflow of ideas and entrepreneurs into the community" (Otto, 1999, p.54). Entrepreneurship education is typically offered by higher education institutions either as a separate degree with a major in entrepreneurship or as entrepreneurship-related courses that are taught as a part of other degree programs available at the institution. Although the field of entrepreneurship is growing rapidly, there are still many challenges associated in identifying a definitive path within the higher education system that assists individuals in becoming entrepreneurs.

There is a recurring debate of whether entrepreneurship can be taught. Despite significant growth in the field of entrepreneurship, there are individuals who continue to believe that entrepreneurship cannot be taught (Fayolle & Gailly, 2007). The idea that entrepreneurs are born with entrepreneurial traits is repeatedly argued in the literature, viewed in public debates, and discussed in the business world (Cunningham & Lischeron, 1991; Fayolle & Gailly, 2007). Some people believe that the talent and temperament of an entrepreneur cannot be taught (Thompson, 2004). However, there is a growing consensus in recent research that entrepreneurship, or certain

facets of entrepreneurship, can be taught (Neck & Corbett, 2018). The literature supports the idea of multidisciplinary education in entrepreneurship, including intellectual property, business management, ethics in business, finance, and marketing strategies. Researchers are studying topics such as dealing with uncertainty, identifying opportunities, creating, decision-making, leveraging failure, and developing empathy to find efficient methods of teaching them to future entrepreneurs (Neck & Greene, 2011).

Entrepreneurship is considered a significant field in academics and teaching (Davidsson, 2003; Fayolle, 2007). The first time a course was categorized as an entrepreneurship course was at the Harvard Business School in 1947 (Katz, 2003). Since then, there has been continuous growth in entrepreneurship education. According to Kuratko (2005), there are more than 2200 courses offered in 1600 institutions, 44 academic journals, and more than 100 established entrepreneurship centers. Entrepreneurship education programs have grown rapidly on a global level (Kuratko, 2005; Solomon, 2007).

Entrepreneurship Education Programs

The diverse nature of the field of entrepreneurship makes it challenging for educators to follow a certain framework of teaching entrepreneurship. The field of entrepreneurship is developing; there is a conceptual confusion regarding the content of entrepreneurship education and its goals (Maritz & Brown, 2012). Entrepreneurship education programs are defined as any pedagogical program or process of education of entrepreneurial attitudes and skills, which includes developing personal qualities (Fayolle et al., 2006). Most of these programs are offered in higher education institutions but are not restricted to higher education institutions only (Jones, 2010). Business incubators, accelerators, and other organizations that deal with business development and the growth of individuals may include entrepreneurship education programs or

its contents as a part of their training. However, there is no uniform framework to design entrepreneurship education programs or specific teaching models used in entrepreneurship education (Fayolle & Gailly, 2008).

One framework of entrepreneurship education programs was created by Alberti et al. (2004) and includes five components: (1) objectives, (2) audience, (3) content, (4) pedagogies, and (5) assessment (see Figure 1). This framework assists in evaluating an entrepreneurship education program through each of the five components. All five components are interrelated and integrated within an entrepreneurship education program, yet each component has its own structure and significance within the program.

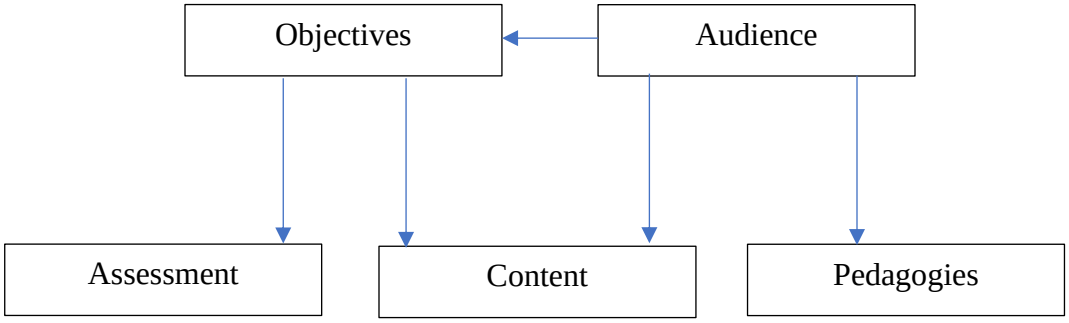

Figure 1: Model for Entrepreneurship Education Program (Albertie et al., 2004).

Program objectives assist in understanding "why" the program is being designed. Content refers to "what" will be included in the program, pedagogies help to understand "how" the content will be delivered to the audience for "whom" the program is being designed for (Albertie et al., 2004). Maritz and Brown's (2012) study examined the relationships between the five components of Alberti et al.'s (2004) model; findings indicated that a comprehensive evaluation of entrepreneurship education programs is possible. Most prior studies evaluating entrepreneurship education programs focus on program participants and the effects of the program on their entrepreneurial intentions or self-efficacy. Maritz and Brown (2012) added two additional components to Alberti et al.'s model – Context and Outcomes – to help make program

evaluation more effective and efficient. Maritz and Brown (2012) proposed that entrepreneurship education programs should be developed and evaluated by keeping in mind their context in which they operate as well as their intended participant outcomes. This framework complements the nature of entrepreneurship education which is diverse in nature and is taught at different types of contexts to multiple groups of participants. All these components of entrepreneurship education programs are discussed below.

Context and Outcomes

Context refers to different settings, environments, and circumstances that influence the operations of a program. Entrepreneurship education is delivered in multiple contexts, including higher education institutions as well as training and development fields such as business and non-business disciplines. Thus, each component of the entrepreneurship education program model has its own context. Context is one of the most critical components, as providing a context prior to specifying objectives is essential in evaluating an entrepreneurship education program (Fayolle, 2010; Jones, 2010; Maritz & Brown, 2012).

Similar to context, each component of the entrepreneurship education program has its own set of participant outcomes. Outcomes refer to the actions and activities undertaken by participants after completing an entrepreneurship education program. Outcomes are most often integrated with program objectives but may also be considered separately (Maritz & Brown, 2012). Outcomes may include skills, knowledge, attitudes (Matlay, 2008); graduate careers (Nabi & Linan, 2011; Taatila, 2010); self-efficacy and intentionality (Cheng et al., 2009); competitiveness (Jones, 2010); and practical learning (Rae, 2004).

Objectives

Program objectives or goals provide a starting point to evaluate entrepreneurship education programs (Bartik, 1994; Hyatti & O'Gorman, 2004; McMullan et al., 2011; Reese & Fansenfes, 1997; Storey, 2000). Various entrepreneurship education program objectives have been examined in relation to program context, participants, and outcomes in terms of how and to what extent these objectives are achieved. Entrepreneurship education programs are classified into three major types of objectives or goals: pedagogical, social, and economic (Fayolle, 2008; Johannisson, 1991). Pedagogical goals allow students to learn about entrepreneurship, social goals help students to develop an entrepreneurial culture in a region, and economic goals help students to create new ventures (Fayolle & Gailly, 2008).

Linan (2004) explained the four objectives of entrepreneurship education and how they are dependent on the four different stages of an entrepreneur. The first stage includes an awareness of entrepreneurship education. This includes basic level entrepreneurship courses offered at higher education institutions that aim to provide students with foundational knowledge of entrepreneurship. The second stage includes education for start-up entrepreneurs that aim to prepare individuals to own a new venture/business. The third stage involves continuing education for entrepreneurs and is designed to improve practicing entrepreneurs' abilities. The fourth stage focuses on education for unpredictable circumstances in entrepreneurship. This includes preparing entrepreneurs with the ability to constantly change and evolve to adapt to changing market conditions and technology advancements. Linan (2004) emphasized the importance of fostering an entrepreneurial mindset and encouraging entrepreneurs to experiment with new business ideas, take risks, and pivot their business strategies when needed.

Entrepreneurship education program objectives are dependent on the type of program in addition to the different developmental stages of the entrepreneur. There are three categories of entrepreneurship education programs: (1) programs that help participants learn to understand entrepreneurship, including the conceptual understanding of entrepreneurship (e.g., financial management and business planning); (2) programs that use hands-on training/experience like internships and mentorship programs to become entrepreneurial (e.g., identifying opportunity) and (3) programs that help participants become entrepreneurs through; the development of practical skills (e.g., marketing and sales workshops, trainings, and coaching sessions). Other entrepreneurship education program objectives include helping individuals to analyze business situations, assess risk, as well as to stay motivated and persist when starting entrepreneurial ventures (Maritz & Brown, 2012).

Audience

The target audience plays a central role in determining program components and integrating them together to achieve program goals. Entrepreneurship education programs must understand various aspects of learners, including diverse socio-demographics, stages of the venture, and differences in higher education and degrees (Maritz & Brown, 2012). It is essential to know the background, social environment, and the psychological characteristics of students to design program curriculum that meets their needs (Bechard & Gregoire, 2005; Fayolle & Gailly, 2008). Together, these factors influence the program's long-term goals/objectives and assist in the development and evaluation of an entrepreneurship education program.

Content

Entrepreneurship education program content is designed to help the target audience accomplish their goals and outcomes. Entrepreneurship curriculum varies widely; prominent

researchers have highlighted content as a blend of theory and practice (Brand et al., 2007; Henry et al., 2003; Martiz et.al., 2011; Sexton & Bowman, 1984). There are differing points of view regarding the content of entrepreneurship education programs. For instance, Kuhn (1970) argued that teaching theory is the most practical way of transferring entrepreneurial content to students (Maritz & Brown, 2012). Thus, entrepreneurship education in higher education includes foundational courses (e.g., Fundamentals of Entrepreneurship, Business Plan Development, Strategic Marketing, and New Venture Formation) with content derived from business and management theories. Content also includes information about opportunity identification, living with uncertainty, entrepreneurial mindset, creating, decision making, developing empathy, business design, culture, life-work balance, social responsibility, and dealing with failure (Neck & Greene, 2011). Neck and Green (2011) categorized these skills as "the soft stuff" (p. 2) and posited that the combined teachings of entrepreneurship theory and soft stuff helps entrepreneurs in value creation that further allows entrepreneurship to become an engine to create economic, social, and personal value. However, researchers continue to question the role of universities in providing entrepreneurship education. Jack and Anderson (1999) viewed entrepreneurship as an action-oriented field and suggested that students should work with practicing entrepreneurs to learn practical entrepreneurship.

The literature struggles to find coherence in instructional approaches, content, and methods (Fayolle, 2013; Kyro, 2005; Ligouri et al., 2018; Neck & Corbett,2018; Vanevenhoven, 2013). Despite there being a coherent curriculum and content, entrepreneurship education is most often described as a delivery of knowledge and skills, and rarely described as a transfer of learning entrepreneurial attitudes. For instance, Kakouris and Liargovas (2021) examined the Entrepreneurial KSA triptych (i.e., knowledge, skills, and attitude) by identifying instructional

differences among three modes of entrepreneurship education: About, For, and Through. "About" refers to the knowledge gained in entrepreneurship, including general topics of entrepreneurship that help in understanding entrepreneurial operations and management. The "For" mode refers to the skills needed in entrepreneurship. This mode assumes that the audience is motivated to practice entrepreneurship and is ready to experiment with business tools. Hence, the skills to use SWOT analysis (i.e., Strengths, Weaknesses, Opportunities & Threats), PEST analysis (i.e., Political, Economic, Social & Technology), and business models are transferred in this mode. The "Through" mode provides insight into building an entrepreneurial attitude (Kokouris & Liargovas, 2021). In entrepreneurship education, theoretical knowledge is transferred through passive learning based on traditional teaching such as lectures (Kokouris & Liargovas, 2021). The "Through" mode is action-oriented, as it focuses on building a positive attitude towards entrepreneurship. This mode equips entrepreneurs to engage in self-directed learning and reflect on their own performance (Kokouris & Liargovas, 2021). According to Middleton and Donnellon (2014), the "About" mode refers to the generic learning, "For" mode is for both personal and generic learning, and the "Through" mode is for personal development and learning. The "Through" mode is often considered the most critical mode, as students undergo an actual entrepreneurial learning process (Kyro, 2005; Middleton & Donnellon, 2014). Matlay (2008) emphasized that the content of entrepreneurship education should be built around the context and entrepreneurial outcomes of skills, knowledge, and attitudes (Matlay, 2008). Different pedagogical methods are adopted by institutions to teach entrepreneurship in a way that they can accomplish their own institutional objectives or goals. These pedagogical approaches are informed by course content (Kokouris & Liargovas, 2021).

Pedagogy

Pedagogical methods are influenced by different elements of entrepreneurship education programs. The program context, objectives, audience, and course content play a significant role in determining the pedagogical methods used. There are four basic pedagogical models within entrepreneurial education (Nabi et al., 2017). First, the supply model includes reproduction methods such as lectures and readings and is related to a traditional approach to knowledge transfer. Second, the demand model focuses on personalized/participative methods that are exploratory and involve sensemaking and meaning building. Third, the competence model relates to higher order learning and involves active problem solving and starting business activities. Communication, discussion, and production methods such as debates and portfolios are encouraged in this model. Fourth, the hybrid model is a mixture of the three models (Bechards & Gregoire, 2005; Fayolle & Gailly, 2008). Nabi et al. (2017) reviewed 159 articles to investigate the influence of several types of entrepreneurship education on the development of entrepreneurial competencies and different pedagogical methods. Out of these 159 articles, 45% discussed pedagogy; more attention has been given to demand and competency models of pedagogy as compared to hybrid models (Nabi et al., 2017).

Nabi et al. (2017) distinguished between different types of entrepreneurship education programs and their impact on entrepreneurial competencies by categorizing them into two major groups: lower-level impact indicators and higher-level impact indicators. Lower-level impacts refers to short term subjective/personal changes. The major indicators found by Nabi et al. for lower-level impact indicators were change in attitude, skills, knowledge, perceived feasibility, and entrepreneurial intentions. Higher-level impact indicators refer to longer-term objectives or socioeconomic impacts including starting up a business and running it successfully. Supply

model pedagogies were linked with lower-level impact indicators. Similarly, demand and combination of supply-demand model pedagogies were associated with development of lower-level impact competencies among entrepreneurs. Nabi et al. (2017) noted there is limited research that indicates a direct influence of entrepreneurship education on high-level impact indicators. Competence model pedagogies were positively associated with business start-up creations and continuing developing the business for the next five years (Nabi et al., 2017). Their study highlighted entrepreneurial intentions were the most studied impact indicators. However, there is limited research that examines how individuals transition from entrepreneurial intention to behavior and how to assist them to take entrepreneurial action (Nabi et al., 2017).

Neck and Greene (2011) suggested a method of delivering entrepreneurship education using experiential and action-based learning. They noted the diverse and innovative nature of entrepreneurs and advised channeling cognition by focusing on individuals' decision-making abilities as a method of learning. Thus, Neck and Greene (2011) proposed a pedagogical portfolio that included: (1) capstone courses in entrepreneurship education in which students set-up real businesses; (2) use of computer games through which students learn methods of dealing in a business and setting up new venture under different circumstances; (3) use of a design-based approach to help entrepreneurs learn how to generate creative ideas and make opportunities for themselves; and (4) use of reflective practices in entrepreneurship education as they may enhance learning by synthesizing information for long-term goals (Neck & Greene, 2011). Thus, Neck and Green (2011) focused on how to make entrepreneurship education a method of learning the skills to act and think like an entrepreneur rather a process of transferring information with predictable outcomes. Their study contributed to the literature by shifting from traditional methods of learning to more advanced methods of learning in which learners indulge

in experiential learning with support of technology, use their critical thinking to observe, synthesize process and reflect to think creatively and make opportunities for themselves.

In contrast to Neck and Green (2011), Kyro (2015) suggested a more customized learner-led approach to experiential learning. Kyro (2015) linked learner-led learning to the holistic nature of human beings, which means the interests of individuals guide their learning process. Kyro recommended supporting the learning process by tailoring the context and teaching arrangements to the learner, as well as promoting creative action by making experiential and exploratory learning central to learning (Kyro, 2015). Autonomy, a key component of Kyro's (2015) model, refers to learner's freedom. However, freedom is not only an individual concept in entrepreneurship education but may also concern the entire learning situation in that autonomy allows entrepreneurs to define their own goals and develop a strategy to achieve them (Kyro, 2015). Freedom entails the responsibility for consequences and the ability to tolerate associated risks. Kyro (2015) suggested to include a broad understanding of risk as insecurity in entrepreneurship, and as entrepreneurship pedagogies often do not include the interplay between risk and responsibilities (Kyro, 2015).

In summary, the three seminal articles (Kyro, 2015; Nabi et al., 2017; Neck & Greene, 2011) provide unique insights into understanding entrepreneurship pedagogies and empowering entrepreneurs' independent learning. Context is central to supporting entrepreneurship education, as different settings support different approaches to deliver information. There is a consensus for the need for an improved pedagogical method in entrepreneurship education by all three studies. The articles highlight varied pedagogical methods and their relationship with entrepreneurial competencies. For example, entrepreneurship pedagogy has been studied through different approaches that include modifying pedagogy based on the content, audience, context, or the

objectives/outcomes. However, there is limited research available that addresses instructors' and trainers' perceptions of entrepreneurship pedagogy, or their insights into designing their curriculum. The role of a teacher and trainer is critical in entrepreneurship education as they develop students' mindsets and skillsets and facilitate the practical skills of running a new venture. Neck and Corbett (2018) suggested that entrepreneurship educators should focus on andragogy (i.e., learner centered approach focused on the needs of adult learning). Andragogy requires instructors/trainers/mentors to facilitate learning using content and techniques adopted from multiple disciplines, use experiential and real-life activities, while connecting the subject matter to student needs, goals, aspirations (Neck & Corbett, 2018). The table below shows a comparison between different pedagogies studied in the three seminal articles (Kyro, 2015; Nabi et al., 2017; Neck & Greene, 2011.

Assessment

Assessments used in entrepreneurship education programs are complex and multidimensional (Henry et al., 2003). Assessment of student learning includes entrepreneurial `attitude development, self-efficacy, knowledge about the field, and entrepreneurial intentions (Maritz & Brown, 2012). Additional key areas of becoming an entrepreneur include self-employment, independent actions as an operator of a venture, identification of individual potential, as well as acquisition of knowledge and skills (Falkang & Alberti, 2000). However, identifying and evaluating these abilities among individuals is quite challenging. Self-reflection activities (e.g., reflective journal writing) are often used as assessments in entrepreneurship (Hackbert, 2000). Self-reflections journals are used to assess if individuals were able to: (1) apply the concepts, principles, and ideas introduced in class readings, lectures, and discussions to their field of practice; and (2) reflect on problems, ideas, and learning experiences (Hackbert,

2000). At the program level, higher education institutions adopt different types of assessments to measure entrepreneurship program effectiveness. These assessments include student enrollment, retention, and graduation rates; school and program ranking; and the number of start-up companies created.

