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Understanding How Entrepreneurship Education Influences Students' Entrepreneurial Learning Outcomes, Studying the Case of the Entrepreneurship Education Minor at the University of Oulu, Finland

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Entrepreneurship education and students' entrepreneurial learning outcomes are at the core of this thesis. This research aims to understand how a global phenomenon such as entrepreneurship education influences students' entrepreneurial learning outcomes, studying the case of the entrepreneurship education minor at the University of Oulu. The theoretical background is built around entrepreneurship education and entrepreneurial learning outcomes, to provide the reader with an overview of the two concepts. The theoretical framework expands on the concept of entrepreneurial learning outcomes, with the help of two theories: the Tripartite Competence Framework and the European Competence Framework (EntreComp Model). The methodology used in this research is a single intrinsic explanatory case study. Case study research was used with the goal to understand, explain, and then assess the impact of the entrepreneurship education program on students' entrepreneurial learning outcomes. The empirical part of the research focuses on four sources of data: interviews with seven students, interviews with two professors, internal documents and students' course feedback.

All four data sources were analyzed using content analysis, by coding the data and generating subcategories and categories. The findings of the data analysis showcased that by taking the entrepreneurship education minor at the University of Oulu, students have gained different entrepreneurial learning outcomes, such as entrepreneurship knowledge, skills, mindset and attitude. The research findings prove to be important in the following aspects. First, even though this study is bounded given the specific context, it demonstrates the importance of entrepreneurship in the education field and encourages higher education institutions in Finland to integrate entrepreneurship education courses in their interdisciplinary curricula. Second, entrepreneurship education programs can influence students' intentions towards becoming future entrepreneurs. Lastly, it emphasizes the importance of entrepreneurial learning outcomes as transferable skills that are not limited to the field of entrepreneurship, but can be useful in other contexts as well.

Keywords: entrepreneurship education, entrepreneurial learning outcomes, case study research, minor, University of Oulu

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1 Introduction

Entrepreneurship, a never-ending topic of interest and discussion around the world, has emerged with the turn of the millennium as arguably the most potent economic force the world has ever experienced (Kuratko, 2005). Entrepreneurship, also called a 21st-century survival skill, is broadly defined as the individual's ability to translate ideas into action (Wagner, 2010; Obschonka, Hakkarainen, Lonka, & Salmela-Aro, 2017; Bacigalupo, Kamylyis, Punie & Van den Brande, 2016). More specifically, the authors agree that it requires an application of energy and passion towards the creation and implementation of new ideas and creative solutions. It is seen as an attitude, way of thinking, and capability to manage oneself to create and implement new ideas and creative solutions.

Many scholars and policymakers acknowledge the importance of the relationship between entrepreneurial activity and economic development, leading to governments pressuring and supporting entrepreneurial activity as they benefit from this development in various forms (Obschonka et al., 2017). For example, economic analyses show that most new jobs are not created by large and well-established companies but by entrepreneurial startup companies (Birch, 1987; Kane, 2010, as cited in Obschonka et al., 2017). Due to these demands and developments, universities are looking for solutions on how to increase entrepreneurial activity (Etzkowitz, Webster, Gebhardt, & Terra, 2000). One solution is to provide entrepreneurship education to university students, which has seen an increase in many countries (Kuratko, 2005; Fayolle, Gailly & Lassas-Clerc, 2006; Volkmann, & Bischoff, 2015).

Entrepreneurship education is a broad concept with different meanings and definitions, which will be examined thoroughly in Chapter 2. One of the many definitions comes from Koiranen and Peltonen (1995), which state that entrepreneurship education teaches individuals knowledge, skills, and attitude that benefit them in the working life whether they work for themselves or others. The authors added that entrepreneurship education is a relatively new concept gaining continuous interest both from the governments and academics, but the studies are still rather scattered. Kryö (2006) outlines that the number of institutions offering entrepreneurship courses has risen in many western countries. For instance, in North America, entrepreneurship has been part of the curricula in higher education institutions for over fifty years. The first graduate course in entrepreneurship was offered at Harvard University in

1948. Today, entrepreneurship education courses are offered at most universities across the United States and Canada (Kyrö, 2006).

In Europe, entrepreneurship education only substantially began to enter the universities' curriculum in the 1980s and 1990s and took place in courses included in the curriculum and extracurricular activities (Kyrö, 2006). The pioneers were often individual academics inspired by a more comprehensive entrepreneurship education in the USA, and who saw a need for this type of education in their region (Wilson, 2008). However, since the 1990s entrepreneurship education courses have increased in popularity and according to a recent article (Liliana, 2020), entrepreneurship education programs in Europe can be found in some of the most renowned universities, such as the University of Cambridge, HEC Paris Business School, University of Amsterdam, IE Business School in Spain, and ESMT Berlin.

Möttönen and Tunkkari-Eskelinen (2019, as cited in Alanne, 2020) stated that entrepreneurship education courses were also integrated into universities across Finland, such as the University of Jyväskylä (1996) and Turku (1990). Integrating entrepreneurship education in different study programs was also part of the strategy for the years 2016-2020 at the University of Oulu. Located in Finland, the University of Oulu is an international science university founded in 1958, with 8 faculties and 13500 students (University of Oulu, n.d.). It is described as one of the biggest and the most multidisciplinary universities in Finland, with courses taught mainly in Finnish and some in the English language. The legacy of entrepreneurship education at the University of Oulu is fairly new with the first entrepreneurship education program implemented in 2017.

Entrepreneurship education minor is a study program offered by the Oulu Business School (a faculty of the University of Oulu) that consists of six elective courses that students from all study fields can take either separately or within a full minor by finishing five of the six courses, and a total of 25 study credits (Entrepreneurship minor, n.d.). The study program has been available as a fixed study module for all students at the university at Oulu Business School, since 2017. All six courses are in English (despite being offered in a mainly Finnish-speaking university) and are described to offer a combination of different teaching methods: face-to-face teaching, online learning, workshops, group work, and coaching. The planned duration of the minor is for one academic year, while no timeline is prescribed for courses taken individually. The website of the minor describes the main learning goal for students to form their

own entrepreneurial experience, by understanding entrepreneurship as a broad phenomenon, applying entrepreneurial knowledge and skills in practice, and acting responsibly and ethically in their roles as entrepreneurs (Entrepreneurship minor, n.d.).

Coming from an academic background in business, combined with working experience and a passion for the education field, I became more interested in understanding the ramifications of entrepreneurship in the field of education. While in the first year of my master's program, I had the opportunity to learn more about different entrepreneurial activities that were happening at the University of Oulu, among which also the entrepreneurship education program. As a researcher, after reading and getting a holistic understanding of the program, I came to the conclusion that the entrepreneurship education program at the University of Oulu could provide fertile grounds to conduct a case study. Doing a case study on the program would allow me to illustrate in-depth and provide further understanding of a broader phenomenon - entrepreneurship education - which is gaining global traction. While conducting a case study about this global phenomenon is informing my research interest, it is crucial to pick a case that is uniquely interesting.

Choosing this particular program as a case study for my master thesis was influenced by the following reasons. First, the program is open to students from all the faculties, helping non-business students develop a sustainable entrepreneurial mindset and providing multidisciplinary collaborative learning practices for all the participants. Second, considering its recent implementation (2017), it is a new program that needs to be further developed, in order to provide innovative courses, which provides space for my findings to be included and implemented practically. Third, taking into consideration that entrepreneurial activity has been playing an important role in Finland's economy (European Commission, 2018), and it is the only program offered by the University of Oulu in entrepreneurship education, the program has the potential to play an important role in the local and national economy. Lastly, because I believe the UN's SDGs are important in providing quality education, I am interested in meeting specific SDG goals. This entrepreneurship education study aligns with SGD 4.4 Relevant skills for decent work. SDG 4.4 states that by 2030, the goal is to substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs, and entrepreneurship (UNESCO, n.d.). Indeed, this goal includes high-level cognitive and non-cognitive/transferable skills, such as problem-solving,

critical thinking, creativity, teamwork, communication skills, and conflict resolution, which can be acquired and further developed by studying entrepreneurship education.

Taking into consideration that the Entrepreneurship Education program at the University of Oulu is relatively new, one way to assess the alignment of the outcomes with what is taught, and develop it further is by looking at students' entrepreneurial learning outcomes. According to Rae (2000), entrepreneurial learning outcomes are usually expressed in the form of knowledge, skills, or attitudes. More specifically, students can gain self-confidence and self-efficacy, personal values and motivation, goal setting and success achievement, skills and knowledge, learning through social relationships, and the ability to learn by doing. In this way, students taking an entrepreneurship education minor should not only gain entrepreneurial knowledge, skills, or attitudes, but also an extensive set of skills, knowledge, and change in attitude that can be beneficial in any field.