Table 1: A Comparison of Entrepreneurship Education Pedagogies

Entrepreneurship Education Pedagogy	**Graduate entrepreneurship in the developing world: Intentions, education, and development- By Nabi et al. (2017)**	**Entrepreneurship education: Known worlds and new frontiers- By Neck & Green (2011)**	**The conceptual contribution of education to research on entrepreneurship education- By Kyro (2015)**
Theory-based Learning	✓		
Exploratory Learning	✓		✓
Problem Solving			✓
Experiential Learning		✓	
Action based Leaning		✓	✓
Reflection Practices		✓	
Learner-led approach			✓
Autonomy in Class		✓	✓

Self-Regulated Learning

Self-regulated learning (SRL) is a proactive, constructive process whereby learners set goals for their learning and then monitor, regulate, and control their cognition, motivation, and behavior that is guided and constrained by their goals and the contextual features in the environment (Pintrich, 1999; Zimmerman, 2000). The three cyclic phases of self-regulation of learning are the: (1) forethought phase, (2) performance phase and (3) self-reflection phase

(Zimmerman, 2000). The three phases are interrelated; the forethought phase refers to the self-regulatory processes and beliefs that precede learning, whereas the performance phase refers to the self-regulatory processes and volitional beliefs that accompany learning and control it. The self-reflection phase refers to self-regulatory processes and beliefs that follow performance but also form the foundation for the subsequent cycle (Zimmerman & Labuhn, 2012). Self-regulation is a self-directive process where learners transform their mental abilities into skillsets and self-regulate their thoughts, feelings, and behaviors (Zimmerman, 2000). Self-regulated learning helps individuals to learn on their own by becoming more aware of their strengths, limitations, goals, motivations, as well as understanding the factors that shape their self-efficacy (Zimmerman, 2000).

Self-regulated learning and motivation are essential to help entrepreneurs throughout their entrepreneurial journey. Entrepreneurship is a process that requires transforming ideas into actions. Entrepreneurship is cyclical in nature in which the result of one action becomes the foundation of the next action. Although entrepreneurship education provides support for this cycle, little is known about how the transition from intention to entrepreneurial behavior occurs (Nabi et al., 2017). Zimmerman's (2000) model of Self-regulated learning is similar to the phases required in entrepreneurship to transform ideas into actions, as both are continuous processes that assist individuals in recognizing their abilities and integrating them to accomplish their goals. Self-regulated learning helps individuals in learning about themselves, being more aware about their limitations and strengths while having a strategic plan to overcome obstacles in their way. Researchers have linked entrepreneurial intentions, self-efficacy, goal setting, performance evaluation, and reflection with entrepreneurial education and its impact on the achieving long-term entrepreneurial goals (Nabi et al., 2017; Neck & Greene, 2011). However,

research on self-regulatory learning in entrepreneurship education is limited. In this section, the three phases of self-regulated learning (i.e., forethought phase, performance phase, and reflection phase) are discussed in relation to entrepreneurship.

Forethought Phase

Self-regulated learners are guided by their personal goals and strategies of each task that helps them to accomplish a long-term goal/objective. The two distinct categories of the forethought phase include task analysis and self-motivational beliefs (Zimmerman, 2000). Task analysis includes goal setting and making a strategic plan to achieve these goals. Goal setting refers to specifying outcomes of a learning or performance. Highly self-regulated individuals have a goal system that is organized hierarchically, in a way that process goals operate as short-term regulators of more long-term goals. Research identified that individuals who pursued and attained short-term goals developed greater self-efficacy and interest in their domain of work (Zimmerman, 2000).

The second form of task analysis is strategic planning. To perform a task optimally or to master a skill, learners need to select methods that are appropriate for the task and the setting. Appropriate selection of strategies enhances performance by aiding cognition, controlling affect, and directing the execution (Zimmerman, 2000). The planning and selection of strategies requires continuous adjustment because of changing personal, behavioral, and environmental factors. As an individual progresses and gains mastery in a particular skill or learning, the effectiveness of initial strategies declines to a point where another strategy becomes necessary. Therefore, as a result of continuously changing intrapersonal, interpersonal, and contextual conditions, self-regulated individuals must continuously adjust their goals and strategies (Zimmerman, 2000). Entrepreneurship also requires continuous revision of strategies, as well as

setting and achieving proximal goals to attain distal goals. Self-regulated learning accommodates individual differences that emerge from metacognition and social cognition, and allows learners to be self-aware about their strengths/limitations and monitor their behavior towards their goals.

However, self-regulation of learning is not possible if the learner is not motivated. Thus, underlying the forethought processes of goal setting and strategic planning are four key motives: self-efficacy, outcome expectations, intrinsic interest/value, and goal orientation (Zimmerman, 2000). Self-efficacy refers to individuals' beliefs about their own capabilities and influences action and achievement (Bandura, 1997; Schunk & Pajares, 2005). Individuals with higher self-efficacy often exert more effort for a greater length of time, persist through setbacks, set higher goals for themselves, and develop more efficient plans and strategies (Shane et al., 2003). Outcome expectations refer to beliefs about the ultimate ends of performance (Bandura, 1997). Individuals' willingness to engage and sustain self-regulatory efforts are dependent on their efficacy beliefs that refer to their ability to plan and manage certain areas of functioning (Zimmerman, 2000). The more they believe in their capabilities, the higher they set their goals and the more committed they are towards their goals. Self-efficacious people increase their efforts to attain outcome goals if they fall short of their goals, whereas those who self-doubt their abilities withdraw. Self-efficacious individuals monitor and observe their process goals, and gaining progressive mastery gives them the feeling of satisfaction rather than suspending any sense of success until a final goal is attained. Thus, a feeling of intrinsic interest/value is developed. Intrinsic interest/value is defined as a sense of self-satisfaction that is attained when proximal goals are accomplished, they increase an individual's intrinsic motivation to stay persistence in their efforts to gain mastery or achieve distal goals (Bandura & Schunk, 1981). This intrinsic motivation might also surpass extrinsic outcomes. Gradually, process goal seekers

consider process goal achievement as a milestone of their mastery. Goal Orientation refers to an individuals' evaluation processes of what, why and how they are motivated to complete a task (Pintrich,1999). Goal-orientation is identified as a learning, a mastery or a task goal orientation that shows sustained motivation and improve performance (Zimmerman, 2000).

Performance Phase

Performance phase, the second phase in SRL, includes self-control and self-observation (Zimmerman, 2002). Self-control refers to the implementation of tasks that may help individuals accomplish the goals formulated in the forethought phase. Self-control helps individuals to deploy strategies adopted in the forethought phase to achieve a task or goal, such as self-instruction, imagery, attention focusing, and task strategies, help learners and performers to focus on the task and optimize their efforts (Zimmerman, 2000). Self-instruction involves describing how to proceed as one executes a task. Imagery is also known as the forming of mental pictures to assist in the encoding of performance. While attention focusing is designed to improve one's concentration and eliminate diversions, task strategies assist learning and performance by reducing a task to its essential parts and reorganizing the meaningful parts (Zimmerman, 2000).

Self-observation refers to keeping a record or monitoring one's performance, or self-experimentation to find the cause of the events surrounding one's performance (Zimmerman & Labuhun, 2012). Setting hierarchical process goals in the forethought phase facilitates self-observation as the goals focus on specific processes and proximal events. There are several features of self-observation that have a significant influence on its effectiveness. Zimmerman (2000) highlighted self-recording as a common self-observational technique that can increase proximity, informativeness, accuracy and valence of feedback. self-recording can be used to capture information at the time of performance, structure it to be most meaningful, preserve its

accuracy without need for intrusive rehearsal, and provide a database as evidence of progress (Zimmerman, 2000). Self-observation can lead to cycles of self-experimentation, as individuals engage in personal experimentation by systematically changing aspects of their functioning or learning processes to observe its effect on performance (Zimmerman, 2000).

In entrepreneurship, individuals continuously observe their strategies and modify them to accomplish their goals and generate greater profits. “Revamping a business idea” is a common term in entrepreneurship and refers to changing or modifying a business strategy to improve business operations or the final product or service, which can be associated with consciousness or self-awareness. Consciousness can be a reliable factor of performance and is supported by goal setting and goal commitment (Shane et al., 2003). Goal setting allows individuals to hold themselves and their actions accountable, as well as allow them to monitor progress towards goals. Shane et al. (2003) defined persistence as a sustained goal-directed energy that aids individuals in achieving self-control, leverage failure, and to be resilient (Shane et el., 2003).

Reflection Phase

In the third and final reflection phase, learners assess their performance and engage in self-judgement and self-reaction (Zimmerman, 2002). Self-judgment includes an evaluation of one’s success and/or failure and is based on the comparison of one’s performance with standards or the performance of others. Associating one’s failure with having a fixed mindset can undermine motivation and future efforts made towards learning, whereas associating one’s success with a growth mindset can foster motivation and is associated with self-satisfaction (Schunk, 2001). Self-reaction includes adaptive and defensive reactions in response to evaluating one’s performance. Adaptive reactions refer to adjustments made in the learning process by individuals to perform better in the future. Defensive reactions refer to reactions by individuals

to protect their self-image by withdrawing from future learning activities or avoiding opportunities to learn and perform (Zimmerman, 2002). Self-reflection of prior efforts influences subsequent forethought processes, as forethought, performance, and self-reflection are interrelated processes (Zimmerman & Kitsantas, 1999).

There are three key motives within this phase, including attributions, self-satisfaction, and affect (Zimmerman & Labuhn, 2012). Attributions are defined as the way people construct casual explanations for behavior, or their beliefs that help to explain their performance. Attributions are associated with one's expectations about their future success, motivation, and emotions (Weiner, 1979). Attributions involve assumptions about the strengths and weaknesses of an individuals' learning processes. Adaptive attributions influence one's motivation and allows one to feel either satisfied or dissatisfied regarding their performance. Self-satisfaction is also associated with positive and negative emotions regarding one's performance. Reflection has been extensively studied in entrepreneurial literature as a cyclical process of action, learning, and experimenting that can lead to the development of reflective entrepreneurs (Neck & Greene, 2011). Reflection is an important process by which knowledge is developed from experience; this may allow individuals to understand and evaluate their experiences in a way that assists their learning processes (Neck & Greene, 2011).

Self-Regulation of Creativity

Self-regulation of creativity is relatively a new phenomenon that has not been extensively explored in literature. A model of self-regulation of creativity was proposed by Ivcevic and Nusbaum (2017) and focuses on the processes between coming up with ideas and actualizing ideas into performances or products. Actions towards creative products are not clear, thus revision of strategies is often required for the desired outcomes (Ivcevic & Nusbaum, 2017).

There is limited research available on the self-regulation of creativity in entrepreneurship. However, revising creative strategies and the relationship between entrepreneurial creativity with risk-management, goal orientation, intent, self-efficacy, intrinsic motivation and regulating emotions have been studied extensively (Anwar et al., 2022; Ivcevic & Hoffmann, 2019; Fillis & Rentschler, 2010). Self-regulation of creativity includes two processes: (1) revising and re-strategizing on the way from creative idea generation to a creative product; and (2) sustaining and maintaining efforts in face of obstacles (Ivcevic & Nusbaum, 2017). These processes are discussed below and in relation to entrepreneurship.

Revise and Re-Strategize throughout the Creative Process

Revising and re-strategizing processes involve continuous exploration and revision of a strategy in a way that suits the needs of situation and/or goals, which is a core component of creative work (Ivcevic & Nusbaum, 2017). Similar to entrepreneurship, the creative process is nonlinear, and individuals often encounter challenges, risks, and uncertainties. Individuals also may experience ambiguity while actualizing a creative product, which can negatively impact their progress (Ivcevic & Nusbaum, 2017). The three elements of revising and re-strategizing processes: (1) regulating process expectation; (2) adjusting approach and (3) managing ambitious goals.

Regulating Process Expectations. Regulating process expectations is the continuous process of anticipating outcomes while observing the differences and similarities between an idea and the actual product. This can assist creative individuals to be more realistic because the actual outcomes of a creative idea may be quite different than what was initially envisioned. There can be many changes made to an initial idea during the creative process of transforming it into a product or service. Thus, individuals need to be aware that there will be uncertainties in

the creative process, and that they may have to be resilient in the face of risks/ambiguities to advance their work (Ivcevic & Nusbaum, 2017).

Adjusting Approach. Adjusting approach involves adapting and modifying one's methods throughout the creative process. This may include changing/adjusting the initial idea to something that might solve a given problem in a more efficient way or adopting a different strategy to actualize the creative idea. Creative individuals have the ability to incorporate openness to opportunity and ability to commit to specific goals (Ivcevic & Nusbaum, 2017).

Managing Ambitious Goals. Managing ambitious goals involves regulating associated risks in goals, including disengaging the creative process if the goals become unfeasible. Regulation of risks is required to maximize the impact of one's work and minimize potential negative consequences. Managing ambitious goals allow individuals to avoid failure that may reduce motivation in pursuing a creative process (Ivcevic & Nusbaum, 2017).

Sustain and Maintain Effort in the Face of Obstacles

The second process of self-regulation of creativity is sustaining and maintaining effort in the face of obstacles. This process assists individuals to persevere despite challenges, uncertainties, risks, barriers, and failures of creativity (Ivcevic & Nusbaum, 2017). The three elements of sustaining and maintaining processes include: (1) planning and implementation; (2) persistence in the face of obstacles; and (3) managing emotions.

Planning and Implementation. Planning and implementation involve organizing and managing resources (Ivcevic & Nusbaum, 2017). Planning how to address unfulfilled goals may help to free up cognitive resources essential for thinking and sustained progress towards goals (Masicampo & Baumeister, 2011). Planning and task organization can help to create conditions for enjoyable and productive creative processes (Kellogg, 1988). Ivcevic et al. (2017)

highlighted that planning involves creating implementation intentions, which can help to identify goal pursuits through specific if-then contingencies. Implementation intentions can also support initiating actions, resisting distractions, and automating responses (Ivcevic & Nusbaum, 2017).

Persistence in the Face of Obstacles. Persistence in the face of obstacles refers to creative individuals' persistence in the face of obstacles and is dependent on two factors: self-efficacy and intrinsic motivation. Self-efficacy beliefs motivate initial goal setting and support the ongoing process of recommitting to one's goals (Bandura & Locke, 2003). Creative self-efficacy is one's belief regarding their ability to complete a creative task successfully (Ivcevic & Nusbaum, 2017). Creative individuals are often intrinsically motivated and may know how to keep themselves motivated towards accomplishing their goals, even during unpleasant tasks (Ivcevic & Nusbaum, 2017).

Managing Emotions. It is essential to understand what emotions are beneficial or detrimental when engaging in creative tasks and how individuals manage their emotions to reach various goals (Ivcevic & Nusbaum, 2017). The creative process is full of emotions that may influence the outcomes. Initial phases of the creative process may trigger anxiety or frustration at the inability to adequately implement ideas. Experiencing inspiration is joyful, whereas facing daily challenges can be painful and full of anguish. Thus, managing emotions is an important aspect of the creative process as it assists in managing frustration or negative feedback, and can increase an individual's persistence and motivation in the face of obstacles (Ivcevic & Nusbaum, 2017). Managing emotions involves monitoring, influencing, changing, and using emotions to achieve one's goals (Gross, 2008). To effectively manage emotions to reach one's goals, one needs a broad range of strategies to influence the cognitive, psychological, and behavioral aspects of emotions (Salovey et al., 2011).

Summary and Gaps in the Literature

Instructors and trainers/mentors are the drivers of entrepreneurship education programs. They design curriculum to foster motivation and creativity, and to assist individuals in the process of transitioning from entrepreneurial intentions to behaviors and realize an idea as a product or service. Experiential learning, learner-led approaches to teaching, and design-theory approaches to learning are often used to support creativity and innovation in entrepreneurship (Kakouris, 2021; Kyro 2015; Nabi et al., 2017; Neck & Green, 2011). However, instructors' and trainers' role in facilitating self-regulatory processes of learning and creativity has not been adequately explored within entrepreneurship literature. Novice learners are especially likely to benefit from gaining these self-regulatory skills as they monitor their behavior in terms of their goals and self-reflect on their increasing effectiveness. This would eventually enhance their self-satisfaction to sustain and maintain entrepreneurial ventures (Zimmerman, 2002). Thus, the aim of this study was to address these gaps in the literature and gain a deeper understanding of the perceptions of instructors in higher education institutions and trainers/mentors in business incubators regarding how to support emerging and novice entrepreneur's self-regulatory processes of motivation and creativity to initiate and sustain entrepreneurial activities.

CHAPTER THREE: RESEARCH METHODS AND METHODOLOGY

Overview

The purpose of this qualitative research study was to investigate how entrepreneurship education instructors and business incubator trainers/mentors perceive that they support emergent and novice entrepreneurs' motivation and creativity self-regulatory processes. This study was informed by two interrelated theories: Self-Regulation of Learning (Zimmerman, 2002) and Self-Regulation of Creativity (Ivcevic & Nusbaum, 2017). There were seven participants in this study: four instructors from three different higher education institutions (three males and one female), and three trainers/mentors from three different business incubators (two males and one female). Each participant was interviewed once for this study. Archival data and artifacts were collected from the participants (e.g., course syllabi, content, instructional materials, assessment materials, training materials, and de-identified student-generated products). I maintained a reflexive journal throughout this research as a tool for self-reflection. I used hybrid thematic analysis (Fereday & Muir-Cochrane, 2006), which included deductive and inductive analysis, to analyze the data. This chapter describes the study design, context, participants, data sources, data analysis, and limitations.

Research Questions

This dissertation in practice investigated two research questions:

1. How do entrepreneurship education instructors and business incubator trainers/mentors perceive that they support emergent and novice entrepreneur's self-regulatory processes of motivation to initiate and sustain entrepreneurial activities?

2. How do entrepreneurship education instructors and business incubator trainers/mentors perceive that they support emergent and novice entrepreneurs' self-regulatory processes of creativity to initiate and sustain entrepreneurial activities?

Choice of Method

Qualitative research gives the reader the chance to live through the participants' experiences and narratives (Stake, 1995). It provides a thick description of the study context, participants, and investigator. Thus, qualitative research aims to develop a rich and holistic understanding of the complexity of social practices from the insider's perspective of various stakeholders (Abma & Widdershoven, 2011). This research focuses the teaching and training practices and procedures within entrepreneurial education programs and business incubators. The diversity within entrepreneurship education and business incubators made this study a good fit for a qualitative study. Entrepreneurship is a broad field; it is essential to provide readers with data that is in-depth, detailed, rich, and varied (Flyvbjerg, 2011).

Along with providing a deep sense of knowledge and information, a qualitative data helps to build context-dependent knowledge and experience and may serve as a foundation for learning (Flyvbjerg, 2011). This research studied how instructors within higher education institutions and trainers within business incubators perceive that they support emergent and novice entrepreneur's self-regulatory processes of motivation and creativity to initiate and sustain entrepreneurial activities. A qualitative study allows the investigator to communicate the findings and make meaning in the form of a narrative. This may help readers to connect with the problem and relate to participants' experiences. Flyvbjerg stated, "it is easier to remember and make decisions on the basis of meaningful stories than to remember meaningless strings of data" (2011, p. 301). This study focused on communicating the stories of how instructors and trainers

perceive that they support emerging and novice entrepreneur's self-regulatory processes of motivation and creativity to initiate and sustain entrepreneurial activities and how the data has implications for improving entrepreneurship education and training.

Context/Settings

I purposefully selected two different contexts that engage in the development of entrepreneurs: higher education institutions and business incubators. This allowed me to explore the perspectives of instructors and trainers/mentors in supporting emergent and novice entrepreneurs, as well as their approaches and the materials they used to facilitate entrepreneurs' self-regulated motivation and creativity. This provided an insight into participants' perspectives regarding how the development of emergent and novice entrepreneurs is supported within different contexts and how they potentially contribute to the field of entrepreneurship (Stake, 2005).