According to Azizi and Mahmoudi (2019), the identification of entrepreneurial learning outcomes can improve the learning process, find suitable teaching methods, structure the curriculum, and equip students with the necessary skills and knowledge for their future career, regardless of the field they choose to work in. Thus, analyzing students' entrepreneurial learning outcomes proves to be important for this research, because it will shed light on the alignment of entrepreneurship education programs, more specifically the program at the University of Oulu, provide an opportunity for further development of the programs, and contribute to the limited research regarding the influence of entrepreneurship education programs on students' entrepreneurial learning outcomes.

In order to assess the minor's influence on the students' entrepreneurial learning outcomes the main research question of this study is the following:

How does entrepreneurship education influence the students' entrepreneurial learning outcomes, studying the case of the minor at the University of Oulu?

This research will add to the existing knowledge about entrepreneurship education and can prove to be important in the following two aspects. First, even though this study is bounded within a specific context, it will demonstrate the importance of entrepreneurship in the education field and challenge common misconceptions about the meaning of entrepreneurship. Sec-

ond, this case study will also emphasize the widespread importance of entrepreneurial learning outcomes, which are not limited to the field of entrepreneurship but also useful in any field and personal life, contributing to the limited research about entrepreneurial learning outcomes. Hence, also encouraging higher education institutions in Finland and around the world, to integrate entrepreneurship education courses in their interdisciplinary curricula.

Personal interest and motivation for conducting this research come from my academic and working experience in the business and education field. Working in a tech startup and then shifting my career path to working as a teacher has helped me connect the dots between the field of entrepreneurship and education. To this, I can also add my experience as an Education and Globalization master student that has helped me grow as a researcher and look through a critical lens at different education systems, and also at entrepreneurship as a neoliberal ideology. This resulted in my desire as a researcher to further explore and understand the connection between entrepreneurship and education. It also resulted in my desire to explain that entrepreneurship is more than a neoliberal ideology with the sole purpose of producing money, but it can have valuable learning outcomes that help students succeed in their personal and professional life, regardless of the field they choose to study or work in. To achieve a comprehensive understanding of the foundation of entrepreneurship education and the context within which it operates, the concept of entrepreneurship education and related concepts will be examined thoroughly in the next chapter.

2 Entrepreneurship education and entrepreneurial learning outcomes

In this chapter, I will first introduce different definitions of entrepreneurship and entrepreneurship education, then I will expand on the development of the entrepreneurship education field, followed by the concept of entrepreneurial learning outcomes. Second, I will focus on entrepreneurship education in Finland, followed by entrepreneurship education minor at the University of Oulu, and finalize with criticism of entrepreneurship education.

2.1 Understanding entrepreneurship education

The notion of entrepreneurship will be briefly introduced to get a holistic understanding of entrepreneurship education. There are many different interpretations of what entrepreneurship is in practice. Robinson and Shumar (2014) stated that a widespread and general definition about entrepreneurship is about starting a business, which is often the whole focus of academics in the US. Another definition comes from Robinson and Blenker (2014) who mentioned that entrepreneurship is generally coding for motivating economic growth through neoliberal economic policies, in the sense that entrepreneurs starting a business could be compatible with the policy makers' focus on the neoliberal free market, but could also be seen as a way of escaping the larger corporate world. What can be noticed in these two definitions, is that entrepreneurship is defined as starting a business mainly to create economic value.

A third definition comes from the European Commission (2009:10) that defines entrepreneurship as an individual's ability to turn ideas into action and gain a set of skills that are transferable to other contexts. Olesen, Christensen, and O'Neill (2020) add that entrepreneurship helps students develop skills for both education and employment, either general skills required for various jobs or skills required for specific jobs, also known as transferable skills. These two definitions go in line with the focus of academics in Scandinavia, where entrepreneurship is often defined as creating value outside of the economic context, for example, the social, bio-medical, cultural, and environmental sectors (Robinson & Shumar, 2014).

Hietaniemi (2002, as cited in Alanne, 2020) also mentioned that entrepreneurship can be divided into two dimensions: business dimension and individual dimension. The author clarifies that the business dimension is about understanding the different aspects of business develop-

ment and activity. Whereas the individual dimension discusses an individual's entrepreneurial characteristics, which contain skills, attitude, mindset, and how an individual decides to become an entrepreneur. In this research, entrepreneurship is seen as more than the business dimension, thus as an individual's ability to create value outside of the economic area, in his/her personal and professional life. This orientation also aligns more with the Scandinavian academic understanding of entrepreneurship.

The concept of entrepreneurship education has been introduced into higher education throughout the western world over the last two decades and it has gradually become an established discipline in universities and incorporated across different fields (Robinson & Shumar, 2014; Ghina, 2014, Fayolle et al., 2006). In the academic world of entrepreneurship education, there are different views of what this concept represents or what are the main objectives. According to Jones and English (2004), entrepreneurship education means providing individuals with the knowledge, mindset, and ability to recognize commercial opportunities and the skills to act upon them. Verheul, Wennekers, Audretsch, and Thurik (2001) believe that entrepreneurship education may be defined as the promotion of entrepreneurship and stimulating skills and knowledge. Bacigalupo et al. (2016) stated that entrepreneurship education has the mandate to equip the youth with functional knowledge and skills to build up their character, attitude, and vision. Lastly, Fayolle et al. (2006, p. 704) affirmed that entrepreneurship education programs in higher education are “any pedagogical programs or process of education for entrepreneurial attitudes and skills, which involve developing certain personal qualities”. All these definitions share the word ‘skills’, followed by the word ‘knowledge’ found in three definitions, and the word ‘attitude’ found in Fayolle et al. (2006) definition, showing how multifaceted the concept of entrepreneurship education is.

Sansone, Battaglia, Landoni, and Paolucci (2019) mentioned that there are three approaches towards entrepreneurship education. The most popular approach is regular entrepreneurship, which entails the business life cycle (launch, growth, shake-out, maturity, and decline). A second approach is to promote innovation or introduce new products or services in existing companies. The last approach is a way of developing skills, such as risk-taking and problem-solving, and knowledge that facilitate the achievement of life goals and in education. In this last approach, the words: skills and knowledge can be noticed again.

Lastly, when looking at entrepreneurship education's main objectives, there also seems to be a contradiction within academic circles in North America and Europe (Kyrö, 2005). On one hand, Hägg and Peltonen (2014, p. 29) mentioned that in the United States, the objective of entrepreneurship education is about teaching “specific steps in the business creation process”. Such an example is the Entrepreneurship Development Program from the Massachusetts Institute of Technology whose main objective is to design and launch successful new businesses, by developing a business plan and understanding the entire business creation process (Entrepreneurship development program, n.d.). The program’s main objective goes in line with Sansone et al.’s (2019) regular entrepreneurship approach, which focuses on the business life cycle.

On the other hand, Hägg and Peltonen (2014) mentioned that in Europe the main objective is to develop an entrepreneurial personality. Gibb (1993) indicated that an entrepreneurial personality sees opportunities and exploits them by creating value for themselves and others, sustainably. The author adds that an entrepreneurial personality might be described as being self-confident, autonomous, creative, versatile, dynamic, and resourceful. It can be noticed that in Europe entrepreneurship education's main objectives go in line with Sansone et al.’s (2019) third approach, a way of developing skills and knowledge. Hence, this research will focus on the last approach, entrepreneurship education as a way of developing skills and knowledge, which also goes in line with how the concept of entrepreneurship is seen in this research.

2.2 Evolution of entrepreneurship education

Research in the field of entrepreneurship education is considered relatively new, with different emerging themes. Katz (2003, as cited in Aparicio, Iturralde, & Maseda, 2019) stated that one of those emerging themes was entrepreneurship education in higher education. This theme began to take roots in the early 1970s and gained popularity in academia after 2007, with universities running courses in entrepreneurship education. Initially, the courses were situated in business faculties, thus it is not surprising that currently most of the entrepreneurship-related programs are located in colleges or business schools. Various entrepreneurship programs developed at the business schools focused on the understanding of different theories that explain entrepreneurial behaviors and the impact on real-life businesses (Fayolle et al., 2006). However, the importance of introducing entrepreneurship education in other non-

business programs has been increasingly acknowledged as a way of equipping students with entrepreneurial skills that are transferable to other contexts, strengthening their employability, and fostering the development of an educational institution as a whole (Kuratko, 2005; Fayolle et al., 2006). Therefore, entrepreneurship education programs were introduced into science, technology, and then gradually spreading to arts, education, sociology, and humanities (Robinson & Shumar, 2014; Robinson & Blenker, 2014).

Since the early 2000s, the growth and development in the curricula and programs devoted to entrepreneurship education have been remarkable. The popularity of entrepreneurship education is increasing, and institutions are eager to join this field. However, according to Kuratko (2005), one of the biggest threats arising from its popularity is the “Dilution Effect”. As entrepreneurship has become more established in universities, different institutions might have misused the concept of entrepreneurship education without really addressing or investigating what it means, therefore ‘diluting’ its original meaning and affecting the quality of the field. Thus, people should remain vigilant and see entrepreneurship education through a critical lens, to make sure it is not simply used as a device to gain attention. In addition, higher education institutions should also be responsible in assuring that the programs are entrepreneurial and relate to the entrepreneurship process rather than a mere catchy title.

2.3 Entrepreneurial learning outcomes

Despite numerous papers published in entrepreneurship education, there are still significant knowledge gaps in what the distinctive elements of entrepreneurial learning outcomes are. While the understanding of *learning outcomes* is more commonly agreed upon, meaning clear statements of what the students are expected to learn and show at the end of the curriculum, such as knowledge, skills, abilities, values, and attitudes (Azizi & Mahmoudi, 2019), definitions are less clear when it comes to *entrepreneurial learning outcomes*. Bacigalupo et al. (2016) stated that in Europe, a third of the countries use their own national definition of entrepreneurship education and almost 10 countries have no commonly agreed definition at a national level. Furthermore, the authors added that the lack of comprehensive learning outcomes for entrepreneurship education is identified as one of the main hindrances to the development of entrepreneurial learning in Europe.

Literature regarding entrepreneurial learning outcomes points to different interpretations of what the entrepreneurial learning outcomes might be. Azizi and Mahmoudi (2019) mention that entrepreneurial learning outcomes should be centered around entrepreneurial behavior, attitude, knowledge, and skill development. Gibb (2005) defines entrepreneurial learning outcomes as opportunity identification, problem-solving, and self-confidence. Garavan and O Cinneide (1994, as cited in Azizi & Mahmoudi, 2019) suggest that the entrepreneurship education programs should include the learning outcomes related to the knowledge, attitude, and skills about risk planning and uncertainty. Thus, it can be noticed that one commonality among all authors is that entrepreneurial learning outcomes are about skills development and attitude. On the other side, they also had different opinions about entrepreneurial learning outcomes being about entrepreneurial behavior, knowledge, opportunity identification, and self-confidence. Another interpretation comes from Eggers (1995, as cited in Azizi & Mahmoudi, 2019), which focuses more on specific business skills, including creating a business plan, financial management, marketing, and motivating others. What can be noticed is that Egger's definition adds to the different opinions of what entrepreneurial learning outcomes are and goes in line with Sansone et. al (2019) approach to 'regular' entrepreneurship.

Lastly, Kozlinska, Mets, and Rõigas (2020) mentioned three types of entrepreneurial learning outcomes - cognitive, skill-based, and affective based on the Tripartite Competence Framework(Fisher et al., 2008) as well as the European Competence Framework (Bacigalupo et al. 2016). In this research, the Tripartite Competence Framework and the European Competence Framework definitions and classifications for entrepreneurial learning outcomes will be used as a reference point. More literature about these two frameworks and entrepreneurial learning outcomes will be expanded in Chapter 3. Theoretical framework.

2.4 Entrepreneurship education in Finland

Entrepreneurship education has become one of the programs promoted by EU governments, especially the Ministers of Education that aim to build and develop creative and innovative people and create entrepreneurs (Ghina, 2014). This can be seen in the EU's 'Europe 2020 strategy,' which states that one of the key policy issues for member states and higher education institutions is to 'Stimulate the development of entrepreneurial, creative and innovation skills in all disciplines' (European Commission 2011, 8). Thus, national strategies for entrepreneurship education were launched, with clear objectives covering all stages of education.

This was also Finland's case where entrepreneurship education became part of higher education policy (European Commission, 2018).

O'Brien (2019) stated that after Nokia's acquisition by Microsoft in 2013, Finland's economy was affected, and rather than crumbling, Finland has staged a remarkable reinvention. The author added that more than five years after the worst of Nokia layoffs, tech employment was higher than ever thanks in large measure to a growing number of startups that have taken root in Finland. This can be interpreted as entrepreneurial activity playing an important role in the country's economy. Kyyrönen (2019) added that resilience was the result of an aggressive response that brought together local government officials, universities, and entrepreneurs, to lay out a recovery plan and use the pool of talent with specialized knowledge. This had led to an increase in entrepreneurial activity and entrepreneurship education in Finland (Kyyrönen, 2019).

Finland has been one of the forerunners in developing entrepreneurship education on the national level. In 1996, eighteen Finnish universities out of 21 offered various entrepreneurship courses as part of a major in management, engineering and as a minor or separate course also in other fields (Kyrö, 2006). In 2009, the Ministry of Education in Finland (2009) defined the concept as: "Entrepreneurship education is part of lifelong learning; in it, entrepreneurial skills are developed and supplemented at different points in life. It is a question of life management, interaction, self-guided action, a capacity for innovation, and an ability to encounter change." Since then, the Ministry of Education in Finland has been encouraging universities across the country to implement entrepreneurship education courses. Besides a lifelong learning process, entrepreneurship education in Finland is also seen as a theme that connects different educational levels, different organizations, and different methods (Alanne, 2020). The author added that entrepreneurship education aims to develop both competencies in running a company and being an active member of any organization and society.

To sum up, in Finland entrepreneurship education is seen as a lifelong learning process that helps individuals become active members of any organization and society, by developing different competencies. Moreover, entrepreneurship education has been contributing to the country's economy and at a national level, the Ministry of Education has been encouraging universities to integrate entrepreneurship education courses.

2.5 Entrepreneurship education program at the University of Oulu

Entrepreneurship education is a broad and multi-faceted concept, which can be approached from different teaching angles. Fiet (2001) says that one reason for the different approaches is based on the fact that there is not a commonly accepted theoretic framework for teaching entrepreneurship. Similarly, Bechard and Gregoire (2005) report that entrepreneurship education is taught with different contents and different pedagogical solutions. Such an example comes from Allan Gibb's (2005) three forms of learning entrepreneurship education, which were described in detail by Pittaway and Edwards (2012). The forms are learning *about* entrepreneurship, learning *for* entrepreneurship, and learning *through* entrepreneurship

Pittaway and Edwards (2012) explained that learning *about* entrepreneurship is raising awareness or sharing about entrepreneurship and what it is. This type of learning uses traditional pedagogic forms of educational practice such as lectures and seminars. The two authors continue with the second type which is learning *for* entrepreneurship. This type is about engaging students in tasks, activities, and projects that enable them to acquire key skills and competencies. This type uses more experiential approaches that are based on learning by doing and reflection, which helps students to construct the knowledge in the process of doing (Alanne, 2020). Pittaway and Edwards (2012) mentioned that learning *through* entrepreneurship overlaps with learning *for* entrepreneurship, but the difference is that the latter allows students to run 'real' companies or engage in consultancy within an entrepreneurial context, during the courses. Taking into consideration Gibb's three forms of learning entrepreneurship education and Pittaway and Edwards's explanation, the description of the six courses of the entrepreneurship education minor at the University of Oulu will now be examined by using the minor's website as a reference, to offer grounded and context-specific information about the minor in focus for this research.

Introduction to Business Development (1) focuses on the basic concepts of small and medium-sized-enterprise business management and development such as testing a new business idea, conducting market research, spotting opportunities, and understanding risk (Entrepreneurship minor, n.d.). The course includes real-life case studies of established and emerging businesses by company visits. Teaching is usually done face-to-face through lectures, guest lectures, company visits, and variable action-based learning methods. As the focus is on sharing knowledge and raising awareness about entrepreneurship, it can be said that the learning *about* entrepreneurship approach is used in this course.

Entrepreneurship for Sustainability (2) helps students create and evaluate alternative solutions to the identified opportunities, problems, and challenges of responsible business as promoters of social change (Entrepreneurship minor, n.d.). Moreover, the course outlines interdisciplinary skills and knowledge that foster the creation of a sustainable entrepreneurial mindset. The course incorporates real-life case examples and meetings with sustainable entrepreneurship practitioners and experts. Learning takes place mostly in groups through intensive lectures and workshops, visitor presentations, and discussions, both in class and via online learning platforms. What can be noticed is that by engaging students in different tasks and developing their interdisciplinary skills, the learning *for* entrepreneurship approach is used in this course.

Building Change Through Entrepreneurship (3) focuses on introducing the concepts of entrepreneurship, business planning, effective business model, ethical and social foundation, financial viability, acquiring financing, marketing issues, building a team, self-awareness, and self-efficacy while working in teams, and strategies for business growth (Entrepreneurship minor, n.d.). The course includes workshops and coaching on creating a new business, by analyzing real-life situations, designing solutions, and practicing new business creation skills. Teaching is done face-to-face through workshops and group work. By allowing students to practice entrepreneurship in real life and create a new business, the learning *through* entrepreneurship approach is used in this course.