In the first context, higher education institutions, I recruited instructors who teach graduate level courses relevant to motivation and/or creativity within entrepreneurship degree programs at two public universities and one private university. University curricula are designed to align with the state's accreditation bodies. Degree programs and courses are often publicly available. Therefore, participants from public and private universities were recruited if their higher education institution had an active graduate degree program in entrepreneurship. Two public universities located in southeastern US and one private university located in the west coast of the US participated.

In the second context, business incubators that train novice entrepreneurs, I recruited trainers/mentors in business incubators who support potential startup companies in their facility. Trainers/mentors provide startups with office space, business mentoring, training, and funding

opportunities. Business incubators host different networking events and workshops so that startup companies can explore their resources that may help them progress in their entrepreneurial ventures. Participants from three different types of business incubators in the southeastern US participated in this study.

Positionality

I remained fully aware of my own positionality in the study. My positionality as an insider and outsider within the field of entrepreneurship may have impacted the study as well as how I made meaning of the data (Kacen & Chaitin, 2006). I consider myself an insider within the entrepreneurship community based on my experience as an entrepreneurship assistant at a student business incubator within a public university and a former graduate student of a master's degree in entrepreneurship from the same university. I am also an outsider because I am not a teacher or trainer in either of the context. Qualitative studies acknowledge and appreciate the positionality and experiences of the investigator. I maintained a reflexive journal to manage my subjectivity and to engage in ongoing critical self-evaluation of my position throughout the entire study process. The reflexive journal was also used for my internal reflection and to maintain an open dialogue with my stakeholder (Bradbury-Jones, 2007; Guillemin & Gillam, 2004; Pillow, 2003; Stronach et al., 2007). I used my reflexive journal to monitor any tension between the involvement and detachment of me and my participants (Bradbury-Jones, 2007; Gemignani, 2011; Pillow, 2003).

Participants

Participants from two different contexts were recruited in this study: higher education institutions and business incubators. I used the internet browser (Google) search engine to find private and public higher education institutions and business incubators located within the US.

My search was focused on identifying higher education institutions that provide courses relevant to motivation and/or creativity of entrepreneurs within their master's degree program in Entrepreneurship and had a separate Entrepreneurship department. My internet search was also focused on finding business incubators that provide mentoring services to their novice entrepreneurs through educational trainings and workshops. After short listing higher education institutions and business incubators that met my search criteria, I made a list of individuals to recruit and extracted their contact details from the official website of their respective institutions. Around forty individuals were sent an email invitation to officially participate in this research study. Out of the forty individuals, ten accepted the invitation to participate. Seven individuals participated in the study; three individuals could not participate in the study due to their limited availability.

A total of seven individuals participated in this study: four instructors from three different higher education institutions (three males and one female), and three trainers/mentors from three different business incubators (two males and one female). Participants from higher education institutions included four professors/instructors from three different higher education institutions, including two public universities located in southeastern US and one private university located in the west coast of the US. Participants teach courses relevant to creativity, innovation, and design thinking, as well as new product development. These courses count towards a master's degree in entrepreneurship. Participant recruitment criteria for course instructors include: (1) has served as an instructor for a graduate course relevant to entrepreneurs' motivation and creativity within the past 1-2 years; (2) has at least three academic years of teaching experience within a graduate entrepreneurial program; and (3) serves as a full-time faculty member of the selected graduate entrepreneurial program.

Participants also included three mentors/trainers from three different business incubators in the southeastern US. One business incubator is a public non-for-profit incubator and is affiliated with a public university. The second business incubator is affiliated with a private university and is still in development. The third business incubator is a non-for-profit business incubator with no affiliation with a university. Mentors/trainers provide mentoring to novice entrepreneurs and facilitate subject matter/professional mentoring through different networking and training events. The role of mentor/trainer in each business incubator is to assist novice entrepreneurs in making their idea into a successful entrepreneurial venture. Participant selection criteria for business incubator trainers include: (1) has served as a trainer for a training platform that included content relevant to entrepreneurs' motivation and creativity within the past 1-2 years; (2) has at least three years of training experience within a business incubator; and (3) serves as a full-time employee of the selected business incubator.

Data Collection

Three different sources of qualitative data were used in this research. The qualitative data includes individual participant interviews, archival data (e.g., course and training materials), and a reflexive journal.

Interviews

I conducted individual, semi-structured interviews to gain insights about participants' experiences and perceptions of how they support emergent and novice entrepreneurs' self-regulatory processes of motivation and creativity. Interview questions were informed by my theoretical frameworks of self-regulation of learning and self-regulation of creativity.

One interview lasting 60 to 90-minutes was conducted with each participant. Interviews were scheduled by sending participants an email to schedule the interview. All interviews were

conducted using the video conferencing platform of Microsoft Teams. All communication was conducted through my secure USF email. Field notes were taken while conducting the interviews. The interview documentation process was followed by transcription and member checking.

The interview questions were informed by my theoretical framework and were modified to suit each context (i.e., higher education institution and business incubator). The interview questions were designed so that the flow of information is maintained, and rich, in-depth data is collected. Open-ended questions allowed participants flexibility in explaining their perceptions, stories, and experiences (Seidman, 2006). Elaboration probes and follow-up questions were included for clarification of information (Kvale, 1996).

Archival Data

Archival data served as a substitute for the material a researcher cannot record directly in a qualitative study (Stake, 1995). I requested the participants to share selected materials related to their course or training as archival data after conducting the interview. This included selected course materials (e.g., syllabus, content, instructional material, assessment material, de-identified learner-generated material) and training materials (e.g., training planner, content, training material, assessment material, trainee-generated material).

Reflexive Journal

Reflexive journaling allows qualitative researchers to engage in ongoing internal dialogue, critical self-evaluation, and self-appraisal throughout all phases of the study (Berger, 2015). This may help researchers to continuously recognize and take responsibility of their own positionality within the study (Berger, 2015). I started maintaining a reflexive journal since the

start of this study and continued maintaining it throughout the entire study to manage my subjectivity.

I documented my positionality as an insider and outsider, and how this may have influenced the study. I am a former student of a master's entrepreneurship program, so I know most of the faculty in my higher education institution and have connections with them. I am aware of the teaching content, style, and methodology used by most of the instructors in the program that I graduated from. In addition, serving as a program assistant of a university-based student business incubator provided me the knowledge about the procedures used by business incubators to train novice entrepreneurs. As a program assistant, I developed a mentor-mentee relationship with student entrepreneurs. My experiences and insights may have shaped this study and its outcomes (Berger, 2015). My reflexive journal helped me keep my experiences separate from those I collected from my participants.

My reflexive journal was structured as a three-part log for individual interviews (Berger, 2015). The first part of the log was used to document my own feelings and expectations prior to conducting each interview, including any biases I may have. The second part was used to document what was said by participants in the interview and to reflect on what the interview data may mean when I interpreted it. The third part of the log was used to connect interview data and my feelings, expectations, and potential biases that I had before conducting each interview. This last component also included my thoughts and feelings after conducting each interview. Please see Appendix D for an excerpt of my reflexive journal.

Transcription and Member Checking

The interviews were transcribed within a week of conducting them. Transcriptions were anonymized so that participants' identity and any personal information were not disclosed. I

planned to engage in member checking after transcribing the data by sharing specific segments of the transcribed data with participants that needed clarification (Birt et al., 2016). However, clarification of the transcribed data was not required. This may be due to the fact that clarification and validation of information was done as I received it from each participant while conducting the interviews. Specifically, I validated information by double checking with each participant to confirm that my understanding of the information was correct. Participants were informed that the interview will be transcribed within a week, and I will engage in further member checking process by sharing specific segments of the transcribed data if needed. This process of member checking was used to ensure that the meaning I made of the data accurately represents what participants communicated in their interview (Birt et al., 2016)

Data Analysis

This study used a hybrid thematic analysis approach to data analysis (Fereday & Muir-Cochrane, 2006). The hybrid approach involves an inductive and deductive approach by including the process of identifying deductive codes as well as allowing for new or modified codes to emerge from the data using inductive coding (Fereday & Muir-Cochrane, 2006). My study is informed by an integrated theoretical framework of self-regulated learning (Zimmerman, 2002) and self-regulation of creativity (Ivecevic & Nusbaum, 2017). I used the six steps of hybrid data analysis proposed by Fereday and Muir-Cochrane (2006) to analyze the data and to find themes in the interview data and archival data (see Figure 1).

In the first stage of hybrid thematic analysis, I developed a priori codebook informed by my theoretical frameworks and research questions prior to the data collection process (see Table 1). In the second stage, I tested the reliability of the codes using data from my first two interviews (one with an instructor from higher education institution and one with a

trainer/mentor from business incubator). The codebook was updated to improve the quality of the study.

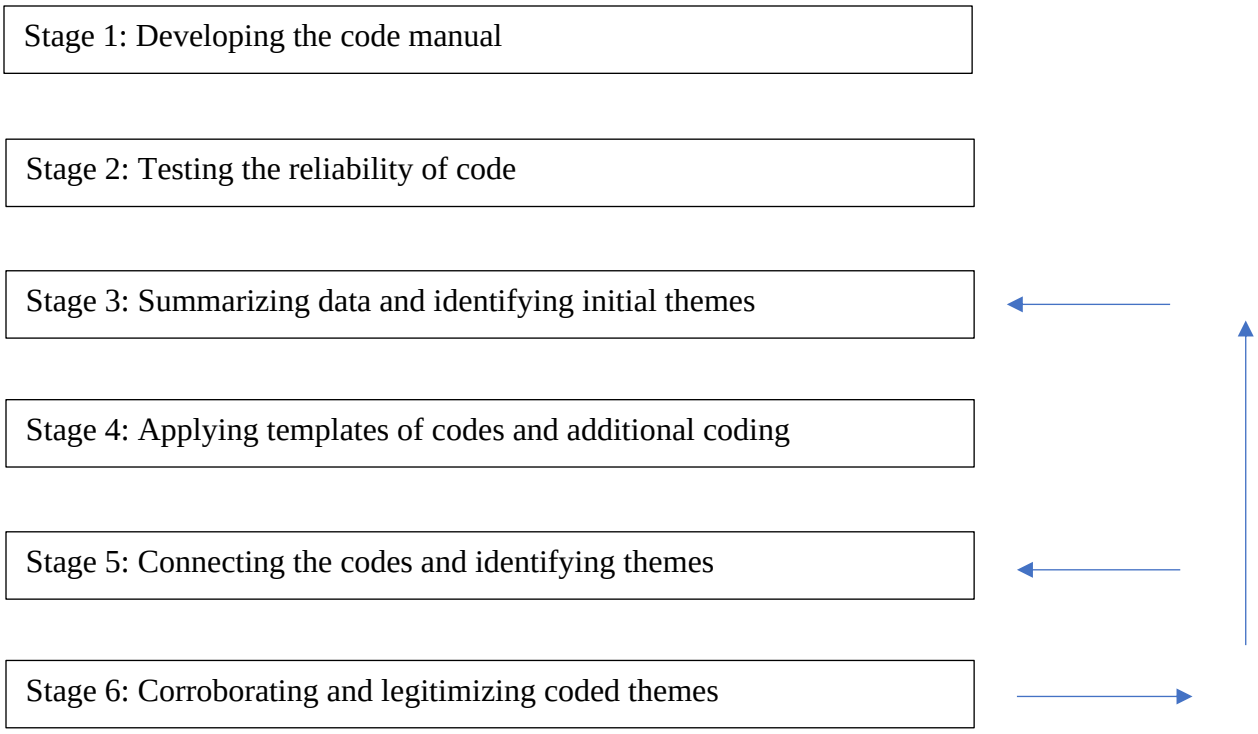

Figure 2: Process of Hybrid Thematic Analysis (Fereday & Muir-Cochrane, 2006)

In the third stage, I summarized the data from all transcribed interviews and identified initial themes. I highlighted key words in the transcription and made clusters to identify themes. I selected themes by hand and grouped similar themes together to identify the main themes. In the fourth stage, I applied my a priori codebook from the first stage to analyze the initial themes. In this process, new themes also emerged that did not synchronize with the priori themes. In the fifth stage, I connected the codes and identified key themes. In the sixth step, I engaged in additional clustering of the themes to ensure that the themes captured the perspectives of participants and corroborate the findings of the study (Fereday & Muir-Cochrane, 2006).

Table 2: A Priori Codebook

Research Question 1: How do entrepreneurship education instructors and business incubator trainers/mentors perceive that they support student/emergent and novice entrepreneur's self-regulatory processes of motivation to initiate and sustain entrepreneurial activities?	
Framework	**Self-Regulated Learning**
Codes	**Forethought Phase** 1. Identify goals 2. Self-motivation 3. Plan how to achieve goals **Performance Phase** 1. Monitor performance and progress towards goals **Self-Reflection Phase** 1. Self-evaluate performance 2. Attributions and self-reactions regarding performance 3. Adapt future methods
Research Question 2: How do entrepreneurship education instructors and business incubator trainers/mentors perceive that they support student/emergent and novice entrepreneur's self-regulatory processes of creativity to initiate and sustain entrepreneurial activities?	
Framework	**Self-Regulation of Creativity**
Codes	**Revise and Re-Strategize throughout the Creative Process** 1. Manage expectations early in the creative process 2. Make adjustments 3. Manage ambitious yet realistic goals **Sustain and Maintain Effort in the Face of Obstacles** 1. Planning and implementation 2. Persistence in the face of obstacles 3. Managing emotions

Credibility and Trustworthiness of Data

The findings are based on multiple sources of data, including interviews of seven participants from two different contexts (higher education institutions and business incubators), archival data (course syllabus, training material, and de-identified learner/trainee generated material), and my reflexive journal. The theoretical frameworks of self-regulation of motivation and creativity were used to guide the study. Data triangulation across multiple sources enhanced the credibility of the data, as contradictory sources revealed areas of convergence and

divergence. This data collection and analysis process was used to increase the trustworthiness of the findings. The thick, in-depth, and rich data of this qualitative study was utilized to maintain rigor, quality, and credibility (Creswell & Miller, 2000; Greene, 2015).

Ethical Considerations

This qualitative research was designed to ensure integrity, quality, and transparency (Farquhar, 2012). As Simons stated, "ethics is how we behave in relation to the people with whom we interact" (2009, p. 2). Ethics help the investigator to build and maintain a trustworthy relationship with participants. The purpose of this research was communicated to the participant instructors and trainers/mentors (Simons, 2009). Equitable treatment was given to each participant, and potential hierarchical or power dynamics was minimized. Voluntary, informed consent from participants was sought via a verbal consent form. No incentives were given to participate in this study.

Confidential interviews were conducted. Pseudonyms were used, and institutions were not identified. Verbal consent was sought to use, store, or copy archival data. The data was made anonymous and confidential. Communication between the investigator and participants was downloaded and saved on a password protected computer. Verbal consent was sought prior to recording audio and video of the interviews. The audio and video recordings of the interviews were saved on a cloud drive. A back up folder of the data was created on my password protected computer.

Summary

This study investigated the perceptions of four instructors within three different higher education entrepreneurship degree programs and three trainers/mentors within three different business incubators to support emergent and novice entrepreneur's self-regulatory processes of

motivation and creativity to initiate and sustain entrepreneurial activities. Multiple sources of data were collected, including 60- to 90-minute-long semi-structured interviews with each participant, archival data, and a reflexivity journal. A hybrid thematic analysis was used for data analysis. Methods of data triangulation were used to gain insights using various sources of data.

CHAPTER FOUR: FINDINGS

The aim of this qualitative study was to investigate the perceptions of entrepreneurship education instructors in higher education institutions and trainers/mentors in business incubators when supporting emergent and novice entrepreneur's self-regulatory processes of motivation and creativity to initiate and sustain entrepreneurial activities. In this chapter, I discuss the findings from my data. There were seven participants in this study: four instructors from three different higher education institutions (three males and one female), and three trainers/mentors from three different business incubators (two males and one female). Pseudonyms are used to protect participants confidentiality. See Table 3 for a summary of participants' gender and context.

I used three different data sources: (1) individual interviews with participants, (2) archival data from participants (e.g., course syllabi, training manuals, de-identified student materials), and (3) a reflexive journal that I maintained throughout the research process. I arrived at my findings by applying a hybrid approach of inductive and deductive analysis (Fereday & Muir-Cochrane, 2006). The findings are organized into two major themes, each linked to one of the research questions and supported by sub thematic categories. The first theme is entrepreneurship education instructors in higher education institutions and trainers/mentors in business incubators reported that they support self-regulatory processes of motivation among emergent and novice entrepreneurs through facilitating self-motivation, performance monitoring, and self-evaluation. The second theme is that within the creative processes of innovation and design thinking approach, entrepreneurship education instructors and trainers/mentors in

business incubators reported that they support self-regulatory processes of creativity among emergent and novice entrepreneurs. Summaries of each theme are supported by direct quotations from participants (see Table 4 for a summary of themes and subthemes).

Table 3: Participant Demographics by Context

Pseudonym	Context	Public/Private	Gender
1. Emily	Higher Education Institution	Public	Female
2. Dan	Higher Education Institution	Public	Male
3. Peter	Higher Education Institution	Public	Male
4. James	Higher Education Institution	Private	Male
5. Nicole	Business Incubator	Public	Female
6. Bruce	Business Incubator	Private	Male
7. Harry	Business Incubator	Private	Male

Table 4: Summary of Themes and Subthemes

Theme	Subtheme
Self-Regulatory Processes of Motivation	
Entrepreneurship education instructors in higher education institutions and trainers/mentors in business incubators support self-regulatory processes of motivation within emergent and novice entrepreneurs through facilitating self-motivation, performance monitoring, and reflection.	Self-Motivation • Goal Identification • Guest Speakers • Autonomy Performance Monitoring • Feedback • Community Connections Self-Evaluation • Setting and Evaluating Milestones

Table 4: Continued

Theme	Subtheme
Self-Regulatory Processes of Creativity	
Within the creative processes of innovation and design thinking approach, entrepreneurship education instructors in higher education and trainers/mentors in business incubators support self-regulatory processes of creativity among emergent and novice entrepreneurs through helping them identify a problem, pivot solutions, and receive validation from instructors/peers/competitors through experiential learning.	Self-Regulation of Creative process • Problem Identification • Pivoting • Validation • Peer Critique

Participants

Higher Education Instructors

Participants were interviewed from two different contexts: higher education institutions and business incubators. Participants from higher education institutions included four professors/instructors from three different higher education institutions. Two higher education institutions are public universities located in southeastern US and one is a private university located in the west coast of the US. Instructors teach graduate level courses that count towards a master's degree in Entrepreneurship. Participants teach courses relevant to creativity, innovation, and design thinking, as well as new product development. Instructor participants highlighted that they have autonomy from their respective institutions to design their course. However, they voiced that a lack of integration between different courses within an entrepreneurship program can make it challenging to develop and design course syllabi to facilitate the objectives of their institution as well as help their students achieve their short term and long-term objectives. Instructors highlighted that students' short-term goal was to achieve good grades and graduate from the program. Starting an entrepreneurial venture after graduation was a long-term goal for some but not all. Instructors explained that they directed students to on-campus business

incubators if they were serious about starting their entrepreneurial venture while enrolled in their course. Below is a description of the four instructors: Dan, Emily, Peter, and James.