In Exercising Entrepreneurship course (4), students work alone and in small groups to learn both general approaches and specific means of entrepreneurship, such as business analysis, planning and business model evaluation processes, market and customer management, branding, risk management, basic financial knowledge (Entrepreneurship minor, n.d.). Students also get to put into practice what they learned by developing a business idea and plan. The course is delivered as a facilitated electronic course. What can be noticed is that the learning *through* entrepreneurship approach is used in this course.

Entrepreneurial Assignment (5) is another course that students can take as part of their entrepreneurship education minor. In this course, students have the flexibility to participate in different entrepreneurship activities from the University of Oulu (e.g. Tellus Innovation Arena boot camps, events, or volunteering program), or from other stakeholders (e.g. faculties, public organizations, or third sector organizations). Moreover, through this course, students gain insight into the diversity of entrepreneurship, get to define their vision, set up goals, and pro-

mote their ideas (Entrepreneurship minor, n.d.). By allowing students to engage in real-life entrepreneurial projects and at the same time develop different skills, the learning *through* entrepreneurship approach is used in this course.

During *Building Business Through Creativity and Collaboration* (6) students explore entrepreneurship from the perspective of an artistic process and learn the process of designing improbable solutions that can shift paradigms (Entrepreneurship minor, n.d.). The participants will be solving real-life company cases in groups consisting of participants from in and outside the university, representing different generations and cultural backgrounds. The course follows a flipped classroom model and consists of videos, a reading package, joint meetings, group meetings, and exercises. This course uses the learning *for* entrepreneurship approach as it engages students in reflective activities and enables them to acquire different key skills and competencies, such as creativity, design thinking, setting priorities, self-confidence, self-esteem, leadership, and teamwork.

Looking at the description of the six courses it can be noticed that course 1 uses a learning *about* entrepreneurship approach and courses 3, 4, and 5 use a learning *through* entrepreneurship approach, which focuses more on understanding entrepreneurship and the business creation process. Whereas, courses 2 and 6 use the learning *for* entrepreneurship approach, which focuses more on acquiring key skills and competencies, such as creativity and leadership. Hence, a dominant business discourse can be noticed in the course descriptions, but also the subtle yet not less important components about key skills. This, however, is inconsistent with the main educational goal of the minor, which is to equip students with interdisciplinary skills and knowledge that foster the creation of a sustainable entrepreneurial mindset (Entrepreneurship minor, n.d.). In this way, a discrepancy between the overall goal of the minor - equip students with interdisciplinary skills, knowledge, and a sustainable entrepreneurial mindset - and the course goals - dominant business discourse versus the subtle key skills discourse - can be observed. This discrepancy might lead to differences between what students hope to gain during the minor and what students actually obtain during the six courses. To sum up, it is important to add that even though the entrepreneurship education program is offered by Oulu Business School, it is not a business education program and by the end of the program students are not necessarily expected to open their own business, but to gain interdisciplinary skills and entrepreneurial knowledge (Entrepreneurship minor, n.d.).

2.6 Criticism of entrepreneurship education

The idea of introducing entrepreneurship into education has spurred much enthusiasm in the last few decades. A myriad of effects has been stated to result from this, such as economic growth, job creation, and increased societal resilience, but also individual growth, increased school engagement, and improved equality. Putting this idea into practice has however posed significant challenges alongside the mentioned positive effects. An emerging scholarly critique has claimed that when policymakers ask schools and universities to infuse entrepreneurship into education, it triggers more neoliberalism, leading to increased inequality and neglect of civic values (Lackeus, 2015). The author stated that this happens when entrepreneurial education is based on a self-oriented search for own happiness. Lackeus (2015) continued that this approach focuses on individuals optimizing their power, employability, flexibility, and self-responsibility, something that goes well in line with the problematic goals of neoliberalism and neglects civic values. Moreover, recent research also indicates that entrepreneurship education can reproduce social inequality due to certain student groups being more inclined than others to flourish in an achievement-oriented power and pleasure-based culture (Lackeus, 2015).

Another emerging critique links entrepreneurship education to the negative sides of human capital theory. Kozlinska (2016) states that entrepreneurship education is a human capital investment in schooling. Hence, entrepreneurship education stakeholders including students and their parents collectively invest in entrepreneurship-related human capital growth with expectations of positive future returns on their investment, such as opening employability, higher salaries, and an increased rate of alumni starting a business later in life. This position accords well with the European socio-economic goals of entrepreneurship education programs – to enhance the attractiveness of university graduates for employers, improve their role in society and the economy, as well as to encourage innovative business start-ups (Kozlinska, 2016). However, Gillies (2015) expresses concern in seeing education in such narrow economic terms, omitting broader and richer purposes and practices. The author's concern is influenced by the fact that whole areas of the curriculum such as the expressive arts, and the humanities, struggle for perceived relevance when business courses with economic purposes are given exclusive attention. Moreover, the notion of humanity becomes narrowed to that of economic agency, risking constructing people as mechanical objects as opposed to living persons.

One way of combating the emerging criticism comes from Lackeus's (2017) research. The author stated that entrepreneurial education based on a self-oriented search for own happiness leads to more neoliberalism in education. However, entrepreneurial education based on "students-as-givers" mitigates some of the already strong neoliberal tendencies in education. According to Lackeus (2017), a "students-as-givers" kind of entrepreneurial education represents learning through an entrepreneurial process of creating something of value to others. Allowing students to become fully engaged and take part in an action-based team effort to help people outside their class or school could release high levels of perceived meaningfulness, engagement, motivation, and deep learning (Lackeus, 2017). To sum up, entrepreneurial education based on "students-as-givers" can be one way to combat the dark side of neoliberalism and human capital theory. This in turn can lead to decreased gender, race, and class inequality in society and a stronger emphasis on democratic and civic values.

3 Theoretical Framework

The purpose of this study is to understand, explain and assess how entrepreneurship education influences entrepreneurial learning outcomes in higher education, taking the program at the University of Oulu as a case study. To do so, I outline in this chapter two models that were developed to offer a holistic understanding of students' entrepreneurial learning outcomes.

Kozlinska, Mets, and Rõigas (2020) stated that given the rise of entrepreneurship education as a global phenomenon, the increasing investments that policymakers and management of higher education institutions place in supporting and expanding this field, and the expectation that entrepreneurship education will enable entrepreneurial behavior and promote new business creations, there was a need and at the same time a "pressure" for measuring the effectiveness of entrepreneurship education courses. This was done by assessing the students' entrepreneurial learning outcomes, which might strengthen Gillies' (2015) concern in seeing education in such narrow economic terms. Fisher et al. (2008) added that looking at different types of entrepreneurial learning outcomes will facilitate knowledge sharing among academic researchers, practitioners, and educators, and will guide curriculum design and improvement of entrepreneurship education courses.

According to Kozlinska et al. (2020), entrepreneurial education studies devoted to evaluating learning outcomes can be divided into two major groups by the types of measures used: (1) studies that use more subjective measures, such as entrepreneurial intentions, self-efficacy, and competence; (2) studies that use more objective measures, such as nascent entrepreneurship and number of founded start-up (Kozlinska et al., 2020). Although both groups of studies most often focus on short-term entrepreneurial learning outcomes, subjective measures informed by psychology theories, such as Ajzen's (1987) theory of planned behavior, are the most widely encountered in entrepreneurship education research (Nabi et al., 2017). This research focuses on the first group, subjective measures.

Subjective measures informed by psychology theories focus on measuring changes in students' and graduates' entrepreneurial attitudes, self-efficacy, and intentions (Kozlinska et al., 2020). However, these measures cover only some aspects of learning, which can be referred to as affective and cognitive in the entrepreneurship education literature, failing to offer a holistic understanding of students' entrepreneurial learning outcomes. After conducting an ex-

tensive research of the academic literature that focuses on entrepreneurial learning outcomes, multiple researchers (Kozlinska et al., 2020; Azizi & Mahmoudi, 2019; Nabi et al., 2017; Lackeus, 2017) pointed out two models that aim to offer a holistic understanding of students’ entrepreneurial learning outcomes using subjective measures. Fisher et al. (2008) Tripartite Competence Framework was the first model that offers a comprehensive categorization of the learning outcomes specific to the field of entrepreneurship education. The second model comes from Bacigalupo et al.’s (2016) EntreComp Model which offers a more contemporary adaptation and holistic understanding of the entrepreneurial learning outcomes. Hence, the theoretical framework builds upon Fisher et al. (2008) Tripartite Competence Framework and Bacigalupo et al. (2016) EntreComp Model.

3.1 Tripartite Competence Framework

The first reference model that aims to offer a holistic understanding of students’ entrepreneurial learning outcomes using subjective measures is the Tripartite Competence Framework. The Tripartite Competence Framework was developed by Kraiger, Ford, and Salas (1993) in the United States, and it is used to evaluate learning outcomes in education and training settings. However, in 2008 Fisher, Graham and Compeau were the first to adapt and develop the Tripartite Competence Framework to the field of entrepreneurship education by categorizing entrepreneurial learning outcomes in three groups as it can be seen in Table 1.

Table 1. Tripartite Competence Framework (inspired by Fisher, Graham & Compeau, 2008)

	Business-specific content	Interpersonal content
Cognitive outcomes	Basics of accounting, finance technology, marketing Knowledge of how to get things without resources Understanding risk	Knowledge of personal fit with entrepreneurship career
Skill-based outcomes	Conducting market research Assessing the marketplace Marketing products and services Recognising and acting on business opportunities Creating a business plan, including financials	Persuasion Listening and speaking skills Setting priorities and goals Defining and communicating the vision Leadership, motivating others Active learning

	Obtaining financing Developing a strategy Identifying strategic partners Risk management	Dealing with customers Managing people Resolving conflict Adapting to new situations Coping with uncertainty
Affective outcomes	Entrepreneurial attitude Passion for entrepreneurship Self-efficacy for entrepreneurship Commitment to business venture	Self-confidence. self- awareness Need for achievement

The Framework is divided into the three types of learning outcomes: cognitive, skill-based, and affective, and within these outcome types, the learning outcomes are organized into two content areas: *business-specific* content and *interpersonal* content. According to Fisher et al. (2008), business-specific content addresses the aspects of entrepreneurship that are unique to the business world, including topic areas such as business planning, finance, accounting, marketing, and strategy. The interpersonal content addresses social and psychological concepts related to how the entrepreneur interacts with other people, including leadership, motivation, conflict resolution, and communication, as well as personal factors such as self-efficacy and personal career choices (Fisher et al., 2008). Furthermore, the authors continue by explaining each of the three types of learning outcomes. When looking at the first type of learning outcomes, the cognitive category, it includes learning outcomes that focus on gaining knowledge of basic business concepts, but also gaining an understanding if entrepreneurship would provide a good fit with one's preferences and career goals. The second type of learning outcome, the skill-based category, is more behavioral looking at tasks learners can perform, and soft skills that learners can develop or improve. The last type, the affective category, focuses on attitudinal outcomes that reflect changes in learner attitudes toward the content, and motivational outcomes that reflect the learner's approach to future tasks (Fisher et al., 2008).

The Tripartite Competence Framework can also be used as a framework to look at students' entrepreneurial outcomes in this case study. As mentioned in Chapter 2 in the course descriptions of the entrepreneurship education program at the University of Oulu, there is a discrepancy between the overall goal of the minor - equip students with interdisciplinary skills, knowledge, and a sustainable entrepreneurial mindset - and the course goals - equip students with business-specific content as the main goal, followed by developing key skills and competences as a secondary one. Hence, by looking at the description of the six courses it can be

noticed that some outcomes from The Tripartite Competence Framework can also be found in the courses' description, which means that the entrepreneurship education program at the University of Oulu might also focus on different types of learning outcomes. For example, from the cognitive area, the outcomes *understanding risk* and *knowledge of personal fit with entrepreneurship* can also be found in the Building Business through Creativity and Innovation course description. From the skills-based area, the outcomes *conducting market research, recognizing and acting on business opportunities, creating a business plan, developing a strategy, identifying strategic partners, and risk management* can be found in Introduction for Business Development, Exercising Entrepreneurship, and Building Change through Entrepreneurship course description. Also from the skills-based area, the interpersonal outcomes *getting people excited about your ideas, setting priorities, focusing on goals, defining the vision, leadership, managing people, resolving conflict, and coping with uncertainty* can also be found in Entrepreneurship for Sustainability, Building Business through Creativity and Innovation, and Entrepreneurial Assignment course description. Lastly, from the affective area, the outcomes, *self-confidence, and self-esteem*, can also be found in the Introduction to Business Development and Building Business through Creativity and Innovation course description.

The Tripartite Competence Framework represents a holistic approach to evaluating the learning outcomes of entrepreneurship education using subjective measures, and it has been used in research papers published by institutions (Bacigalupo et al., 2016) and individual authors (Lackéus, 2015). The framework is relatable to a wide variety of entrepreneurship programs, from learner-centered and experiential to teacher-centered and traditional (Kozlinska et al., 2020). According to Fisher et al. (2008), the main benefit of using the Tripartite Competence Framework is that the three types of learning outcomes: affective, cognitive, and skill-based are strongly correlated, in that students appear not only to understand entrepreneurial concepts but also developed interpersonal skills. Moreover, the Framework also helps entrepreneurship curriculum designers to target, develop or improve educational activities either in terms of skill-based, cognitive learning, and/or affective learning. For example, willingness to pursue entrepreneurship as a career path can be induced with such methods as guest lectures by entrepreneurs (most often, success stories), job shadowing, and company visits, while particular knowledge and skills can be developed by engaging students in real-life projects with companies, business model competitions, business games (Fisher et al., 2008).

Even though using the Framework has several benefits and is considered the first model to set the base for measuring students' entrepreneurial learning outcomes, different authors (Kozlinska, 2016; Nabi et al., 2017) stated that the practical adaptation of the framework to entrepreneurship education was slightly simplified in measuring knowledge and skills. Some affective measures such as creativity, and skills such as ethical & sustainable thinking, and taking initiatives that are in higher demand in the current socio-economic conditions, are not mentioned in the Tripartite Competence Framework. However, these learning outcomes are highlighted in more contemporary frameworks, which are gradually shifting towards more holistic classifications. Such an example is The European Competence Framework (Bacigalupo et al., 2016).

3.2 The European Competence Framework (EntreComp Model)

The second model that aims to offer a holistic and more contemporary understanding of students' entrepreneurial learning outcomes using subjective measures is The European Competence Framework, also known as the EntreComp Model. The EntreComp Model was developed in 2016 by the Joint Research Centre (JRC) of the European Commission and offers a tool to improve the entrepreneurial capacity of European citizens and organizations. The framework aims to establish a bridge between the worlds of education and work and to be taken as a reference by any initiative which aims to foster entrepreneurial learning (Bacigalupo et al., 2016).

According to Bacigalupo et al. (2016), the EntreComp Model defines entrepreneurship competence as the combination of entrepreneurial knowledge, skills, and attitude, which applies to all spheres of life: from nurturing personal development, to actively participating in society, to (re)entering the job market as an employee or as a self-employed person, and also to start-up ventures (cultural, social or commercial). The model builds upon a broad definition of entrepreneurship that revolves around the creation of cultural, social, or economic value.

The EntreComp model, as it can be seen in Figure 2, is depicted with three different colors: blue for the competences in the 'Ideas and opportunities' area, orange for those in the 'Resources' area, and green for the competences in the 'Into action' area. Each area contains five competences, and together these make up the 15 competences that individuals use to discover and act upon opportunities and ideas by using resources. The three competences areas of the

model are tightly intertwined and they have been labeled to stress entrepreneurship competence as the ability to turn ideas into action that generate value for someone other than oneself (Bacigalupo et al., 2016). The first area ‘Ideas and opportunities’ contains competences on how to develop ideas and discover opportunities. The second area ‘Resources’ encompasses competences on how to use personal, material, and non-material resources in developing ideas and opportunities. The last area, ‘Into Action’, consists of competences that help learners turn their ideas and opportunities into something tangible by using the right resources.

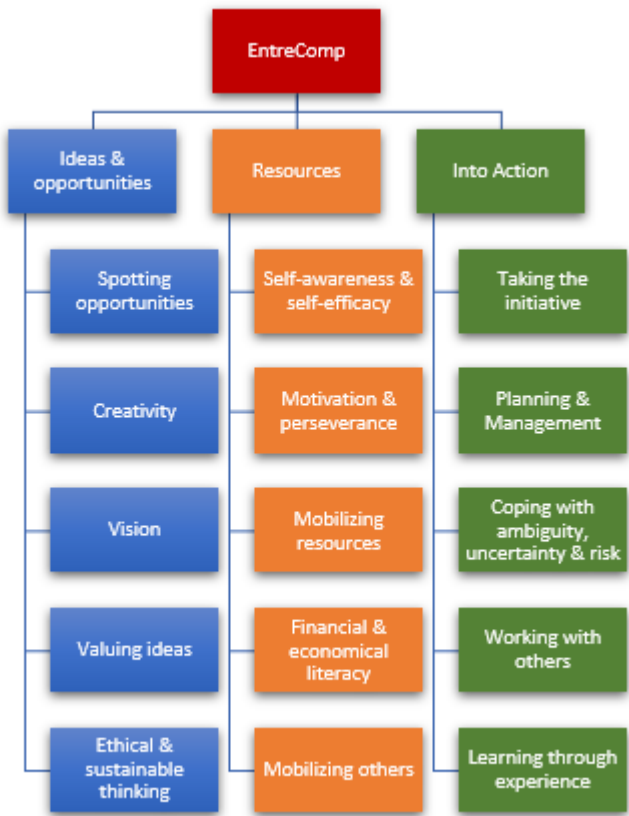


Figure 1. EntreComp Model (inspired by Bacigalupo, Kampylis, Punie, & Van den Brande, 2016)