Dan has extensive experience in teaching courses relevant to creativity, innovation, and new product development. He is currently the director of an entrepreneurship center at a research-intensive public university in the southeastern US. This program has been ranked among the ten best graduate entrepreneurship programs in the country by Princeton Review. Dan teaches a graduate level course called Creativity and Design to students pursuing a master's degree in entrepreneurship or in any other discipline. Dan has designed the course syllabus in a way that it focuses on innovation processes, design thinking, and the human desire to build. The course includes an end of the semester project as a final deliverable. Students who take this course include emergent entrepreneurs, engineering students, and students from business degree programs. Dan believes that students from different educational backgrounds bring diverse skillsets to the class, and that the diversity in skillsets assists in creating and designing innovative products/services. Dan described how he envisions growing his department into a living learning community which is like a dormitory where entrepreneurs from different industries/departments/ or majors can live and develop their entrepreneurial ventures with like-minded people.

Emily teaches two different graduate level courses at the same institution where Dan teaches. Emily has conducted research on emotions and strategic communication in entrepreneurship; she has made significant contributions to entrepreneurship literature. She currently teaches a graduate course called Strategic Market Assessment for New Technologies to students pursuing a master's degree in entrepreneurship or any other discipline. Emily has been teaching Strategic Market Assessment for New Technologies for three years, which is one of the core courses in the entrepreneurship graduate program for students pursuing a master's in

entrepreneurship. She also previously taught a course called Creativity and Innovation in Entrepreneurship to undergraduate students and Social Entrepreneurship course to graduate students. Emily uses self-reflection activities to help students identify long-term goals as entrepreneurs in her Social Entrepreneurship and Creativity and Innovation in Entrepreneurship courses. Emily's objective behind these activities is to help students connect to a problem that they care about and would like to solve through their entrepreneurial ventures. She wants students to choose a class project that resonates with their passions and interests. In Emily's Strategic Market Assessment for New Technologies course, students work together in small groups/teams on an invention that they select from a list curated by Emily (e.g., NASA technology innovations). Groups study the potential market of the invention, learn about target audience needs, and propose a plan to the innovator to successfully launch the product to customers. Emily implicitly supports self-regulation of learning and creativity through her course content and teaching style. Her syllabi include motivational quotes and encouragement for emergent entrepreneurs. She believes that by developing a sense of connection between course content and personal interests, students can thrive in their professional careers as entrepreneurs.

Peter has been teaching at a research-intensive public university in the southeastern US for almost eight years. He teaches several graduate level courses to students pursuing master's degrees in Entrepreneurship, and an entrepreneurship course to MBA students. Peter teaches a course called Entrepreneurship, which includes topics related to starting and managing an entrepreneurial venture. He also teaches a course called First 100 days in Entrepreneurship, which focuses on setting up entrepreneurial ventures. Lastly, Peter occasionally teaches a course called Creativity in Entrepreneurship. All these three courses mentioned here are graduate level courses, taught to students seeking master's in entrepreneurship. He believes that all

entrepreneurship courses should be designed around experiential learning. Rather than using typical course deliverables (e.g., midterm and final project) in his entrepreneurship courses, Peter structures his courses so that students create businesses and report on their progress throughout the semester. His courses include activities that require location audits of business sites and making real-time sales of the products/services to test consumer responses. Peter shared his view that entrepreneurship revolves around identifying problems. Peter helps his students learn creative thinking through using creative analysis tools (e.g., fishbone analysis and root cause analysis). He also believes that college education in entrepreneurship diverts students from their entrepreneurial goals as their primary focus is to get a degree and/or get good grades.

James teaches at one of the leading private universities located in the west of the US. He teaches a course called Creativity, Innovation and Applied Design to graduate level students pursuing a master's degree in entrepreneurship. Relative to other participants of this study, James is early in his career. He has a DBA (Doctor of Business Administration) degree from Harvard Business School. James has contributed to entrepreneurship literature through his research on unique topics like creative thinking styles in entrepreneurship, creative problem solving in organizations, and creative thinking profile. James focuses on teaching students to learn how to understand and apply multiple perspectives during problem solving through theory and application of various models of problem-solving. He emphasizes understanding problem-solving from a cognitive lens. The key objective of James's course is to teach students about the core skills of problem solving that allow the students to identify and address user problems through designing and building a prototype of an actual functional product or service. James uses a combination of reading materials and class activities to teach his students about different creative thinking styles and experiences as well as implement them in class activities. According

to James, he treats his class as his research laboratory where he is continuously improving/changing his syllabus content and structure to analyze how students' creative thinking skills grow with his syllabus content.

Business Incubator Trainers/Mentors

In addition to four instructors in higher education institutions, participants also included three trainers/mentors from three different business incubators in the southeastern US. One business incubator is a public non-for-profit incubator and is affiliated with a public university. The second business incubator is affiliated with a private university and is still in development. The third business incubator is a non-for-profit business incubator with no affiliation with a university. Trainers/Mentors provide mentoring to novice entrepreneurs and facilitate subject matter/professional mentoring through different networking and training events. The role of trainer/mentor in each business incubator is to assist novice entrepreneurs in making their idea into a successful entrepreneurial venture. Participant trainers/mentors from business incubators identified that curriculum planning of workshops and trainings were often disorganized. Similar to instructors, they voiced that it was challenging to develop workshops to help emerging entrepreneurs to achieve their short term and long-term objectives. Below is a description of each of the three mentors/trainers: Bruce, Nicole, and Harry.

Bruce is a serial entrepreneur and an executive director of a private non-profit business incubator located in the southeastern US for the past three years. Bruce's business incubator created over $300 million economic impact in the ten years of their existence and is one of the rare business incubators with an active curriculum and well-documented business processes to mentor novice entrepreneurs. He develops and implements curriculum facilitated through his business incubator to novice entrepreneurs. The curriculum covers six main topics: presenting

the business idea, team development, sales and marketing, finance and accounting, and legal operations of an entrepreneurial venture. The business incubator organizes different networking events to help entrepreneurs engage and represent their entrepreneurial ventures. Bruce has mentored over one thousand entrepreneurs in the past ten years. Bruce provides novice entrepreneurs resources necessary for them to grow and execute their ideas and connects them to subject matter specialists/experts.

For the past four years, Nicole has served as the program director at a non-profit and public university-based initiative that supports business and economic development throughout the southeastern US region by providing support for over 80 technology and life science startup companies. She has an experience of 25 years working for non-profits and startup companies individually; this is her first time working for a business incubator. Nicole heads two incubators under this initiative, one is a technology-based incubator that facilitates high technology and research-based startup companies. The other incubator is for student-led startup companies. Students at the affiliated public university are welcome to become a part of the student incubator if they have an entrepreneurial idea. The business incubator has state-of-the-art wet and dry labs and is fully equipped to support scientific research as they have laboratories that can support scientific experimentation. Nicole facilitates the operations of the business incubator, which includes managing the startup companies and building connections with the community. Nicole builds an ecosystem for her startup companies by connecting them with specialized mentors and other funding resources/opportunities and by organizing networking events. Within this ecosystem, Nicole connects different segments of the community together including the government sector, private sector, investors, mentors, and different companies/organizations.

Harry is the founder and director of the entrepreneurship department of a private higher education institution located in the southeastern US. He has been associated with his current institution for the past two years. He heads the student business incubator and the entrepreneurship department of his institution. Harry is the only participant in this study who can be categorized under both contexts: a higher education institution and a business incubator. He is an entrepreneurship instructor as well as a business incubator mentor/trainer. Harry is relatively early in his career and started working full-time as an entrepreneurship consultant/mentor around six years ago. His education and professional expertise are within the fields of entrepreneurship. Harry has a passion to work with startup companies and has consulted over 450 student-led startup companies that are now valued at over $150 million dollars. In addition to his leadership role, Harry teaches three entrepreneurship courses to undergraduate students who are pursuing a minor in entrepreneurship. Harry's business incubator is still under development, as student entrepreneurs are a part of this incubator. Harry is designing systems and processes of the business incubator through which student entrepreneurs can make their ideas a reality. Harry envisions the business incubator as a continuation of project-based classes across his institution so the project or business idea can form an entrepreneurial venture around that project after the course ends. Keeping this structure in mind, Harry predicts having around 150 student led companies each academic year, although currently the business incubator has a handful of student-led companies. Harry mentors emergent entrepreneurs on problem identification and assists them in finding the resources to find a suitable solution to the problem. He believes that execution of ideas supports experiential learning and is a proponent of self-reflection as a way for students to document their progress and prepare for the next stage of their entrepreneurial ventures.

The Role of Entrepreneurship Instructors and Trainers as Mentors

All seven participants perceived mentoring emergent and novice entrepreneurs as central to their roles as instructors and/or trainers in higher education institutions and business incubators. All four instructor participants viewed their role as a facilitator, coach, and business mentor, rather than as a traditional teacher role that emphasizes lecture and class exams. There was a consensus among instructors that it is challenging to mentor emergent entrepreneurs and their long-term goals, and that the classroom context is not ideal for mentoring entrepreneurs. Dan reflected on the central role of instructors as facilitators and mentors:

> Facilitating roles of instructors is very important, something similar to instructors as mentors who can provide guidance to young entrepreneurs, guidance that is required for the student business ideas to become a reality outside of the class. We need teachers or instructors to encourage students and play the role of mentors or guidance counselors.

Peter elaborated on the role of an instructor as a mentor and coach:

> In the university setting, we, the teachers ought to get off the stage. We are looking at it the wrong way, if we want our students to make their ideas into a real business, students should be the ones in front of the stage. And then the professor or the instructor should become like a coach, someone who's there to mentor these people along the way. I believe this type of mentoring is more effective outside of the classroom setting.

Peter viewed that the coursework and syllabus as restricting the relationship of the student-teacher within the limits of the course. Syllabi are designed around key objectives that include learning theory, applying theory to class projects, and engaging experiential learning. Peter voiced that it is essential for instructors to serve as facilitators and mentors and provide real-time guidance to emergent entrepreneurs by encouraging them to reflect on their performance.

All three mentor/trainer participants from business incubators reported that they support the motivation of novice entrepreneurs through engaging in constant mentoring. Bruce explained that he has a one-on-one relationship with all novice entrepreneurs who are in his incubator, and consistently mentors them. Bruce and Harry identified that part of their responsibility as a mentor is to provide guidance, coaching, and consultancy to entrepreneurs at all stages. Bruce added that a part of the mentoring process is to connect subject-matter experts with entrepreneurs, so entrepreneurs can access expert advice if needed. He explained that through mentoring and providing access to resources, his business incubator strives to accomplish only one objective: "we meet the entrepreneurs where they are at, to help them get to where they're going." Bruce said that this helps the entrepreneurs execute their plans.

Nicole explained the process of providing mentoring to novice entrepreneurs at her public business incubator. She described her role as a mentor in her business incubator:

> We provide access to mentoring to our companies. We have some in-house residents who visit the incubator on a weekly basis. They help the companies connect to other resources that may assist the entrepreneurs to move on to the next stage or get guidance on anything that's relevant to the business. I am also in continuous search of other mentors that the companies may benefit from, although again because of the ecosystem, we have experts and professionals who offer to help the young companies. So mostly the mentors also come to us themselves. I am always aware of which company needs what type of mentoring or guidance, so I am always looking out for mentors who can help in mentoring these companies. The companies are required to report their meetings with the mentors to the business incubator; in this report we ask the companies to explain how the mentor helped them, it is like a progress report.

Although the nature and purpose of mentoring was described in a similar way across all three trainers, the systems and procedures adopted to provide mentoring is different across the business incubators. Given that Harry's business incubator is in the development stage, he is the only mentor available to coach student led startup companies. Bruce's business incubator is not affiliated with a university and is a private incubator; he has a personal connection with each entrepreneur and connects them with external members of the community who provide additional mentoring. In contrast, Nicole's business incubator has built-in systems and procedures through which each startup company can find its desired mentoring through a list of in-house as well as the community members. Nicole ensures that a list of mentors with a broad range of specialized skills are available to support and guide novice entrepreneurs.

Mentoring may set the foundation for the participant instructors in higher education institutions and trainers/mentors at business incubators to support self-regulation of learning and self-regulation of creativity within emergent and novice entrepreneurs. Effective mentoring can help entrepreneurs to identify goals, monitor performance and progress towards their goals, and engage in self-evaluation. The role of instructors and trainers as mentors implicitly supports self-regulation of learning among entrepreneurs (Zimmerman & Labuhn, 2012). This has the potential to increase entrepreneurs' self-regulation of creativity as well, consistent guidance assists entrepreneurs to navigate their creative potential even in the face of adversity and adapt to change when developing creative products/businesses. The two themes identified in this study are discussed below.

Theme One: Entrepreneurship education instructors in higher education institutions and trainers/mentors in business incubators reported supporting self-regulatory processes of motivation among emergent and novice entrepreneurs through facilitating self-motivation, performance monitoring, and reflection.

Self-Motivation

Goal Identification. Three of the seven participants (one instructor, two trainers) indicated that they ask emergent and novice entrepreneurs to identify their goals at the beginning of a course or starting their journey at a business incubator. Goal setting is a part of task analysis and involves specifying outcomes in terms of one's learning or performance. Goal setting is a key element in the forethought phase of self-regulation of learning theory, which is motivational framework (Zimmerman, 2000). Participants used different activities to help emergent and novice entrepreneurs identify their goals. Emily, an instructor at a public higher education institution, explained**:**

> I ask my students in the beginning of the course, through an informal class discussion about their life goals that they want to achieve in the long run as entrepreneurs. In this discussion, I ask them questions like what is your dream job? What do you want to achieve? What do you eventually want to become? It helps them connect dots that what progress they want to see in themselves, and see if it is their life goal, then what do they need to know from my course that would help them getting closer to their goal.

Emily added that she used to have an exercise in her course where students wrote a letter to their future selves. She said it helped students maintain a connection between their goals and their progress. The goal identification process includes establishing a way to be accountable for achieving one's goals as well as self-observing and monitoring one's own progress (Zimmerman,

2000). Two business incubator participants reported that they asked novice entrepreneurs to set goals for themselves when they joined the business incubator. Nicole discussed a more formal arrangement where startup companies/entrepreneurs that are a part of her public incubator articulated their long-term goals in a contractual agreement that was established between the startup company and the incubator. These goals are often similar to the ones that are used by the startup companies when they pitch their entrepreneurial ideas to the incubator so that their startup company can become a part of the business incubator. Bruce, a trainer at a private business incubator, discussed how his incubator asked entrepreneurs to identify and set goals for themselves through an intake form when entrepreneurs join their business incubator. He stated:

> We ask them, where do you want to see yourself in the next six months. So, we can bring in resources around those goals to help them achieve their goals. Their goals change as they go through the program; we ask them to report their progress toward their goals through an outtake form after six months. After that it becomes a monthly activity, where startup companies set their month-to-month goals and we have to bring resources and guidance around them so the companies can execute their goals.

Guest Speakers. Two out of four participants from higher education indicated that inviting guest speakers from the entrepreneurship community plays a vital role in building emergent entrepreneurs' motivation. Participants invited entrepreneurs as guest speakers to share their entrepreneurial journey. Participants noted that guest speakers motivated and inspired emergent entrepreneurs. Dan, an instructor at a public higher education institution, mentioned that one of the three most effective learning strategies that he implements in his course to support students' motivation to pursue their entrepreneurial dream is inviting guest speakers.

He explained:

> I invite a lot of guest speakers, practitioners in the class. I think it is important to bring community and the practitioners into the classroom, who can speak from their experiences and from their failures as well. I think it helps students in their learning process and get inspired by the guest speakers.

Emily agreed:

> I invite 5 to 6 guest speakers in my class. I leverage the expertise of the guest speakers and at times I also invite speakers who I think can be potential customers for the student projects. It helps the students understand the perspectives of the guest speakers and the students make connections with their own progress and their goals.

The support from guest speakers was identified by two instructor participants (Dan and Emily) who teach at the same institution. Guest speakers were not invited in the institutions of the other two instructor participants, James and Peter, who utilized case studies and examples using videos/biopics of successful entrepreneurs in their class. Thus, sparking inspiration from successful entrepreneurs was used as a strategy by all four instructors to support emergent entrepreneurs' self-motivation and hopefully increase their self-efficacy to accomplish their long-term goals (Bandura, 1997).

Autonomy. Two of the four participant instructors discussed that providing autonomy support can promote students' motivation to work on a class project. These participants indicated they gave students autonomy so they can identify problems/projects they want to solve and feel passionate about. Emily said:

> I try to support the motivation within my students by giving them autonomy. They need to have autonomy to feel the perceptions of their own competence and build

> relationships. These are the three fundamentals of self-determination theory and I believe they're important to make students recognize their own potential. So, I give my students the autonomy to choose the project that interests them the most, even though sometimes I give them certain boundaries so they can initiate the thought process. I make them think about a cause that they resonate with the most, and care about the most. My goal is to prepare them so when they take onto their ventures later in life, they can connect the dots.

Similarly, James described that he gives students autonomy to choose their class project:

> I consistently try to support the motivation of my students. I allow them to basically choose their course project and they have full autonomy over the project. I give them tools to support their thought process. I am giving them tools that help them be more effective throughout their journey and part of those tools are the cognitive styles of thinking, by that I mean how do you think about a topic that you care about? What's the information that you retrieve from your own experience and then how do you bring that information to bear on the project? How do you organize it, categorize it, and structure it all to identify the gaps in your understanding and knowledge? And how do they use that as a launching point for expanding, exploring, and doing research?

Autonomy-supportive instructors allowed emergent entrepreneurs to choose and work on class projects resonate with their interests and passions, fostering their internal sources of motivation, also known as intrinsic motivation (Deci & Ryan, 2000). This may allow students to feel in control of their own learning, and that their actions and behaviors will influence the outcome. It also helps entrepreneurs understand and recognize their intrinsic motivators that may encourage them in self-regulation of learning (Zimmerman, 2000).

Performance Monitoring

Feedback. Three participant instructors in higher education indicated that constructive feedback helped emergent entrepreneurs to monitor and improve their performance. Emily explained that one of the best three things she does to support motivation among emergent entrepreneurs is giving her students detailed feedback at each step of a class project. Emily stated:

> Giving students feedback is something that works quite well. I prefer giving them feedback in middle of the semester and throughout the semester, I do not wait to give feedback till the very end of the semester or till the end of their class project, I give them feedback early on at every step so they can improve their performance. I think it really helps them because they feel appreciated through the feedback and they also get an insight into their weaknesses, so they can improve accordingly. Feedback is like an encouragement for the students to keep doing better.

James described how he provides detailed feedback at every step so students can reflect on their progress and improve their performance for the final deliverable. Peter added:

> One of the course requirements in all the Entrepreneurship classes I teach is that students must submit a weekly report. In this weekly report students are required to submit a written update of the progress they have made in the week towards their final project, and I provide detailed feedback on their report on a weekly basis. This activity helps the students to start working on their project and keep making progress towards it throughout the semester instead of waiting till one week before the project due date. My feedback helps them reflect on their progress and keep them going.

Although three out of the four instructors and all three participants from business incubators indicated that their continuous feedback on emergent and novice entrepreneurs' progress assists startup companies to continue working on their goals and improving their performance, the process of providing feedback differed across these contexts. Instructors typically provided written feedback on students' projects/class activities, whereas trainers typically provided feedback through informal discussions and formal meetings with novice entrepreneurs. Although the method of providing feedback differs in both contexts, the objective remains the same, to support students' self-observation and self-reflection. Process-oriented and constructive feedback provides entrepreneurs opportunities for self-reflection and self-observation, which in turn may influence forethought processes and improve performance (Zimmerman & Kitsanstas, 1999).

Community Connections. Bruce and Nicole, business incubator trainers, emphasized the importance of building connections between novice entrepreneurs and the local community. They voiced that these connections often help novice entrepreneurs to represent their businesses to the community and gain the recognition they deserve while enjoying external benefits from community connections. These benefits include building their own ecosystems that assist entrepreneurs in the self-monitoring of their performance, receiving guidance/mentoring from the community, and gaining external unbiased feedback on their products/services. Bruce explained:

> Business incubators are "ecosystem builders"; they facilitate organic collisions through different networking events that help the community interact with the startup companies and showcase the company's products or services. I believe it is our responsibility to be the collaborative hub of the ecosystem to pull the disparate parts of the community to the

> events and activities. Through these events we are not necessarily hand on hand connecting people, we're intentionally creating an opportunity for that to happen.

Nicole added:

> We are building the community as a whole, it is not one company or eleven, it is a family we are building – it is an ecosystem, which includes different parts of the government sector and the private sector. Everything we do is to be relevant in the community, therefore when we incubate a company, we give them the entire community support. Community support helps the companies grow at every stage of their journey.

Harry explained that community building is a key motivating factor for emergent entrepreneurs who have an entrepreneurial idea and are looking for resources to build their businesses. He added that student entrepreneurs show more excitement about their ideas when the barriers to entry into one of the best offsite business incubators decrease when students become a part of their university-based incubator.

Self-Evaluation

Setting and Evaluating Milestones. Four participants (2 instructors and 2 trainers/mentors) revealed that they support the self-evaluation processes of emergent and novice entrepreneurs by helping them break their goals into subgoals or milestones. Emergent and novice entrepreneurs identified their goals in the beginning of the semester or when they joined the business incubator. Participants voiced how breaking goals into proximal/subgoals, or milestones facilitated their ability to provide support to help entrepreneurs to achieve their subgoals/milestones. Thus, participants viewed setting and evaluating milestones as a process that facilitated performance of entrepreneurs in both contexts.

Bruce said:

> We take the goals of the entrepreneurs and break them down into milestones. Entrepreneurs set these goals for themselves, we help them break them down so we can bring resources around those milestones, one step at a time. So, entrepreneurs are progressively executing towards their big goals. At times entrepreneurs realize that they need to adjust their goals, because once they join the incubator, they understand that they need more time to accomplish those big goals because we ask them to identify their goals for the next six months. However, at times entrepreneurs far exceed those goals in relatively less time. This process of breaking the goals into milestones encourages the entrepreneurs to start with small steps, execute, and take action – that's actually our job to ensure entrepreneurs are executing and taking action towards their goals. It motivates them to keep going.

Bruce added that they use a formalized system to provide accountability for goals/milestones achieved by the entrepreneurs at his business incubator. He said:

> We also document the progress of their goals through an outtake form. We hold the entrepreneurs accountable to those goals and are continuously tracking what types of actions entrepreneurs are taking to achieve those goals and how can we support them in achieving the goals/milestones.

Nicole explained that a quarterly evaluation progress is helpful for companies in her incubator who have goals that take time to achieve. She said:

> For example, I have a company who's working on finding a cure for cancer. Our incubator has labs and resources. We provide them with the best connections and mentoring too but they are required to report their subgoals to us on a quarterly basis. We

> don’t expect them to find the cure in the next two or five years, but we encourage them to report their quarterly progress to us. It helps us understand how efficiently they are using their resources and provide them with better resources. The quarterly evaluation process forces them to highlight their subgoals; it is equally important for them to check their progress as it is for us.

Business incubator participants described facilitating entrepreneurs in setting and evaluating milestones so that they can provide mentoring and resources to help entrepreneurs execute their plans and improve their performance. Rather than engaging in goal setting, instructor participants used milestones to help students work towards their final class project. Rather than entrepreneurs evaluating milestones themselves, instructor participants provided students with feedback on their milestones so they can improve their performance reflected in their final course grade. Emily explained how she uses milestones in her course:

> I have three milestones in my course and then the final project. The purpose of these milestones is mainly to check the progress of the students towards their final project. I give them a grade based on the effort they put in and detailed feedback after the first milestone. I expect them to improve their work in the second milestone based on the feedback I give them. In the second milestone students are required to write a report on their project. I grade and provide feedback on this milestone too. If I see an improvement between the first and second milestones, I give them a better grade as compared to the first grade. I expect them to use my feedback for the second milestone towards their final project. The third milestone is completion of the project. I use the three milestones to check their progress in the class and how they are working towards their class project. Milestones are useful to divide the deliverables and give students feedback as well as

> some room to improve in the subsequent milestone. It also keeps them engaged in their projects and encourages them to perform better.

James described using a similar strategy:

> I try to set up milestones in my course that help the students reach the subgoals in pursuit of that bigger goal. I give them feedback on their performance after every milestone so they can reflect on their performance and can improve their performance in the next milestone for an overall improvement.

Setting process goals allows individuals to focus on specific processes/proximal events and can promote the achievement of long-term goals. Participant instructors did not explicitly teach students how milestones or dividing big goals into subgoals is a helpful strategy in achieving long-term entrepreneurial goals. However, their syllabi included step by step processes that assist entrepreneurs in learning the processes of developing and launching an entrepreneurial venture.

Theme Two: Entrepreneurship education instructors in higher education institutions and trainers/mentors in business incubators reported supporting self-regulation and creative processes of innovation and design thinking among emergent and novice entrepreneurs.

Problem Identification

All four entrepreneurship education instructors and three trainers/mentors in business incubators described nurturing the creative processes of emergent and novice entrepreneurs through using innovation and design thinking. All four instructors indicated that they start the creative idea generation processes by asking students to identify the problems that they wanted to solve. Dan explained that his goal for a course is for students to generate creative solutions to a problem they see in a product or a market. He said:

> I teach creativity techniques that include brainstorming and lateral thinking to help students in coming up with novel and useful products. These creative thinking techniques generate a whole stream of ideas that are both new and deviate from what's already available. In this course I also help students with design thinking or the human centered creative process. It takes an anthropological approach to studying people and their particular needs and problems through observation.

Whereas Dan described helping students identify problems by observing and studying the needs of consumers, James shared that he assists students to identify the problem by practicing different cognitive thinking styles, James' objective is to ensure students think creatively while identifying a problem and envision solutions that capture the attention of the target audience. James described that the first part of his course focuses on how to identify the right problem so that students can focus on the right user need. He added, "and then once you have anchored on something you can start brainstorming and use different ideation attempts to find the creative idea to solve the given user need."

James reflected on the importance of creativity within entrepreneurship and how the creative process starts with identifying a problem. He said:

> The way I view creativity is that it is kind of an engine of Entrepreneurship that is always operating. So, creativity in the early stages of entrepreneurship is "solving a problem" so identifying something that some target group cares about and then coming up with a viable solution to that problem and then engaging in the design building of the product/service.

Similarly, Emily viewed creativity as malleable and essential to the problem-solving process. She said:

> It is not something that you're born with, it is more like muscles that you train. I help my students become more creative in terms of coming up with new ideas or solutions. I do this by teaching them the creative problem-solving process. In this process you start with identifying a problem first, by looking for problems that other people have overlooked.

For Emily, the problem identifying process starts by observing problems in existing products and/or businesses. Peter adopted the same strategy in his course by making his students perform location audits of existing businesses to identify the problems. Peter said:

> For me, the emphasis is on trying to find problems that students want to solve. Once they identify the problems, they find solutions to solve them. I don't try to build a creative mindset intentionally; I believe that helping my students learn the tools that assist them in coming up with interesting ideas is more important. The best tool is equipping the students with practical experience, examining real businesses, and identifying the problems these businesses are facing, it eventually leads to practicing creative ideas as solution to these problems. This is the reason I make my students do location audits of existing businesses to find creative solutions to their problems.

Two participants from business incubators revealed that many novice entrepreneurs who join have already identified the problem and need resources to work on the solution. Thus, the incubator helps entrepreneurs in the next phase that comes after problem identification.

Pivoting

Three instructors and two business incubator mentors/trainers voiced that they support creative processes by continuously asking emergent and novice entrepreneurs to pivot their ideas and strategies until the best creative idea is explored. Pivoting refers to a revision of creative ideas/strategies at any given stage of the creative process of thinking and/or designing the

product/service (Wilkinson, 2020). James explained how he incorporated pivoting into his course to help students find best creative solutions within the creative process:

> Some students come in knowing exactly what they want to do, they have has this idea for a long time and they are determined to work on it in the class, now you might think that's great but in reality what I'm trying to do is to shake them loose from being too overly committed to something that may not be the best or right thing to work on. So, it is good to have that, but I am trying to get them consider other possibilities as well as give them the ability to not get fixated on one thing, because if you look at the probability, the chances are that that one thing is not going to be the success they think it is. So, if they only have one option that they're considering all semester long, they're not doing much creative thinking. So, what I do to shake them loose is that I say, "okay, that a great idea, we are going to find out if it's the best idea that you can come up with so store this idea but let's explore some more ideas and then we're going to get some external feedback to see how your original idea compares to the other ideas."

Dan described how he asks students to learn and implement the stage gate process. The stage gate process is a product/service development process in which you break down the whole innovation process into different stages, after accomplishing each stage, entrepreneurs enter a gate where they decide if they want to go ahead with a given idea or not (Cooper, 2010). Thus, students are revising their creative products/services at every stage of the innovation. The stage gate process of innovation is similar to the self-regulation of creativity, where one revises and re-strategizes their creative processes to achieve their creative goals. Processes and/or strategies not effective in achieving creative goals are removed and strategies are revised until the required goals are achieved. Once creative goals are accomplished, the creative processes are maintained

and sustained (Ivcevic & Nusbaum, 2017). Dan explained how he uses different types of educational content to help students revise their creative strategy:

> I use a lot of examples in my class, examples of innovators who have created novel ideas/products. I educate my students through using online videos and case studies so students can make connection with their products and understand the process of revising a strategy if it's not working.

In contrast, Peter discussed how he asks students to learn creative thinking tools such as the fishbone method and root cause analysis to help them explore different solutions to a problem, creatively. He said:

> I want them to practice and have an experience using these tools to come up with interesting ideas. For example, at times a student is thinking that tool A will solve my problem, but they don't know. The only way you can know is that, if they test tool A, but also test tool B, C, D, and E.

Peter believed that although these tools assist students in identifying solutions and continuing the creative thinking process until the best solution is found, but that they need to test tools to determine the best idea.

Two business incubator participants indicated that most novice entrepreneurs who joined the business incubator have initiated the creative process, as they have a business idea or prototype. Bruce described how his business incubator program strives to improve entrepreneurs' ability to connect and ask for help so they can execute their ideas. He shared his belief that it is the responsibility of facilitators and mentors to question the process of creativity of novice entrepreneurs. Similarly, Harry explained that he assists entrepreneurs to pivot their business ideas, which includes revising the prototype design or finding a new target audience. In reference

to helping entrepreneurs revise their creative strategy, Bruce stated, “It helps peel back those layers for the entrepreneurs and connect to their goals”, he said. He added that:

> We want them to execute their plans, and we provide them with resources that help them evaluate if their processes/strategies are going to give them the results they expect. We do this through mentoring, feedback, coaching and facilitating their actions so we can steer them in the right direction.

Thus, there was a consensus among participants regarding the importance of supporting emergent and novice entrepreneurs in revising and re-strategizing creative ideas throughout the creative process (Ivcevic & Nusbaum, 2017).

Data from one higher education institution instructor and one business incubator mentor revealed that persistently working towards goals that seem to be unachievable or at times not so fruitful for the entrepreneurial venture leads to failure in entrepreneurship. Thus, pivoting was perceived by participants as allowing entrepreneurs to evaluate and re-direct their journey. Bruce emphasized the importance of pivoting by explaining the role of persistence in entrepreneurship:

> I think persistence is a balancing act. For sure you must be willing to overcome challenges and consistently deliver so that your venture grows, but you need to make sure that you're not wasting your time and energy. I think a big part of pivoting your strategy or effort is that you’re seeing how to shift your persistence and your drive towards things that make impact, that create growth, and that drives the business forward instead of driving it into a dead end.

Emily had a similar approach when explaining the importance of pivoting and persistence:

> I think persistence is like an inverted "U shape", its needed to accomplish your goals but if you continue staying persistent without pivoting to accomplish wrong goals then, persistence leads to failure.

Although Bruce and Emily did not explicitly teach students to be persistent towards their goals, they emphasized that pivoting creative strategies may help entrepreneurs to avoid the fear of failure and help evaluate what goals are worth to be remain persistent.

Validation

All four instructor participants referred to the validation stage of creative ideas/products as allowing emergent entrepreneurs to receive external feedback on their products and/or ideas. External feedback included feedback from the market or target consumers. Harry explained the validation stage in a business incubator as helping novice entrepreneurs to mitigate risk:

> We're educationally focused on entrepreneurship, and we try to provide an entrepreneurial mindset that instills this discovery and validation stage for every student/entrepreneur, where we help them frame their idea and mitigate risk to set that lifelong goal about how you deal with ideas. Once we get them to a point of having some validation, we connect them to community partners, bring in mentors, run specific programming, things like that, to get them that individual individualistic experience that they need or the support they need to improvise their products.

Thus, participants perceived validation as having the potential to help entrepreneurs sustain and maintain creative efforts in the face of obstacles, and to assist in the planning and implementation of creative ideas. Validation aligns with the adjusting approach element of the self-regulation of creativity (Ivcevic & Nusbaum, 2017).

Peer Critique

Two out of the four instructor participants reported that they promote self-regulation of creativity through supporting instructor and peer critique of students' creative ideas/products. Although participants from higher education institutions teach different entrepreneurship courses in their respective institutions, three instructors had one common assignment with a similar objective – to critique a creative idea/product. Peter described this assignment in his course, which he calls, "the nemesis assignment":

> So, I've got a student team doing work and then I'll pair them with another team; the job of these two teams is to critique each other's work. The reason I do it is to initiate self-reflection, because once you're critiquing somebody else's application of the materials/ideas, you're able to learn a little bit better. So, the nemesis assignment helps you step out of your own experience, and you can enhance your own skill set on these frameworks because you're teaching them to other people through critique of other team's work. This is also a good assignment because it helps students learn how to deal with criticism and then setbacks, and failures.

Peter explained that he named this assignment nemesis assignment because it promotes competition within the class. His objective with this assignment is to help students deal with failure, setback, and negative criticism that they may face by competing entrepreneurs.

Dan explained his critique assignment. He said:

> I think a little bit of competitive peer pressure is important in the class to reflect on your creative project. In my course, I make students do a simulation of a startup as a class activity in my course, I make teams compete against each other in this activity. They

learn from this activity; they learn strategies and techniques from each other that they can implement in their own practices.

Peer critique provides entrepreneurs an opportunity to view their creative ideas through the lens of other peoples. It gives entrepreneurs an opportunity to adjust their creative approach and revise the creative product before it is officially launched in the market. To facilitate peer critique, different business plan competition platforms and pitching events are organized in higher education institutions, business incubators and the community. Data revealed that participants encouraged participation in these events as it provides entrepreneurs an opportunity to reflect/evaluate their own businesses and critique other businesses. Critique prepares entrepreneurs to manage emotions during challenging times and persist in the face of obstacles (Ivcevic & Nusbaum, 2017). It also allows entrepreneurs to reflect on their creative ideas through perspectives shared by other people and adjust the creative product. This aligns with the regulating process expectations and adjusting approach elements of self-regulation of creativity.

Conclusion

The findings of this study indicated two major themes. The first theme is that entrepreneurship education instructors and trainers/mentors in business incubators support self-regulatory processes of motivation within emergent and novice entrepreneurs through facilitating self-motivation, performance-monitoring, and self-evaluation. The second theme is that entrepreneurship education instructors in higher education institutions and trainers/mentors in business incubators support self-regulation of creativity by facilitating creative processes of innovation and design thinking approach among emergent and novice entrepreneurs. Participants supported self-regulation of creativity by assisting emergent and novice entrepreneurs to identify problems, pivot solutions, and receive validation of solutions through feedback from

instructors/trainers/mentors and peers. Different forms of feedback from various sources (instructor, peer critique, community connections/external mentors) remain a common subtheme that emerged within both research questions.

CHAPTER FIVE: DISCUSSION

The current qualitative study aimed to understand the perceptions of entrepreneurship education instructors in higher education institutions and trainers/mentors in business incubators regarding emergent and novice entrepreneurs' self-regulatory processes of motivation and creativity to transform an idea into a successful entrepreneurial venture. This study was informed by literature in the fields of entrepreneurship education, entrepreneurship curriculum and pedagogy, as well as self-regulation of motivation and self-regulation of creativity. The study included seven participants (four instructors in higher education and three trainers/mentors in business incubators). A hybrid data analysis (Fereday & Muir-Cochrane, 2006) was utilized to analyze the data. The role of instructors/trainers as mentors may have served as a foundation for participants to support emergent and novice entrepreneurs' self-regulated learning and creativity. In addition, two themes were identified in the data. The first theme is that participants reported supporting the self-regulatory processes of motivation among emergent and novice entrepreneurs through facilitating self-motivation, performance monitoring, and self-evaluation. The second theme is that within the creative processes of innovation and design thinking approach, entrepreneurship education instructors in higher education and trainers/mentors in business incubators reported that they support self-regulatory processes of creativity among emergent and novice entrepreneurs through helping them identify a problem, pivot solutions, and receive validation from instructors/peers/competitors through experiential learning.

It is worth noting that it is likely that a unique group of individuals participated in this study. All participants of this study are highly accomplished individuals within their field and their respective context. Participants can be considered as a select, leading-edge group of individuals in entrepreneurship due to their pioneering work, innovative ideas, and significant contributions to the field of entrepreneurship education. The instructor participants in higher education institutions have published groundbreaking research in entrepreneurship and are actively shaping the academic discourse. Additionally, trainer/mentor participants from business incubators are committed to enhancing entrepreneurship education by providing practical experience and facilitating effective mentoring to novice entrepreneurs. The insights and perceptions of this unique group of entrepreneurship education professionals served as a source of rich data, that allowed me as the researcher to shed light on potential strategies, barriers, and best practices that may help to improve entrepreneurship education.

Although not a specific aim of this study, the role of instructors/trainers as mentors may have served as a foundation for participants to support emergent and novice entrepreneurs' self-regulated learning and creativity. There was a consensus among participants that instructors and trainers/mentors should adopt the role of mentor to support the self-regulatory processes of motivation and creativity of emergent and novice entrepreneurs, so that they can achieve their long-term goals. Participants shared different roles involved in serving as a mentor, including establishing high quality relationships with emergent and novice entrepreneurs, developing an effective ecology, and assisting personal growth. Thus, participants shared a consensus that the role of a mentor goes beyond the traditional classroom and training setting to help develop the knowledge, skills, and social capital necessary for emergent and novice entrepreneurs to achieve

their long-term goals. This chapter includes a discussion of the two themes organized by research questions.

Theme One: Supporting Self-Regulatory Processes of Motivation

The data revealed that participants may implicitly teach self-regulation of motivation to emergent and novice entrepreneurs at higher education institutions and business incubators, rather than explicitly teach it as part of a curriculum or program. Participants reported supporting various aspects of self-regulation of learning, including self-motivation, performance monitoring, and self-evaluation. Each of these sub-themes are discussed below.