The second part of the EntreComp Model focuses on the 15 competences that are interrelated and together make up the building blocks of entrepreneurship as a competence (Bacigalupo et al., 2016). When looking at the 15 competences of the EntreComp Model, something that is important to emphasize is that some of these competences can also be found in the description of the six courses from the entrepreneurship education minor at the University of Oulu. For example, from the blue area, ‘Ideas and opportunities’, the two competences *creativity* - which is about developing multiple ideas, and transforming ideas into solutions that create value for others - and *spotting opportunities*- which is about recognizing opportunities to ad-

dress needs that have not been met, and, in general, to create value for others (Teneva, 2018) - can be encountered in the Introduction to Business Development and Building Business through Creativity and Innovation course. From the orange area, 'Resources', the competence of *self-awareness and self-efficacy* - which are related to making the best with your strengths and weaknesses and teaming up with others to compensate for weaknesses and develop strengths (Teneva, 2018) - can also be found in the Building Change through Entrepreneurship course. Lastly, from the green area, 'Into action', the competence of *planning and management* - which are related to defining goals, achieving them through action plans with milestones and priorities, and may need to be refined to adjust to changing circumstances (Teneva, 2018) - can also be found in the Exercising Entrepreneurship course. In addition, Bacigalupo et al. (2016) stressed the fact that when using the EntreComp Model the learner is not expected to acquire the highest level of proficiency in all 15 competences or have the same proficiency across all the competences. Also, the order in which they are presented does not imply a sequence in the acquisition process or a hierarchy: no one element comes first, and none of them is more important than the others.

The EntreComp Model represents a holistic and more contemporary approach to evaluating the learning outcomes of entrepreneurship education using subjective measures, and it has been used in European policy-related documents (European Commission, 2018), and publications of individual authors (Lackéus, 2017). According to Bacigalupo et al. (2016), one of the benefits of using the model is that it can serve as a reference point for the design of curricula in the formal education and training sector. However, different authors (Bacigalupo et al., 2016; Teneva, 2018; Kozlinska, 2016) stress the fact that one limitation of the EntreComp model is that entrepreneurial learning can hardly be reduced to fixed pre-specified statements of learning outcomes since it deals with the creation of value that does not exist prior to the entrepreneurial learning process. Thus, the EntreComp Model should not be taken as normative statements to be directly transposed into actual learning activities, or be used to measure student performance (Bacigalupo et al., 2016). The authors encourage institutions, intermediaries, and initiative developers who are willing to adopt EntreComp as a reference framework, to adapt it to their own purposes, to the needs of the user group they intend to target and use their own forms of evaluations. Bacigalupo et al. (2016) suggest one way of evaluating if students developed a specific competence is through a written survey containing a structured learning assessment. The structured learning assessment asks students to indicate the extent to

which they had acquired or improved certain competences using a five-point rating scale that ranged from ‘Non-existing’ to ‘I feel confident I can use this competence.’

3.3 Tripartite Competence Framework and EntreComp Model

When looking at the two models, the Tripartite Competence Framework and EntreComp Model, some similarities and differences can be noticed. On one side, both models aim to present a holistic understanding of students’ entrepreneurial learning outcomes that are taking entrepreneurship education courses. Both models aim to categorize students’ entrepreneurial learning outcomes in three groups, either as outcomes or competences: cognitive, skill-based, and affective outcomes in The Tripartite Competence Framework, and ‘Ideas and opportunities’, ‘Resources’, and ‘Into action’ competences in The EntreComp Model.

On the other side, the Tripartite Competence Framework was the first model to be adapted and developed to the field of entrepreneurship education in 2008 by Fisher et al. based on the work of 25 experts in the entrepreneurship field. Whereas the EntreComp Model was developed in 2016 by the Joint Research Centre of the European Commission, using the Tripartite Competence Framework as a base and further developing it, to offer a more contemporary classification. In the Tripartite Competence Framework, the learning outcomes are organized in two specific content areas: *business-specific* content and *interpersonal* content, whereas the EntreComp does not necessarily make a clear distinction between different content areas. Moreover, the Tripartite Competence Framework can be considered a more detailed framework showcasing 28 learning outcomes, compared to the EntreComp which contains only 15 competence.

When comparing the 15 competence (EntreComp Model) with the 28 learning outcomes (Tripartite Competence Framework), some overlaps can be noticed. From the Ideas & opportunities area (EntreComp Model), three competences - *Spotting opportunities*, *Vision*, *Valuing ideas* - can be found as learning outcomes in the Skill-based outcomes (Tripartite Competence Framework). From the Resources area (EntreComp Model), two competence - *Self-awareness & self-efficacy*, *Motivation & perseverance* - can be found in the Affective outcomes, and another two competence - *Financial & economic literacy*, *Mobilizing others* - can be found in the Skill-based outcomes (Tripartite Competence Framework). Lastly from the Into Action area (EntreComp Model) - *Planning & management*, *Coping with ambiguity, uncertainty & risk*, *Working with others*, *Learning through experience* - can be found in the Skill-based out-

comes (Tripartite Competence Framework). Hence, out of the 15 competence, 11 competence overlap with the learning outcomes in the Tripartite Competence Framework, which means 4 competence can be considered as new additions: *Creativity*, *Ethical & sustainable Thinking*, *Mobilising Resources*, and *Taking the initiatives*. Moreover, it is important to emphasise that 9 out of the 11 competences (EntreComp Model) that overlap with the learning outcomes can be found in the Skill-based outcomes area (Tripartite Competence Framework), meaning that the EntreComp Model offers a broader classification of the learning outcomes and that the same entrepreneurial learning outcomes can be classified in different categories.

In a nutshell, this chapter offered an understanding and classification of entrepreneurial learning outcomes. Hence, as academics offer different interpretations of entrepreneurial learning outcomes, and in the light of this chapter, in this master thesis entrepreneurial learning outcomes and entrepreneurial competences have similar meanings, can be used interchangeably, and are broadly defined as a combination of entrepreneurial knowledge, skills and attitude that students develop as a result of entrepreneurship education courses.

4 Methodology

This chapter will focus on outlining the framework to think about and proceeding to the collecting and processing of data. For this thesis, the methodological approach used will be a case study research. According to Baxter and Jack (2008) a case study is a form of qualitative research used to study individuals or specific historical events, or as a teaching strategy to holistically understand exemplary “cases.” Case Study Research involves the study of an issue explored through one or more cases within a bounded system (a setting, a context.), a methodology, a type of design in qualitative research, or an object of study, as well as a product of the inquiry (Creswell, 2007, as cited in Baxter & Jack, 2008).

Yin (2018) stated that a case study design should be considered when: (a) the focus of the study is to answer “how” and “why” questions about a contemporary set of events; (b) you cannot manipulate the behavior of those involved in the study; (c) you want to cover contextual conditions because you believe they are relevant to the phenomenon under study. In the case of this research, a case study methodology was chosen because a) the focus of the study is to answer the main research question which is a “how” question; (b) the behavior of those involved in the study cannot be manipulated, as the participants are not in a controlled environment (c) it is an in depth study about a phenomenon occurring in a real-life bounded context with a specific place (the University of Oulu) / time (one academic year 2019-2020) / context (students that are taking the entrepreneurship education program at the University of Oulu). More specifically, the aim of this thesis is to research how entrepreneurship education influences the students’ entrepreneurial learning outcomes, studying the case of the minor at the University of Oulu.

4.1 Paradigmatic inclinations

Baxter and Jack (2008) noticed that both Stake and Yin, in their seminal work on Case Study, base their approach on a constructivist paradigm. However, Harrison, Birks, Franklin and Mills (2017, as cited in Bhatta, 2018) see Yin as positivist and Stake as constructivist. Another researcher that is discussed in the field of case study research is Merriam whose approach is considered constructivist as she views qualitative case study through the epistemology of constructivism (Yazan, 2015, as cited in Bhatta, 2018). Thus, the approaches of these three

prominent researchers influential in case study methodology are similar in the philosophical sense, with a preference towards the constructivism paradigm.

According to Honebein (1996, as cited in Adom, Yeboah & Ankrah, 2016) the constructivism paradigm is an approach where people construct their own understanding and knowledge of the world through experiencing things and reflecting on those experiences. This paradigm seeks to understand a phenomenon under study from the experiences or angles of the participants. In the constructivist paradigm the ontological stand is that there are multiple realities, and the epistemological stand is that reality needs to be interpreted in order to discover the meaning (Bhatta, 2018). The constructivism philosophical paradigm is associated with the qualitative research approach. Hence, constructivists assert that reality is subjective because it is from the individual perspectives of participants engaged in the study. One of the important things of this approach is the close collaboration between the researcher and the participant. This enables participants to tell their stories and the researcher to better understand the participants' actions.