Self-Motivation

Instructors at higher education institutions and trainers/mentors at business incubators described using different activities and assignments/tasks to help emergent and novice entrepreneurs become self-motivated in their entrepreneurial endeavors. Goal identification was noted by two of the three trainers/mentors in business incubators as a way to help novice entrepreneurs articulate their goals and specify outcomes. Goal identification and strategic planning to accomplish goals are part of task analysis, a category within the forethought phase of self-regulated learning (Zimmerman, 2000). Goal identification is referred as goal setting in the literature, according to self-regulation theory of learning, it facilitates self-motivation through four key motives: self-efficacy, outcome expectations and intrinsic interest/value, and goal orientation (Zimmerman, 2000). Goal identification was used by business incubator trainers/mentors to provide novice entrepreneurs with required financial and social capital resources. Trainers/mentors voiced that the articulation of goals by startup companies assisted them in designing a strategic plan for novice entrepreneurs to accomplish their goals. Goal identification also facilitated a regular evaluation process for startup companies associated with

business incubators. However, goal identification was only noted by one of the four instructors, who had an in-class assignment related to the identification of entrepreneurial goals.

Inviting guest speakers to share their entrepreneurial experiences was noted by two of the four instructors in higher education as a way to increase emergent entrepreneurs' self-motivation in their personal entrepreneurial journey. Guest speaker stories were reported by instructors as a way to foster students' adaptive attributions and build self-motivation to pursue their entrepreneurial dreams. Participant instructors reflected on how guest speakers' entrepreneurial experiences allowed students an opportunity to engage in self-judgment. Self-judgment allows one to evaluate their success or failure based on comparing their performance to the performance of others (Zimmerman, 2002). Listening to how guest speakers made meaning of their experiences, including adjusting their behaviors and processes of learning has the potential to help emergent entrepreneurs to develop adaptive reactions and perform better in the future. Thus, continuous reflection, self-reaction, and self-judgment may help to support novice entrepreneurs' ability to achieve their goals.

Providing emergent entrepreneurs with autonomy to choose the topic of a hands-on class project and work on it independently was noted by two of the four instructors in higher education to foster students' self-motivation and intrinsic motivation. Instructors highlighted that class projects gave students an opportunity to engage in experiential learning and to further develop their skills and interests and work on projects that they care about. Experiential learning within entrepreneurship literature is identified as one of the most effective methods of learning and conducting entrepreneurial business (Neck & Greene, 2011). Thus, by providing emergent entrepreneurs with autonomy in their coursework, instructors allow students to make decisions and design their own strategy to accomplish their goals and learn, reflecting real world

entrepreneurial tasks. When intrinsic motivation surpasses extrinsic motivation, students' goal orientation and persistence increases (Zimmerman, 2000).

Performance Monitoring

Entrepreneurship education instructors and trainers/mentors in business incubators reported that continuous performance monitoring led to improved performance of emergent and novice entrepreneurs. Participants discussed that they supported this process by providing constructive feedback; serving as mentors, facilitators, or coaches; and by assisting in building community connections. Performance monitoring refers to the performance phase in self-regulation of learning, and includes self-control and self-observation (Zimmerman, 2002). Self-observation provides an opportunity to entrepreneurs to self-reflect on their performance.

The findings indicated that instructors provided constructive feedback to students at different stages of their class projects and at various times of the semester. To encourage students to monitor their progress and reflect on their performance, instructors created different types of weekly and monthly deliverables, including class discussions, class activities, and reflection papers. Instructors described using constructive feedback to help students to engage in self-reflection, observe their progress, and improve their performance. Instructors indicated they provided written feedback on students' assignments, discussion posts, and presentations as a means of evaluating student progress and spurring their growth as entrepreneurs.

Trainers/mentors of business incubators reported facilitating performance monitoring through developing an individual relationship with novice entrepreneurs. These relationships allowed trainers/mentors to provide ongoing feedback on novice entrepreneurs' performance through providing mentoring, facilitation, and consulting services. Trainers/mentors also

reflected how they assisted novice entrepreneurs in identifying and connecting with subject-matter experts and specialists as additional professional mentoring activity.

The findings highlighted the importance of networking as it allowed novice entrepreneurs to build an ecosystem with the help of community connections and resources. Business incubator trainers/mentors agreed that community connections facilitate novice entrepreneurs in garnering support from community members. This eventually assisted novice entrepreneurs to obtain resources and develop their businesses through specialized mentoring/guidance as well as establish a connection with potential customers/consumers. Trainers/mentors relied extensively on their own community connections/ecosystem to help novice entrepreneurs build their own individual ecosystems. The trainers/mentors voiced that community resources and networking opportunities provided opportunities for novice entrepreneurs to be self-motivated, as well as monitor and improve their performance.

The subtheme of performance monitoring aligns with entrepreneurship pedagogy. Neck and Greene (2011) emphasize the use of experiential learning in entrepreneurship education to help entrepreneurs reflect as well as engage in critical thinking, observation, and synthesize information. To facilitate this, instructors and trainers/mentors described taking on the roles of coach and guides. This novel role of instructors and trainers/mentors may support a learner-centered approach within entrepreneurship education focused on the needs of adult learning, andragogy. Andragogy requires instructors to facilitate individuals' learning by connecting the subject matter to their interests and needs (Neck & Corbett, 2018).

Self-Evaluation

The findings revealed that instructors at higher education institutions and trainer/mentors at business incubators supported emerging and novice entrepreneurs' self-evaluation of

performance by helping them to set and evaluate subgoals linked to their long-term goals. Instructors discussed how they intentionally designed their courses so that final class deliverables were divided into milestones/subgoals. Instructors reflected on how this helps students to break long-term goals into proximal goals as well as self-evaluate these proximal goals and assess their progress towards long-term goals. Thus, feedback provided by instructors has the potential to help emergent entrepreneurs in the self-evaluation processes.

Similarly, trainer/mentors discussed how subgoals served as steps for novice entrepreneurs to accomplish the long-term goals of their startup company within a business incubator. Trainers/mentors highlighted that they served as mentors and guides to provide novice entrepreneurs with the resources in form of material, mentors, and connections to achieve their subgoals. They also highlighted how subgoals identified by entrepreneurs served as a form of accountability and evaluation for novice entrepreneurs within a business incubator, and an opportunity for novice entrepreneurs to self-evaluate their progress and sustain motivation towards their long-term goals.

Breaking goals into subgoals/proximal goals helps entrepreneurs to accomplish their identified goals and work towards their final project deliverables. A continuous reflection and evaluation of subgoals by entrepreneurs through the help of feedback from instructors and mentors may allow entrepreneurs to execute self-control (Zimmerman, 2000). Self-control assists individuals to develop strategies for self-instruction, which helps learners to execute tasks (Zimmerman, 2000). Self-control also helps individuals to mentally visualize one's performance and focus on the learning processes to accomplish each subgoal and improve performance (Zimmerman, 2000). This process aligns with the performance phase of self-regulation of learning (Zimmerman, 2000).

By dividing long-term goals into subgoals/milestones and then evaluating them may encourage emergent entrepreneurs to engage in ongoing reflection on their performance. This aligns with the reflection phase of self-regulation of learning (Zimmerman, 2000). Self-evaluation and self-reflection allow entrepreneurs to experience self-satisfaction, which may facilitate the forethought phase (Zimmerman, 2000) and in turn support individuals' overall self-motivation to continue working on their entrepreneurial venture.

Theme Two: Supporting Self-Regulation of Creativity

The findings revealed that entrepreneurship education instructors at higher education institutions and trainers/mentors at business incubators supported self-regulatory processes of creativity by assisting emergent and novice entrepreneurs in learning creative processes of innovation and design thinking. Instructors and trainers/mentors provided students with opportunities for experiential learning through experimenting with their creative projects.

All four instructor participants indicated that they design their course work/syllabi in a way that facilitates creative problem solving and engaging in creative design thinking to develop a product/service. Instructors provided experimental learning opportunities through the final class deliverable or end of semester project. However, these in-class creative projects were not necessarily students' personal business ideas or entrepreneurship ventures that they wanted to work on after the completion of the course, as the objectives of in-class creative projects was to facilitate learning through the class projects. In contrast, trainers/mentors in business incubators facilitated creative processes directly linked to novice entrepreneurs' real-life businesses and entrepreneurial endeavors.

There were similarities among course syllabi in how instructors supported the actualization of creative ideas and modeled self-regulation of creativity. Similar syllabi content

included revising creative ideas/products and maintaining a creative idea/product. Modeling self-regulation of creativity was also integrated into course activities described in the syllabus, such as: (1) revision and re-strategizing and (2) sustaining and maintaining efforts in face of obstacles (Ivcevic &Nusbaum, 2017). The revision of creative ideas/products is supported by instructors in class through class activities, course assignments and discussions that help students in learning more about their creative ideas/products. This includes cognitive thinking, experimenting with the product design, and testing the product in the market by letting the target consumers use the product/service. Syllabi also includes educating students about design patents and marketing strategies that help students in learning how to sustain and maintain a creative idea/product as entrepreneurs.

Creative Processes of Innovation and Design Thinking

The findings suggest that instructors initiated the creative processes of innovation and design thinking through facilitating class activities such as brainstorming using lateral thinking, divergent thinking, and emergent thinking approaches to help students generate creative ideas. Instructors also used various class activities to help students identify a problem with a product/service that they would like to solve through their creative ideas/solutions. In contrast, trainers/mentors indicated that they do not facilitate initial creative idea generation, as startup companies/novice entrepreneurs who join the business incubators already have a creative business idea or invention that they are working on. Thus, trainers/mentors facilitated the next step within the creative process of innovation and design approach in business incubators, which involves modifying or pivoting the creative idea so that novice entrepreneurs can execute their creative ideas.

There was a consensus among instructors and trainers/mentors regarding the importance of supporting emergent and novice entrepreneurs in revising and re-strategizing their creative ideas throughout the creative process, aligning with the literature on self-regulation of creativity (Ivcevic & Nusbaum, 2017). Instructors reported using different creative tools (e.g., fishbone analysis, root cause analysis) and strategies (e.g., stage gate process of innovation) with the aim to help students find the best idea to solve a problem. Instructors discussed that they assisted students in learning and practicing with creative tools and strategies so they would be able to effectively use them in their own entrepreneurial journey.

Instructors and trainer/mentors reported facilitating the revision of creative ideas by allowing emergent and novice entrepreneurs to learn from other successful entrepreneurial ventures/creative products/services through guest speakers, case studies, and videos. Trainer/mentors assisted novice entrepreneurs in pivoting or revising their creative ideas by helping them to execute their ideas. Trainers/mentors provided novice entrepreneurs with the resources to develop prototypes, launch products, connect with investors through mentoring at each stage of their entrepreneurial venture. Revision of ideas includes revising the creative idea itself and the approach to actualize the idea. Instructors and mentors described supporting and encouraging the process of pivoting the creative ideas by allowing students to experiment with the prototype/idea and continually adjust their creative ideas to develop a functional product/business. The process of pivoting aligns with the component of adjusting approach within the model of self-regulation of creativity (Ivcevic & Nusbaum, 2017).

Learning the process of pivoting is not limited to the design structure of the creative product within higher education institutions and business incubators. Pivoting is a continuous process; through the process of pivoting, instructors and trainers/mentors aim to help students

and entrepreneurs to learn when to change paths while pursuing a creative goal, if the required goal is not being achieved. Thus, the components of regulating process expectations within the self-regulation of creativity align with pivoting used by instructors and mentors (Ivcevic & Nusbaum, 2017).

Both instructors and trainers/mentors emphasized the importance of the next step within the creative process of innovation and design thinking, which includes validation of the creative idea, product, or service though external feedback from target consumers or customers. Participants viewed validation as helping emergent and novice entrepreneurs to cater to the needs of end consumers by revising the product/service based on external feedback. These revised products often attract the attention of consumers and become a successful launch. Participants discussed how a continuous validation of creative ideas, products, and/or services can help emergent and novice entrepreneurs to plan and implement creative ideas. Participants highlighted the importance of allowing emergent and novice entrepreneurs to receive external validation of their creative ideas, products, or services in that by doing so, learn to listen to consumers and revise accordingly. Thus, the process of validation within the creative process can be categorized under the revision and re-strategizing phase of self-regulation of creativity (Ivcevic & Nusbaum, 2017). Validation assists emergent and novice entrepreneurs in regulating their process expectations, adjusting their approach to actualizing the creative idea, and managing ambitious goals so that the achievable goals can be pursued (Ivcevic & Nusbaum, 2017).

Instructors discussed how they may promote emergent entrepreneurs' self-regulation of creativity through facilitating instructor and peer critique of creative ideas, products, or services. Instructors discussed their critique assignments in response to the interview questions about how they address students' fear of failure and how they support emotion management in the face of

adversity in their course. Instructors indicated that peer critique allowed students to address criticism, learn from failure, and regulate emotions during challenging times. One of the objectives of the critique assignment identified was to promote healthy competition among students and for students to learn from their fellow entrepreneurs' progress. Business plan competitions and pitching competitions were also identified as platforms that promote learning through peer critique that supports self-regulation of creativity. Peer critique may allow emergent entrepreneurs to engage in self-reflection and self-evaluation of their creative ideas, products, and/or services. Participants highlighted that critique from subject-matter experts, professionals, external mentors, and peers also were central to the overall creative process. In contrast, trainers/mentors in business incubators described organizing and facilitating networking events where novice entrepreneurs can showcase their creative product/invention and receive feedback necessary to successfully execute their ideas and initiate action. These opportunities may provide novice entrepreneurs with a platform where they can pitch their creative idea/invention and receive valuable external feedback on their products.

Thus, the findings suggest that peer critique assignments may support creativity processes among emergent and novice entrepreneurs. Peer critique can be classified as a part of the sustaining and maintaining within the model of self-regulation of creativity (Ivcevic & Nusbaum, 2017). Peer critique may facilitate self-regulatory processes of creativity by helping emergent and novice entrepreneurs to learn sustaining creativity in the face of adversity and managing emotions when a creative idea is a success or a failure, so that self-regulation of creativity is sustained (Ivcevic & Nusbaum, 2017).

Implications

The findings from the current study have implications for theory and practice. Mentoring may have served as a foundation for entrepreneurship education instructors at higher education institutions and trainers/mentors at business incubators to support self-regulatory processes of motivation and creativity within emergent and novice entrepreneurs. Instructor and trainer/mentor participants voiced support for departing from the roles of traditional teacher-student and facilitating individual personal growth of students/entrepreneurs to help them learn and develop their entrepreneurial ventures through effective coaching and guidance. The role of mentoring could be explored further in future research to better understand its role in supporting instructors and trainers/mentors in supporting the self-regulatory processes of emergent and novice entrepreneurs.

The findings have implications for exploring self-regulation of learning and self-regulation of creativity. Self-regulation of creativity is a much less developed field in entrepreneurship. Although the components of the model of self-regulation of creativity were found in the data, the components focused on cultivating the creativity of product/business or creative design thinking approach. The findings did not reflect much support for the self-regulatory aspect of creativity. The data also indicated that instructors implicitly supported self-regulation of learning in entrepreneurs, while a focus of self-regulatory aspects of motivation within entrepreneurs to pursue entrepreneurial ventures in the long run was missing from the findings.

The findings included both inductive and deductive themes. This highlights the importance of listening to participant voices as well as informing research with the self-regulation of learning (Zimmerman, 2000) and self-regulation of creativity (Ivcevic & Nusbaum,

2017) theoretical frameworks. The findings highlighted participants' perspectives and how they do or would like to support students in learning these components of the self-regulatory processes of motivation and creativity. Fear of failure, mitigation of risks in entrepreneurship, persistence in entrepreneurship, and managing/effective communication of an entrepreneur's emotions in entrepreneurship were topics discussed during the individual interviews. Two participants out of the seven (one from higher education institution and one from business incubator) indicated that although these ideas are not explicitly or implicitly taught to emergent and novice entrepreneurs though their courses or trainings, they were topics that they were interested in teaching and/or researching. Further, although not explicit in the data, there may be interconnections between self-regulation of learning and self-regulation of creativity. These two fields have been conducted in relative isolation of one another; additional research is needed to further explore links between these two constructs.

An implication for practice is that instructors and trainers/mentors can consider ways to align with the goals and objectives of emergent and novice entrepreneurs more closely. Regarding implications for practice, instructors in higher education institutions may need to re-design their syllabi to support students' real-time actual entrepreneurial ventures to help them achieve their entrepreneurial goals. Instructor participants discussed how course objectives align with the key performance indicators of their respective institutions (i.e., student enrollment, retention, and graduation), but rarely allow students to authentically incorporate their entrepreneurial interests and ideas into the course. Thus, higher education institutions might need to revamp their entrepreneurship programs in a way that students can explore and pursue their entrepreneurial interests and ideas while being enrolled in school.

Similar to course objectives in higher education, the objectives of participants' business incubators did not always align with or prioritize the objectives of novice entrepreneurs. Each business incubator's objectives differed. The objective of a non-profit public university-based incubator was to build an ecosystem for the entire community through their business incubator. Their goal was to recruit technology and research-based novice entrepreneurs. The objective of private university-based incubator was to recruit more student companies in the business incubator so a greater percentage of student-based companies can be represented through their forum. The aim of the private non-profit business incubator without any affiliation with a university was to make a greater economic impact through incubating both emergent and novice entrepreneurs with businesses that were not technology or research intensive.

Further, instructors highlighted a lack of integration of course content within a degree program, and that this may hinder them from meeting emergent entrepreneurs' goals. They voiced experiencing challenges when designing course syllabi, as they did not perceive coherence across the different courses offered within the same degree program. In contrast, trainers/mentors perceived the training and curriculum as an integral part of the operations of the business incubator, and that this may closely align with the goals novice entrepreneurs identify when entering business incubators. Future research is needed to examine the alignment and integration of entire entrepreneurship programs in higher education institutions and business incubators and how they support the self-regulatory processes of motivation and creativity of emergent and novice entrepreneurs.

This research study also has implications for my scholarly practice. As I investigated participants' experiences and perceptions of supporting self-regulation of motivation and self-regulation of creativity among emergent and novice entrepreneurs, I became more informed

about the role of instructors and trainers as mentors in guiding and supporting emergent and novice entrepreneurs. The concept of mentoring allowed me to connect different topics of entrepreneurship education literature, pedagogy, and self-regulatory processes of motivation/creativity. Instructors and trainers are the drivers of creativity, innovation, and design. They play a central role in designing entrepreneurship curriculum that supports self-regulatory processes of motivation and creativity. In my own scholarly practice, I aim to further understand the different roles instructors and trainers/mentors have within their individual contexts and how each of their roles contributes to the self-regulatory processes of motivation and creativity within emergent and novice entrepreneurs. I also aim to explore emergent and novice entrepreneurs' perceptions and experiences of how their self-regulatory processes of motivation and creativity are supported within higher education institutions and business incubators. In addition, I plan to learn how instructors and trainers/mentors tailor their support for self-regulatory processes of motivation and creativity for emergent and novice entrepreneurs, as the findings of this research study indicated that entrepreneurs at different stages of their entrepreneurial venture require different supports from instructors and trainers/mentors.

Positionality

My positionality as an insider and an outsider within the field of entrepreneurship may have impacted the findings in the current study. I maintained a reflexive journal throughout the entire research process to manage my own subjectivity and serve as a form of internal dialogue. This allowed me to self-reflect and observe my own progress and understanding the findings. Engaging in ongoing reflection also helped to support me throughout the research process and inform my practice as a scholarly practitioner with the goal to support entrepreneurial instructors and trainers/mentors, as well as emergent and novice entrepreneurs.

Limitations

Although this study provides insights into the perceptions of entrepreneurship education instructors and business incubator trainers/mentors regarding how they support emergent and novice entrepreneurs' motivation and creativity self-regulatory processes, it is not without a few limitations. First, given that the qualitative data collected were context dependent, the findings may not generalize to other contexts within the field of entrepreneurship. Second, a small number of participants from each context were included in this study and provide a limited perspective (four participants from higher education institutions and three participants from business incubators). Third, this study did not examine how motivation and creativity self-regulatory processes may impact the ventures and outcomes of emergent and novice entrepreneurs. For instance, the high demand and steep increase in the number of entrepreneurship education programs may have its own challenges in there that is much yet to be learned about "what to teach, how to teach it and how entrepreneurial learning is best measured" (Ligouri et al., 2018, p. 5). Further research into the topics of self-regulation of motivation and self-regulation of creativity that directly impact the entrepreneurial ventures of emergent and novice entrepreneurs is recommended.

Conclusion

The findings of this qualitative study highlighted the experiences and perceptions of entrepreneurship education instructors at higher education institutions and trainers/mentors at business incubators in supporting the self-regulatory processes of motivation and creativity of emergent and novice entrepreneurs. The role of instructors and trainers/mentors as mentors may have set the foundation to support self-regulation of motivation and self-regulation of creativity within the entrepreneurs. The findings of the study revealed two themes. The first theme is

entrepreneurship education instructors in higher education institutions and trainers/mentors in business incubators reported that they support self-regulatory processes of motivation among emergent and novice entrepreneurs through facilitating self-motivation, performance monitoring, and self-evaluation. The second theme is that within the creative processes of innovation and design thinking approach, entrepreneurship education instructors and trainers/mentors in business incubators reported that they support self-regulatory processes of creativity among emergent and novice entrepreneurs. The findings indicated that self-regulatory of creativity was supported by instructors in higher education institutions and trainers/mentors at business incubators implicitly through helping entrepreneurs identify a problem, pivot solutions, and receive validation from instructors/peers/competitors through experiential learning. The findings suggest a need for further research to investigate entrepreneurship education instructors' and trainers/mentors' perceptions of explicitly teaching/supporting self-regulatory aspects of motivation and creativity in within higher education institutions and business incubators.

CHAPTER SIX: A PRACTITIONERS' GUIDE

This chapter highlights implications for practice and provides a guide for entrepreneurial education practitioners, namely instructors in higher education institutions and trainers/mentors in business incubators, to integrate self-regulatory practices of motivation and creativity into their professional practice to support emergent and novice entrepreneurs.

The findings of the current study suggest that aspects of self-regulation of motivation can be taught implicitly by higher education institutions and business incubators through course/training content. Specifically, instructors and trainers/mentors may promote emergent and novice entrepreneurs' self-motivation, an aspect of self-regulated learning, by helping individuals identify their goals, bringing in guest speakers, and allowing individuals to choose their own creative product/idea. Instructors and trainers/mentors can also help emergent and novice entrepreneurs to monitor their performance through consistent feedback provided by the instructors/mentors and external community members. Lastly, they can encourage emerging and novice entrepreneurs to engage in self-reflection by breaking goals into subgoals or milestones and then evaluating the subgoals and reflecting on one's performance. However, some but not all aspects of self-regulated learning were found in the current study. It is not clear whether the aspects of self-regulated learning identified in the study may be sufficient to provide emergent and novice entrepreneurs with the skills and resources they need to sustain their motivation to continue working towards their entrepreneurial dreams while managing internal and external factors that may hinder the process of entrepreneurship.

Figure 3 below represents the theoretical framework of the self-regulation of learning (Zimmerman, 2000). The following components of self-regulated learning were identified in the findings of the current study: goal identification, self-motivation, performance monitoring and self-evaluation.

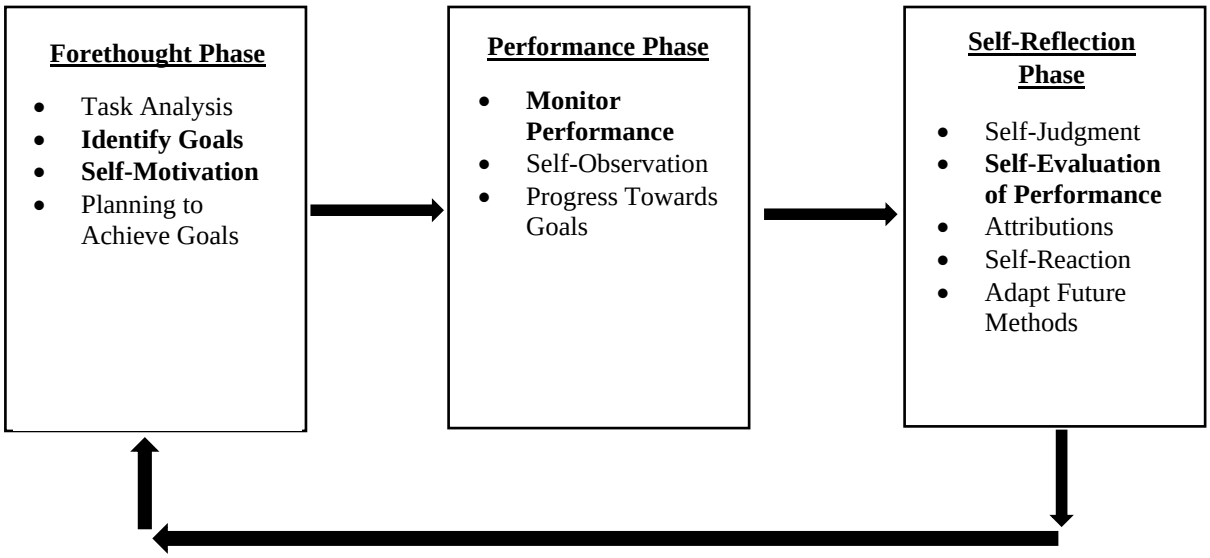

Figure 3: Model of Self-Regulated Learning (Zimmerman, 2000)
Note. Identification of goals, self-motivation, performance monitoring and self-evaluation components of self-regulated learning were found in the data.

Instructors in higher education and trainers/mentors in business incubators can also support the creative process of design thinking and innovation by assisting emergent and novice entrepreneurs to identify a problem that they would like to solve using a creative solution, and by using creative thinking techniques and tools (e.g., lateral thinking and fishbone analysis). Instructors and trainers/mentors can also facilitate the development of the creative product/idea through continuous revision and pivoting of the idea/product. The prototype of the creative product/idea can be tested with target consumers to gain validation if the creative product/idea is supported by its target market. Peer critique in class and in different competition platforms can also be facilitated by instructors and trainers/mentors. The entire creative process of design and

innovation is based on revising and re-strategizing the creative process of innovation and design thinking. However, some but not all aspects of maintaining and sustaining creative processes of design thinking and innovation were found in the current study. It is not clear whether the aspects of self-regulated creativity identified in the study may be sufficient to provide emergent and novice entrepreneurs with the skills and resources they need to sustain their creativity throughout the process of entrepreneurship. Figure 4 below represents the self-regulation of creativity (Ivcevic & Nusbaum, 2017). The findings indicated that the components of adjusting approach and planning and organization were found in the data.

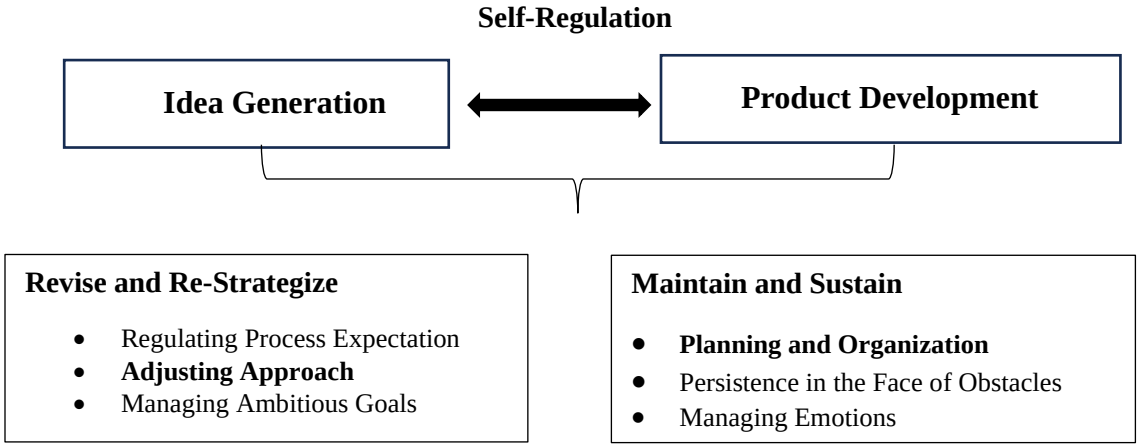

Figure 4: Model of Self-Regulation of Creativity (Ivcevic and Nusbaum, 2017)
Note. Adjusting approach as well as planning and organization components of self-regulation of creativity were found in the data.

Thus, the findings of the current study suggest that instructors within higher education and trainers/mentors in business incubators may implicitly support emerging and novice entrepreneurs' self-regulation of motivation and creativity. The findings may have implications for practice, which are discussed below.

Integrate Courses/Trainings within Entrepreneurship Education Programs

Participants in the current study perceived a lack of coherence and integration between different courses within a degree program at higher education institutions and trainings offered at business incubators. This may make it challenging for instructors and trainers/mentors to design their syllabi. For instance, they may invertedly unnecessarily repeat content taught by other instructors/trainers in their courses/trainings in the same program or there may be a disconnect between the content of other courses/trainings delivered to the same students/trainees. An implication for instructors and trainers/mentors is to consider ways to intentionally engage in vertical curriculum planning so that key course objectives and deliverables are designed in a way that integrates objectives so that courses build on each other. Entrepreneurship education programs in higher education institutions or business incubators may consider program/curriculum planning and maintenance so that each course/training within a degree program or a training is well connected and aligned with other courses/trainings being offered. An implication for practice is to consider ways for instructors and trainers/mentors to stay informed and aware of content being offered by their peers/colleagues within their entrepreneurship education program. Instructors and trainers/mentors can design their course syllabus or training material by studying the syllabi of other courses/trainings so that connections, coherence, and integration between courses/trainings is maintained.

Align Course Objectives with the Goals of Entrepreneurs

Participants in the current study also perceived that course objectives aligned with the key performance indicators of the institution, rather than with the goals of emergent and novice entrepreneurs. Key performance indicators for higher education institutions include increasing enrollment and graduation rates, whereas key performance indicators for business incubators

include helping novice entrepreneurs to make an economic impact and fulfill the objectives of their business incubators. Participants perceived this misalignment in institutional objectives and the goals of entrepreneurs as potentially resulting in emergent and novice entrepreneurs focusing on getting good grades and retaining their position/status in a business incubator, rather than pursuing their long-term entrepreneurial dreams.

An implication for practitioners is to consider ways to re-design the syllabi of courses and training courses so that there is a focus on helping emergent and novice entrepreneurs to build their entrepreneurial ventures or research their entrepreneurial ideas. Instructors and trainers/mentors may start a course by helping entrepreneurs to identify their long-term and short-term entrepreneurial goals, and then break them into subgoals/proximal goals or milestones. They can facilitate entrepreneurs by assisting them in planning and developing incremental goals. Further, instructors and trainers/mentors can coach entrepreneurs to effectively monitor their progress in achieving their subgoals and acquiring resources necessary to accomplish each subgoal. This may require instructors and trainers/mentors to make the learnings of entrepreneurs visible; they can do this by providing constructive feedback.

After emergent and novice entrepreneurs identify their goals, instructors and trainers/mentors can design their instructional content and strategies according to the needs of the entrepreneurs. Instructors and trainers/mentors may use student-centered and inquiry-based approaches to facilitate authentic learning among entrepreneurs. Instructors and trainers/mentors can consider assisting students in making connections with external mentors/community or practitioners that may assist entrepreneurs in learning their own field of business.

Learn Self-Regulatory Aspects of Motivation and Creativity

The findings of the current study suggest that instructors and trainers/mentors reported implicitly teaching/supporting self-regulatory aspects of motivation and creativity. It may also be beneficial for instructors and trainers/mentors to explicitly teach/support self-regulatory aspects of motivation and creativity to emergent and novice entrepreneurs. Therefore, instructors and trainers/mentors can assist entrepreneurs in learning the self-regulation of motivation and creativity by providing information and resources regarding the self-regulation of learning (Zimmerman, 2000) and self-regulation of creativity (Ivcevic and Nusbaum, 2017). Doing so may help all parties involved to better understand the cognitive processes and make connections with their own self-regulatory processes/practices.

An implication for practitioners is to make information and strategies regarding self-regulation of motivation and creativity accessible to novice and emerging entrepreneurs. Practitioners may do this in a variety of ways, including providing guiding questions or prompts as well as checklists outlining strategies to promote self-motivation, self-monitoring, self-control, and self-evaluation. Instructors and trainers/mentors can also provide scaffolding throughout the process of transforming an idea into a product. Instructors and trainers/mentors can do this by adopting different roles. First, they can adopt the role of Planners and launch self-regulatory processes of motivation and creativity by assisting entrepreneurs to develop their goals, establishing timeline to help achieve these goals, and designing explicit course/training content targeted towards the learning needs of entrepreneurs. Second, instructors and trainers/mentors can act as Guides and facilitate self-regulatory processes of motivation and creativity by assisting entrepreneurs in knowledge construction, self-control, and observation through providing feedback that helps students/trainers reflect on their performance and revise

their strategies so they can improve their performance. Lastly, they can act as Reflectors and evaluate/reflect on self-regulatory processes of motivation and creativity by providing effort focused praise, identifying adjustment in learning effort and strategies, and integrating peers, community members, as well as self-evaluation exercises into courses/training sessions.

Activities and Exercises

Instructors and trainers/mentors can re-design their class activities and exercises so that reflection on key learnings is made an integral part of operations within an entrepreneurial process. Goal Identification assignments can be introduced in courses/trainings it may help students/trainees in identifying their short-term and long-term goals as entrepreneurs. Methods of creating proximal goals can be introduced and practiced in the courses/trainings through a class activity or assignment. Instructors and trainers/mentors can design class activities/assignments that require articulation of the progress made towards goals, which may facilitate the process of performance monitoring. Peers and instructors can provide constructive feedback on the progress made by entrepreneurs. Learning different self-reflection practices may also help be helpful, including journal writing, class discussion posts, as well as progress reports and presentations.

Class exercises that help students learn that creative processes are also essential for entrepreneurs to gain an insight into the field of creative design thinking and innovation. However, spending one semester on one project may limit students' learning. Thus, multiple creative design projects within a course may help students to learn as well as fail quickly and often. This may assist students to deal with fear of failure and mitigate risks. Instructors and trainers/mentors can explicitly teach self-regulation of creativity by modeling strategies and behaviors as well as designing activities and exercises that facilitate the understanding and feasibility of a creative idea. For instance, instructors and trainers/mentors can design

activities/exercises that require the implementation of critical path analysis, a project management tool that requires mapping out every task necessary to complete a project (Walker, 1959). This activity may help entrepreneurs in regulating process expectations, which may prepare individuals plan for and deal with ambiguities and uncertainties in the creative process.

Instructors and trainers/mentors can design activities and exercises that require the use of fishbone or root cause analysis to identify the problem. This would facilitate learning the concept of adjusting an approach when finding a problem. The stage gate process is another strategy that can be explicitly taught and used in activities/exercises to allow students to learn how to manage risks or ambitious goals. Peer critique assignments may also be used by instructors and trainers/mentors to help entrepreneurs learn emotion management techniques to use when facing adversity. Instructors and trainers/mentors can support an internal reflection of creativity by encouraging entrepreneurs to maintain a journal about their feelings, thoughts, and emotions after each class/training. This may help entrepreneurs to learn the process of reflection and evaluation, as well as maintain an internal dialogue that would help them in recognizing their creative potential, interests, and sources of motivation.

Instructors and trainers/mentors may use this guide to inform their professional practice so that it may support the self-regulation of motivation and self-regulation of creativity among emergent and novice entrepreneurs.

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APPENDIX A: PARTICIPANT RECRUITMENT EMAIL

Dear (Name),

I hope this email finds you well. My name is Maham Khan, and I am a Doctoral Candidate in Educational Innovation at the University of South Florida (USF). I am reaching out to you today to invite you to participate in my dissertation study about the experiences and perceptions of university instructors and corporate trainers regarding what works – and does not work – to support student entrepreneurs' motivation and creativity as they develop their business ideas. I am passionate about entrepreneurial education, and hope to learn how instructors and trainers can best support students in higher education and novice entrepreneurs in the field to maintain their motivation and creative persistence as entrepreneurs. Below is more information; please contact me at (813) 389-7351 or khan10@usf.edu if you would like to participate in the study!

- **Who am I?** As a former entrepreneurship student and consultant, I saw many students struggle to persist and overcome challenges when pursuing entrepreneurial ventures. I am currently pursuing my Doctor of Education (Ed.D.) degree at USF to learn more about how teachers and trainers can best support student entrepreneurs' motivation and creativity.

- **Why are you being asked to participate?** You are a teacher at a higher education institution or a trainer at a business incubator and are teaching/training a course relevant to creativity and or motivation of entrepreneurs. I want to learn about your perceptions of how to support student motivation and creativity in entrepreneurship!

- **What does participation require?** Participation is designed to be respectful of your time, and includes one 60–90-minute interview followed by any clarifying questions after two weeks if needed via email. Participation would also include sharing select course/training materials (i.e., syllabus, instructional material, assessment material, deidentified learner/trainee-generated material). Interviews will be conducted using Zoom/Teams and scheduled during a time convenient for you. Participation is voluntary; you can withdraw at any time. All data will be kept confidential, anonymous, and secure. Participation will not affect your job standing in any way.

- **What do I get for participating?** To express my gratitude for participating, I would like to offer you a free resource with valuable, research-based, practitioner-oriented information aimed at fostering student entrepreneur motivation and creativity.

Sincerely,
Maham Khan
Ed.D. Candidate in Education Innovation, USF
Email: khan10@usf.edu

APPENDIX B: INFORMED VERBAL CONSENT FORM FOR PARTICIPANTS

Overview: You are being asked to take part in a research study. The information in this document should help you to decide if you would like to participate. The sections in this Overview provide the basic information about the study. More detailed information is provided in the remainder of the document.

Study Staff: The research is being conducted by Maham Khan, an Ed.D. student in the College of Education at USF. This person is called the Principal Investigator. Maham is being supervised by Dr. Sarah Kiefer, a professor in the College of Education at USF.

Study Details: This study will be conducted on a video conferencing platform (Teams/ Zoom) by an investigator from the University of South Florida (Maham Khan). The purpose of this study is to learn more about teachers' and trainers' perceptions of self-regulatory processes of motivation and creativity among entrepreneurs. It is important to learn more about the experiences and perceptions of university instructors and corporate trainers regarding what works – and does not work – to support student entrepreneurs' motivation and creativity as they develop their business ideas. This may provide a deeper understanding of how course instructors and corporate trainers support students in higher education and novice entrepreneurs in the field to maintain motivation and cultivate their creative persistence. Information from this study will provide a foundation from which to inform entrepreneurship education and support students' success as entrepreneurs.