Based on the philosophical underpinnings of a case study research, a constructivist paradigm will be used in this master thesis with the aim of understanding students' subjective interpretations and reflections on how the entrepreneurship education minor influences their entrepreneurial learning outcomes.

4.2 Case Study Design

Yin (2018) stated that when designing a case study, the following steps need to be followed:

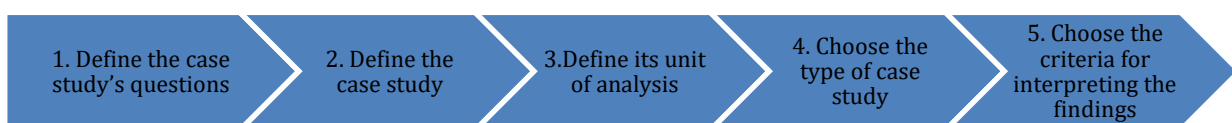


Figure 2. Steps in designing a case study (inspired by Yin, 2018)

The first component of the research design is the case study's research question, which should answer "how" and "why" questions (Yin, 2018). In the present case study, the research question is: How does entrepreneurship education influence the students' entrepreneurial learning outcomes, studying the case of the minor at the University of Oulu? By answering a "how" question, this case study provides a fertile ground to understand students' subjective interpre-

tations and reflections on the entrepreneurship education minor influence on their entrepreneurial learning outcomes.

The second component of the research design is defining the case, mainly between single and multiple case study designs. As the present study focuses on a single case, the entrepreneurship education program at the University of Oulu, the single case study choice is evident. According to Yin (2018) the single case study is an appropriate design if it follows one of the five single case study principles: a critical, common, revelatory, unusual or longitudinal case. The present case study aims to capture the conditions of an everyday situation, because of lessons it might provide about the social processes related to some theoretical interest, thus it represents a common case study. This case study does not follow the other four principles for the following reasons. The revelatory case exists when a researcher has an opportunity to observe and analyze a phenomenon previously inaccessible to social science inquiry. The global phenomenon of entrepreneurship education is considered an emerging field that, however, has been widely accessible to social science inquiry and would not qualify as an inaccessible phenomenon. A critical case aims to criticize the theory or theoretical propositions, which in the present case study, theory is used to give a better understanding of the entrepreneurship education concept and not for criticizing. An unusual case is an extreme case which deviates from theoretical norms or even everyday occurrences. This case does not deviate from the everyday occurrences, thus not qualifying as an extreme or unusual case. Lastly, the longitudinal case means studying the same single-case at two or more different points in time. As this is a master thesis, which is limited by time, the present research will study the single case study at only one point in time (the academic year 2019-2020). Hence, the present case study is a common single-case study because it captures the conditions of an everyday situation, how the entrepreneurship education minor impacts students' everyday entrepreneurial learning outcomes.

The next component is defining the case's units of analysis, which is the major entity that is analyzed in the study such as individuals, programs, organizations, groups, or artifacts (Yin, 2018). In the present case study, there is only one specific unit of analysis, which is the entrepreneurship education program at the University of Oulu. According to Yin (2018) and Stake (1995, as cited in Baxter & Jack, 2008), in order to ensure that the study remains reasonable in scope, the case study should be bound to specific conditions. In this research, the study is a

single case study bounded by time (one academic year 2019-2020), place (the University of Oulu) and context (students that are taking the entrepreneurship education minor).

After the case and its boundaries have been determined, the next step is to determine the type of case study. To offer contrast, and according to Yin (2014), an explanatory case study is used if you were seeking to answer a question that sought to explain the presumed causal links in real-life interventions that are too complex for the survey or experimental strategies. Furthermore, if the intent is to gain insight and better understand a particular situation or phenomenon, then Stake (1995, as cited in Baxter & Jack, 2008) would suggest using an intrinsic case study to gain understanding. In this research, the goal is to understand, explain and then assess the impact of the entrepreneurship education program on the students' entrepreneurial learning outcomes. Hence, this study is a single intrinsic explanatory case study.

The last component is the criteria for interpreting the findings. Baxter and Jack (2008) stated that a hallmark of case study research is the use of multiple data sources, which are then converged in the analysis process. The analysis process is a recursive process in which the researcher interacts with the information throughout the investigative process (Yin, 2014). This ensures that the issue is not explored through one lens, but rather a variety of lenses which allow for multiple aspects of the phenomenon to be revealed and understood. This is a strategy which also increases data credibility. Following those recommendations, the present study's collection of data will be based on four different sources.

4.3 Data Collection

Yin (2018) stated that when conducting a case study, three principles of data collection should be followed: 1. Use Multiple Sources of Evidence, 2. Create a Case Study Database and 3. Maintain a Chain of Evidence. Those principles will guide the elaboration of this section.

Principle 1. Use Multiple Source of Evidence

Yin (2018) mentioned that a major strength of case study data collection is the opportunity to use different sources of evidence. The use of multiple sources of evidence in case studies allows an investigator to address a broader range of behavioral issues, gain multiple angles observation of the same phenomenon, and complement the information missing by some sources.

Yin (2018) further stated that a case study evidence can come from at least six sources: documents, archival records, interviews, direct observations, participant-observations, and physical artifacts. In the present case study, interviews with students taking the entrepreneurship education minor, the interview with the two professors, the internal documents describing the minor's curricula, and archival records (such as students' course feedback), represent the four sources of data. From the four sources of data, the main focus was on analyzing the interviews with the students taking the minor, as this type of data would provide a more in-depth insight into students' entrepreneurial learning outcomes. As a secondary focus I also spent time on analyzing the other three sources of data: the interview with the two professors, internal documents and archival records to gather more information and make a stronger case study.

Interviews are one of the most important sources of case study evidence. Conducting interviews in a case study can have different strengths such as: they are targeted, thus you can focus directly on case study topics; and they are insightful as they provide explanations as well as personal views. However, doing interviews can also have different weaknesses. They can suffer from poorly articulated questions, or the interviewee says what the interviewer wants to hear, and they can be inaccurate due to poor recall (Yin, 2018). However, in the present study, the interview questions were discussed before the interviews with the thesis supervisor, ensuring that they are not poorly articulated or biased.

In the present case study, two types of interviews were conducted. The first one is represented by the seven student interviews. The participants for the interviews are students who are planning to take the full 25 ECTS Entrepreneurship Education minor and currently taking courses, or recently finished the courses from the minor. The participants' profile also played an important role in finding the participants. One feature of the entrepreneurship education minor is being an interdisciplinary program, bringing together Finnish and International students from bachelor, master, PhD programs and different faculties. As a result, the criteria in selecting the participants for this research project was having a diverse group of participants that would cover all the "areas of interest" such as: different stages of completing their minor at the time of the interview, different educational level (bachelor/master/ PhD), different faculties and different nationalities.

Different methods were used to find the participants: from personal connections, to taking one of the courses from the minor (Introduction to Business Development in September 2020), and the help of the minor’s coordinator. All these methods lead to the snowball selection method (Patton, 2002) that helped me find seven participants that were taking the minor between 2019-2020.

One issue that the entrepreneurship education program has been facing is the low number of students that are taking the whole minor. As mentioned before, in order to complete the whole minor and get 25 ECTS, students need to take five out of six courses. However, in one academic year only a small number of students decide to complete five courses and because students do not inform in advance if they are taking the whole minor, but only after completing some courses, this number is uncertain for the program coordinators. In the academic year 2019-2020, an estimated guess of students taking the whole minor was around 13. Hence, once all the “areas of interest” were filled, 7 out of the potential 13 students represented a suitable number of participants to be interviewed.

Out of the seven participants, three were Finnish students and four were international students. Two students were doing their bachelor’s degree, three were doing their master’s degree, one doing a PhD program and a recent master’s graduate. Five participants conducted their major studies in Oulu Business School and two from the Faculty of Education. Two participants had completed the minor, two were doing their fourth course, two were doing their third course and one their second course. Lastly, when looking at the participants’ reasons to take this minor, four participants had a clear idea that they want to learn how to open a business in the future, whereas the other three wanted to learn and gain experience in the field of entrepreneurship, as can be seen in the table below.