What Participation Requires: As a participant, you will be asked to engage in one semi-structured interview with the Principal Investigator to talk about your perceptions of entrepreneurship how it may help to support students' motivation and creativity as entrepreneurs. Participation would also include sharing select course/training materials (i.e., syllabus, instructional material, assessment material, deidentified learner/trainee-generated material). All forms of archival data collected will be de-identified and the information provided by you cannot be linked or used to identify a student. The interview will last no longer than 90 minutes.

Why you are being asked to participate: You are being asked to participate because you are a teacher at a higher education institution or a trainer at a business incubator and are teaching/training a course relevant to creativity and or motivation of entrepreneurs. I want to learn about your perceptions of how to support student motivation and creativity in entrepreneurship.

Voluntary Participation: Your participation is voluntary. You do not have to participate and may stop your participation at any time. There will be no penalties or loss of benefits or opportunities if you do not participate or decide to stop once you start. Your decision to participate or not to participate will not affect your job status or your relationships with USF or any other party.

Benefits, Compensation, and Risk: We do not know if you will receive any benefit from your participation. There is no cost to participate. You will not be compensated for your participation. This research is considered minimal risk. Minimal risk means that study risks are the same as the risks you face in daily life.

Confidentiality of Your Responses: The Principal Investigator will be present during the interview if you have any questions or concerns. Your interview will be recorded using video conference tools. You will be given a different name so no one will be able to trace the findings back to you. The Principal Investigator will destroy all data after three years. All audio/video recording will be erased and destroyed. All written data will be shredded. Your privacy and research records will be kept confidential to the extent of the law. Authorized research personnel, and the USF Institutional Review Board may inspect the records from this research project, but your individual responses will not be shared with your organization.

What We Will Do With Your Responses: I plan to use the information from this study to inform educators about how to support motivation and creativity among emergent and novice entrepreneurs. The results of this study may be published. The published results will not include your name or any other information that would in any way personally identify you.

Privacy and Confidentiality

If completing the study online, it is possible, although unlikely, that unauthorized individuals could gain access to your responses. Confidentiality will be maintained to the degree permitted by the technology used. No guarantees can be made regarding the interception of information sent via the Internet. However, your participation in this study involves risks similar to a person's everyday use of the Internet.

Contact Information

If you have any questions about this study, call Maham Khan, the Principal Investigator, at 813-389-7351. If you have questions about your rights, complaints, or issues as a person taking part in this study, call the USF IRB at (813) 974-5638 or contact the IRB by email at RSCH-IRB@usf.edu.

We may publish what we learn from this study. If we do, we will not let anyone know your name. We will not publish anything else that would let people know who you are. You can request a copy of this consent form for your records.

I freely give my consent to take part in this study. I understand that by proceeding with this interview, I am agreeing to take part in this research, and I am 21 years of age or older.

APPENDIX C: INTERVIEW PROTOCOL

Interviewee:	**Date & Time:**
Interviewer:	Interview Setting:

Instructions

Thank you for meeting with me today. My name is Maham, and I would like to talk to you about how you as an entrepreneurship education instructor in higher education institution/and trainers in business incubator/accelerator support student entrepreneurs' and novice entrepreneurs' self-regulatory processes of motivation and creativity. The interview is scheduled for 60 to 90 minutes, but the time can vary. I will take some notes and audio record the session to ensure I do not miss any details throughout the interview. Please speak clearly so that I don't miss your comments.

All responses will be kept confidential (private). Your interview responses will only be shared with research team members at USF. Your specific responses will not be shared with anyone (administrators, instructors, staff, students) at USF. I am recording this interview as a tool to capture all information. After what was said during this interview has been transcribed, you will <u>not</u> *be identified by name. You don't have to talk about anything you don't want to, and you may end the interview at any time. There are no right or wrong responses; I am interested in your thoughts and experiences. I am here to gather information only, not to tell you how to act or think, or provide advice, just to listen.*

Verbal Assent

This information you share during this meeting will be kept confidential and will only be shared with research team members at USF. If you give me the verbal consent to participate, I will turn on the recording device and start the interview. As a reminder, you are free to stop participating at any point. Do you have any questions before we get started?

Begin Recording

Once the form is signed, provide a copy to the participant. Let the participant know that the recording will begin.

Hello, thank you again for your time today. Before we begin, can you please confirm that you have received a signed a copy of the Informed Consent form and that you understand the study description?

Interview Questions

1. Let's start by talking about your experience at this institution/incubator.
    a. How long have you been an instructor/trainer at x/y?
        i. PROBE: Did you have any prior teaching/training experience? If so, could you briefly describe them and how they are different/similar to your current position?
    b. What is it like being an instructor/trainer at X/Y?
        i. PROBE: What do you like the best about your role in this program and what you like the least?
2. Let's talk about your students/trainees.
    a. How would you describe your students/trainees?
        i. PROBE: To what extent are they emerging or novice entrepreneurs?
    b. What is the average number of students/trainees in your course/training?
        i. PROBE: How would you describe the demographics of your students/ trainees?
        ii. PROBE: How many students/trainees work in entrepreneurship after graduation or completing the training program?
3. Let's talk about your course/training.
    a. What is the name of your course/training?
        i. PROBE: How would you describe your course/training?
        ii. PROBE: What are the key objectives of your course/training?
    b. How would you describe your syllabus?
        i. PROBE: How is student/novice entrepreneurs' progress evaluated?
        ii. PROBE: How much of the syllabus content is practically used in entrepreneurship? How much is based on business operation theories and how much of it targets personal development as an entrepreneur?
    c. How would you describe your teaching style/method?
        i. PROBE: Can you provide an example?
4. Let's talk about what it means for students/novice entrepreneurs to be successful in your course/training.
    a. What does it mean for students/novice entrepreneurs to be successful in your course/training?
        i. PROBE: Tell me about a time when you felt students/novice entrepreneurs were successful.
        ii. PROBE: When do you feel most satisfied with the progress of your students/novice entrepreneurs? Can you provide a specific example?
5. Let's talk about creativity in entrepreneurship.
    a. How would you describe the relationship between creativity and entrepreneurship?
        i. PROBE: How does your course/program promote entrepreneurial creativity?

        ii. PROBE: How could you improve your course to promote entrepreneurial creativity?
    b. How can students/novice entrepreneurs maintain creativity throughout the entrepreneurial process?
        i. PROBE: Give me an example.
    c. How do you support students/trainees in regulating their creative process expectations?
    d. How do you support students/trainees in adjusting their creative goals?
    e. How do you prepare students for the risk and its responsibility in entrepreneurship?
    f. How do you support students/trainees in identifying their creative goals?
    g. How do you address students'/trainees' fear of failure in entrepreneurship?
    h. Are there any other strategies that you teach your students/trainees?
    i. How do you support emotion management for persistence in the entrepreneurial process?
6. Let's talk about motivation in entrepreneurship.
    a. How would you describe the relationship between motivation and entrepreneurship?
        i. PROBE: How does your course/program support entrepreneurial motivation?
        ii. PROBE: How could you improve your course to promote entrepreneurial motivation?
    b. How can students/novice entrepreneurs maintain motivation throughout the entrepreneurial process?
        i. PROBE: Give me an example.
    c. How do you support students/trainees in identifying/setting their entrepreneurial goals?
    d. How do you support students/trainees in monitoring their progress in the course/program?
    e. How do you support students/trainees in evaluating their entrepreneurial performance?
    f. How do you facilitate self-reflection in your course/program?
7. Let's discuss what's working the best in your class/training.
    a. What do you think works the best for your students/novice entrepreneurs that helps to promote their creativity throughout the entrepreneurial process?
    b. What do you think works the best for your students/novice entrepreneurs that helps to promote their motivation throughout the entrepreneurial process?
    c. How do you think you can further improve these aspects?
8. Let's talk about supports that you receive from your institution (university or incubator)
    a. How would you describe supports that you receive from your institution?
    b. Can you explain how your institution supports students/novice entrepreneurs in terms of nurturing their creativity and motivation?
        i. PROBE: Would you like to change anything? If so, what? If not, why not?

Closing Script

- *Thank you for your responses. We have reached the end of the interview. Is there anything else you would like to share to help me better understand your experiences as teacher/trainer? Do you have anything more you want to bring up, or ask about, before we finish the interview?*
    - If yes, allow interviewee to share insights/thoughts.
    - Follow up/seek clarification as needed.
    - *Thank you for providing this additional information.*
- *Thank you for your time. May I contact you in the upcoming weeks if needed to clarify your responses?*
    - *I have made note of your response. I appreciate your time. Have a nice day!*
- Take a few minutes after each interview to reflect and take notes regarding what you learned, including interpersonal interactions, immediate impressions, etc.

APPENDIX D: REFLEXIVE JOURNALING OF AN INTERVIEW

Brain Dump Before the Interview

This is my first interview. The interviewee teaches a course that I enrolled in as well when I was pursuing my master's degree in entrepreneurship. The name of the course is Creativity and XXX. When I took the course, the course objective of the course was to trigger the creative thought process of the entrepreneurs and experiment with the designing of the product. The end term project was to design a house model that was built using the sustainable material. The entire course was one semester long and was worth three credit hours. It was an elective course taught at the Entrepreneurship department. I know the course is more oriented towards the design development of the product. This course was taught by a different professor when I took it.

However, my goal is to understand the creative processes involved in the creative thinking and self-regulation of the creativity. Interviewee is at a post where he plans the curriculum of the entrepreneurship. Thus, I am expecting to learn the overall process of teaching creativity and motivation to entrepreneurs in the institution.

As a student it was an interesting course, but I want to know the perspectives of the teachers. How this course helps students in their entrepreneurial venture in a long-term. I believe this course did not help me in any way to nurture my creative thinking abilities or motivation in the field of entrepreneurship. I think the course is a good course for novice entrepreneurs, experimenting with prototype designing.

Interview Data and Reflection

Motivation:

- Yeah that's why the environment is really important I think you know **you need constant encouragement** I think you know you need guidance as well that's why we are setting up a mentorship program for students you know because a lot of them they **need guidance** they don't know the left hand from their right hand and if you're in the creative process you enter into so many dead ends and it can be very discouraging you know but if you have a vision you need to have people around you within the entrepreneurship team that you've or the creative team that you developed but also from the instructor I think uh from the people in the incubator you know and like currently don't see that happening in the still innovation incubator there's not enough interaction and also our support from peers you know and incubator for example is very important you know because they provide encouragement and is if you have a peer that has been very successful, it motivates you I think. you know if he or she can do it I can do it as well you know a role model and and successful role models are extremely important I think you know in the class as well so a little bit of **competitive peer pressure** also I see that in my classes.

Reflection: Encouragement is used by the instructors to motivate students. Encouragement includes an encouraging environment. The role of mentorship was explained by the instructor as a way to provide guidance, however, this mentorship is not a part of the course taught by the instructor, it is something that the institution is starting within the entrepreneurship program. Encouragement from peers and their impact of successful entrepreneurs as role models was discussed as a source of encouragement that may support entrepreneurs' motivation.

Motivation Activity

- I make them **compete** against each other and they can learn from each other, you know the kind of strategies and techniques that work. They can copy from each other, and they can learn from each other you know so I think **role models encouragement**, facilitating **role of the instructor** also you know to pursue their vision for whatever they want to create you know it's very important I think so the environment, both immediate environment and the environment the team members are a part of. Also the **instructor mentors** are very important you know to provide **guidance**. We do a lot of pitch **competitions**, and we provide guidance on how to pitch you know how to structure your pitch because a lot of students that don't have the self-confidence.

Reflection: This was the answer to my question regarding how the instructor participant supports motivation within the emergent entrepreneurs through the course. Two themes that emerged were; (1) Competition, through class activities and pitch competitions. (2) The role of instructors as a facilitator who provides them with feedback, constantly along the way. Thus this response shows how the role of the instructor as a facilitator is essential to assist entrepreneurs in achieving their goals. However, the role of competition is equally important as it helps in learning from peers and over coming your own fears when pitching your idea.

Creativity:

- I suggest **don't focus only on the constraints** because that will harm your creativity or if you only focus on constraints, you know it's the **negative aspect** you know. You need to yeah **believe** in it you know **think positively** that's another very important point, I think.

- First of all you know you need to **create the conditions** for people to be creative you know you need to provide the right **incentives** you know which often doesn't you know occur in organizations you know you need to you know incentivize people to experiment You know to try out new things you know and you need to **reward** that actually and not punish things that go wrong
- it's important to know that and then you don't spend a lot of energy and on these **dead ends** you know so you move on you try different combinations that might end up in a really good way.
- So throughout the creative process or the innovation process you constantly need **feedback** from the people for which you're developing solution right whether that solves the problem or satisfies the need and that's how you **manage risk** you know and you need to talk to and get feedback from enough people from your market segment your target segment right and that's how you can actually minimize the risk if you get you know great feedback you incorporate that in into the next iteration of your creative artifact you know our process that's how you can can manage risk, **validation** is so important and validation needs to happen at each stage of the innovation process you know from idea to business concept to prototype and then how this helps you converge to an eventual product that that they actually like and are willing to pay for you know that's how you manage your risk you know you need to involve you know customers or the people for which you you're designing something you know that and a lot of companies don't do that and that's why the failures of new products and yourselves so failure rates are so high you know because they don't involve the customer you know they come up with something in their R&D lab and they throw it out in the market and then they're

surprised that it's not resonating you know or not doing as well as they expected because you know there's a lot of flaws and a lot of features in that product or service that that don't resonate with the target market.

Reflection: The topics discussed in this response were relevant to the perceptions of the instructor participant to support the creativity within entrepreneurs. Steps of creative product development included validation of the product through testing it among the target audience. Changing the product design to suit the needs of the target audience was advised, as feedback of the consumers eliminates the risk of failure of the product. Creating conditions that allow creative thinking was encouraged and content on self-efficacy was also noticed in this response. Changing paths when you reach dead end in the creative process also emerged as an important factor in creativity, although how its supported through the course was not explicitly discussed. Just the overall process of creativity was discussed.

Best Content:

- I think that's very important to bring the **community** into the classroom who can speak from their experience.
- I give them a lot of **freedom,** which is important. They need to first identify a **product category broadly** and then come up with some concepts and then **validate** that in the market. They need to have some kind of target market in mind for this particular concept and then they need to validate that, you need to actually go out into the real world and make them do that as well so it takes them out of their comfort zone which is very important because you cannot learn anything by staying in your in your room while thinking aloud.

- You need to **test** it out in the real world and not with your friends but with actually the people that you're targeting for this particular business concept. You need to not only talk to two people, but I want them to talk to at least 20 people. I think talking to complete strangers on the street and get some **feedback** on a business concept is something they do in my course and its something they don't do in another course.

Reflection: The response was an answer to what are the best things in your course that support entrepreneurs' motivation to pursue an entrepreneurial career after graduating. The importance of bringing community and practitioners is used by the participant to motivate the students. The importance of freedom/autonomy to choose class projects was also mentioned. Through this response the process of creative designing and innovation was also discussed that included, identification of the product category, and how and what problem will be solved through the creative process/service. Next steps included testing and validation by using the feedback.

Failure:

- It's so important and that's where the **environment** comes in as well, an environment of **incentives** and you don't punish failures. You cannot punish failures, otherwise you squelch creative potential and that's the last thing you want to do. In some companies, failures are being celebrated actually, these are really innovative companies and because they can learn from failures, they point to you, things and avenues that are not truthful - which is a good thing to know I mean because then you move away from these areas.

Reflection: This response reflects the participant perceptions of supporting fear of failure. The participant highlighted that an incentive and rewarding environment encourages creativity without the fear of failure.

Objectives

- I teach about **creativity techniques** that help in coming up with novel and useful products - just basically the definition of creativity righ,t and creating a whole stream of ideas that are both new that deviate from what's already out there and that also useful and then I talk about the creative process.
- I introduced into the course on how to create new products and new services, which is widely used now by a lot of companies – start with the with **studying the people** that you want to solve a problem for, create or satisfy particular need that they have, and you create something that is superior to what is already out there in the market, so that's a very widely used **problem solving process.**

Reflection: The response is about the objectives of the creativity course. It highlights the objective revolves around problem solving by identifying the needs of the people using creative techniques. The idea generation process and how it will help to solve problems is explored in the course. The next part of the interview was described by the participants how the problem is identified using creative techniques and used to make a prototype of the product/solution.

Reaction after the interview

I feel good about the data I collected in this interview. Although, during the interview I was questioning myself, if my interview guide is good enough? Is it helping me extract and

investigate what I want to research? I was feeling this because the responses I was getting were very much context dependent, whereas as a first-time researcher, I was expecting responses with the same key words/themes that I was searching for. It was later when I started transcribing the data, I interpreted it and understood its richness.

Although the format of the course was the same like it was when I enrolled in it as a master's student. However, I was able to understand the objectives of class deliverables and actives through the instructor's perspective and how each activity is relevant to creativity and innovation development.

I learnt through this interview to not to jump to conclusions, interpret the data and make connections of the findings with the theoretical framework. Even a little bit of information found during the data collection may change the overall findings. I also learnt that changing/altering interview guide according to the context/profile of each participant may help data collection. I am planning to experiment with it in my next interview.

The key themes that I found are given below:

1. **Role of Instructors as facilitators**
2. **Mentorship and its significance for achieving long-term entrepreneurial goals.**
3. **Importance of community as role models**
4. **Role models and their positive impact on motivation of entrepreneurs**
5. **Finding a problem is equally essential as finding its creative solution.**
6. **Validation through feedback helps manage risks.**
7. **Encouragement supports motivation and creativity.**

8. **All the components found in this interview were related to the nurturing of motivation and creativity. However, the self- regulatory aspects of motivation and creativity were not found in the data.**
9. **Feedback is important and is needed constantly.**
10. **Competition encourages growth.**
11. **The environment helps in supporting creativity and/or motivation.**
12. **Freedom/autonomy and incentives are key components**

APPENDIX E: CITI CERTIFICATE

CITI PROGRAM

Completion Date 19-Jun-2023
Expiration Date 19-Jun-2026
Record ID 56548186

This is to certify that:

Maham Khan

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

Human Research
(Curriculum Group)
Social / Behavioral Investigators and Key Personnel
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

University of South Florida

CITI
Collaborative Institutional Training Initiative
101 NE 3rd Avenue, Suite 320
Fort Lauderdale, FL 33301 US
www.citiprogram.org

Verify at www.citiprogram.org/verify/?w06862edc-1d93-444e-a745-3694d9724cfc-56548186

APPENDIX F: IRB APPROVAL

UNIVERSITY of SOUTH FLORIDA

EXEMPT DETERMINATION

August 28, 2023

Maham Khan
[redacted]
Tampa, FL 33612

Dear Maham Khan:

On 8/27/2023, the IRB reviewed and approved the following protocol:

Application Type:	Initial Study
IRB ID:	STUDY006043
Review Type:	Exempt 2
Title:	Investigating Self-Regulation for Motivation and Creativity in Entrepreneurship: A Qualitative Program Evaluation
Funding:	None
Protocol:	• IRB-PROTOCOL_2.docx;

The IRB determined that this protocol meets the criteria for exemption from IRB review.

In conducting this protocol, you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Please note, as per USF policy, once the exempt determination is made, the application is closed in BullsIRB. This does not limit your ability to conduct the research. Any proposed or anticipated change to the study design that was previously declared exempt from IRB oversight must be submitted to the IRB as a new study prior to initiation of the change. However, administrative changes, including changes in research personnel, do not warrant a modification or new application.

Ongoing IRB review and approval by this organization is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities impact the exempt determination, please submit a new request to the IRB for a determination.