Table 2. General profile of the participants interviewed

Participant pseudonym	Nationality	Faculty	Number of courses finished at the time of the interview	Reasons for joining
Bogdan	Finnish	Oulu Business School, Bachelor program	<ol style="list-style-type: none"> 1. Introduction to Business Development 2. Building change through Entrepreneurship 3. Entrepreneurship for Sustainability 	Opening a Business

Dana	International	Oulu Business School, Master program	<ol style="list-style-type: none"> 1. Introduction to Business Development 2. Entrepreneurial Assignment 3. Entrepreneurship in action 	Opening a Business
Alex	International	Education, Master program	<ol style="list-style-type: none"> 1. Introduction to Business Development 2. Entrepreneurial Assignment 3. Building change through entrepreneurship 4. Building business through creativity and collaboration 	Gain experience & learn more about the field
Lori	Finnish	Oulu Business School, PhD program	<ol style="list-style-type: none"> 1. Entrepreneurial Assignment 2. Building business through creativity and collaboration 	Gain experience & learn more about the field
Silviu	International	Education, Master program	<ol style="list-style-type: none"> 1. Introduction to Business Development 2. Entrepreneurial Assignment 3. Building change through entrepreneurship 4. Entrepreneurship for sustainability 5. Exercising Entrepreneurship 	Gain experience & learn more about the field
Mihai	Finnish	Oulu Business School, Bachelor	<ol style="list-style-type: none"> 1. Entrepreneurial Assignment 2. Building change through entrepreneurship 3. Entrepreneurship for sustainability 4. Exercising Entrepreneurship 	Opening a Business
Maria	International	Oulu Business School, graduated	<ol style="list-style-type: none"> 1. Introduction to Business Development 2. Building change through entrepreneurship 3. Entrepreneurship for sustainability 4. Exercising Entrepreneurship 5. Building business through creativity and collaboration 	Opening a Business

When conducting the seven interviews, a semi-structured interview was used. A semi-structured interview was suitable for this case study because there were some ideas of what to look for and what kind of questions would help towards it. Before each of the interviews, an informed consent was sent to be signed by the participants, which can be found in Appendix

1. Ten open-ended questions were prepared to guide the conversation. The full list of questions can be found in the Appendix 2. The interviews were conducted between October and November 2020 with an approximate duration between 30 and 45 minutes. All seven interviews were conducted in English, which is a second language for me as well as all the participants. Due to the Covid-19 pandemic, all the interviews had to be conducted online via Zoom. During the interviews, no major technical problems were experienced and most of the participants turned on their camera during the interviews, except for one participant that had some issues with the camera. All the interviews were recorded with the participants' written consent, making sure that the responses are not inaccurate due to poor recall. Each interview was firstly transcribed by using an online transcribing tool called Otter.ai, and then rechecked a couple of times to ensure accuracy.

The second type of interview was an interview with two professors that are teaching courses within the entrepreneurship education minor. The purpose of this interview was to have the professors' perspective on how the entrepreneurship education minor influences students' entrepreneurial outcomes, which will then add other perspectives of the same phenomenon. The professors were interviewed together and the interview was conducted in April 2021 with a duration of 30 minutes. A semi-structured interview was suitable for this case study because there were some ideas of what to look for and what kind of questions would help towards it. Three open-ended questions were prepared to guide the conversation. The interview was conducted in English, which is a second language for me as well as the participants. The interview was online via Zoom, and it was recorded with their consent making sure that the responses are not inaccurate due to poor recall. The interview was firstly transcribed by using an online transcribing tool called Otter.ai, and then rechecked a couple of times to ensure accuracy.

Internal documents can provide specific details to corroborate information from other sources. In the present case study, using internal documents has different strengths such as: they are stable, thus they can be reviewed repeatedly; they are not created as a result of the case study, hence unobtrusive; and they are specific, containing exact information regarding the entrepreneurship education program. Because of its overall value, documentation can play a prominent role in any data collection in doing case study research (Yin, 2018). In this research, the internal documents represent the minor's curricula and are used with the purpose of examining the learning outcomes of the six courses from the program, which will contribute with

other perspectives of the same phenomenon. Access to the internal documents was provided by the minor's coordinator in May 2020.

Archival records, such as survey data produced by others, can be used in conjunction with other sources of information in producing a case study. However, unlike documentary evidence, the usefulness of these archival records will vary from case study to case study (Yin, 2018). In the present case study, the archival records represent students' course feedback on the minor's courses, which were conducted in 2018 and 2019 by the program coordinators. In this research, the course feedback are used in order to gain more background information on the entrepreneurship education minor and contribute with other perspectives of the same phenomenon.

Principle 2: Create a Case Study Database

The second principle, mentioned by Yin (2018), has to do with organizing and documenting the data collected for case studies on two separate collections: 1. The data or evidentiary base, which in the present case study comes in the form of notes from the interviews, internal documents and survey feedback. These notes are compiled in a Word file and can be made available for later access for other persons that want to inspect the entire database; 2. The researcher's report which in the present study is the master thesis. In this way, the creation of a case study database markedly increases the reliability of your entire case study (Yin, 2018).

Principle 3: Maintain a Chain of Evidence

Finally, a third principle to be followed, to increase the construct validity of the information in a case study, is to maintain a chain of evidence. First, the report itself should have made sufficient citation to the relevant portions of the case study database (notes), something that can be noticed in 4.4. Second, the database, upon inspection, should reveal the actual evidence. In this case study this is represented by key phrases or words that were highlighted with yellow in the notes document, and also indicate the circumstances under which the evidence was collected, in this research this can be indicated by the time of the interview. Finally, a reading of the protocol should indicate the link between the content of the protocol and the initial study questions (Yin, 2018), something that is highlighted in Chapter 5.

4.4 Data Analysis

One can analyze case study data by pursuing any combination of procedures, such as by examining, categorizing, tabulating, testing, or otherwise recombining evidence (Yin, 2018). As mentioned in 4.3, in the present case study, four different sources will be used: interviews with students, interview with professors, internal documents and students' course feedback. As this is a master thesis, thus limited by time constraints, this chapter will focus in depth on the interviews with students, and briefly on the other three data sources. All four sources of data will be analysed through inductive content analysis using Elo and Kangas (2008) process of data analysis, with the purpose of gaining multiple perspectives on the entrepreneurship education minor's influence on students' entrepreneurial learning outcomes.

4.4.1 Interview with students

For the first data source, the seven interviews with students, this case study will focus on categorizing procedures, more specifically, content analysis will be used to analyze the data from the interviews.

Content analysis is one of the several qualitative methods currently available for analyzing data and interpreting text data. It is a systematic coding and categorizing approach used for exploring large amounts of textual information to determine trends and patterns of words used, their frequency, their relationships, and the structures and discourses of communication (Hsieh & Shannon, 2005). Content analysis was chosen for this research due to its following strengths (Baxter, 2020): multiple content types (e.g., newspapers, policy documents, archival material) are considered simultaneously; researcher is often a co-creator of the messages (e.g. preparing the interviews, and paying attention how a message is produced in the first place); and more flexible coding rules (e.g., multiple codes per unit of text).

In content analysis, the researcher codes data and generates subcategories and categories. These categories can represent either explicit communication or inferred communication. The goal of content analysis is "to provide knowledge and understanding of the phenomenon under study" (Hsieh & Shannon, 2005, p. 1278). In this master thesis, qualitative content analysis will be used for the subjective interpretation of the content of text data through the systematic classification process of coding.

According to Vaismoradi, Turunen, and Bondas (2013) in content analysis, an inductive and deductive approach can be used for the coding of the data. An inductive approach allows the researchers to immerse themselves in the data to gain new insights, moving from specific observations to broad observations. The advantage of this approach is gaining direct information from study participants without imposing preconceived categories or theoretical perspectives. A deductive approach works the opposite direction and moves from the general to the specific observations, by coding concepts identified from prior ideas, such as pre-existing theories. This form tends to provide a less rich description of the data overall and a more detailed analysis of some aspects of the data. The next part will showcase the process of data analysis in content analysis according to Elo and Kyngäs (2008), which is formed from four steps. In this process, the approach was working with the students' interview data from the 'ground up' by using inductive methods. The names used in this data analysis are not the real names of the participants

Process of data analysis in qualitative content analysis

Step 1. Data analysis starts with reading all data repeatedly from the seven interviews, which were compiled in a Word document, to achieve immersion and obtain a sense of the whole as one would read a novel. Then, all passages with relevant information were highlighted and kept as data pool, and the non-highlighted passages were rejected. In the first step, an inductive approach to coding was used to gain an overall understanding of the seven interviews.

Step 2. After open inductive coding four interviews, I decided on some preliminary codes. These preliminary codes were based on what I could observe in the four already coded interviews. The preliminary codes became the initial coding scheme. Then I coded the remaining three transcripts using these codes and adding new codes when I encountered data that did not fit into an existing code. In total 14 codes were derived by using an inductive approach, as it can be seen with examples in the following:

Mindset

The participants talked about an entrepreneurial mindset as a shift in their way of thinking. They also connect mindset to seeing the problem from different angles and bringing their attention to more ethical and sustainable thinking that can solve some societal problems, instead of solutions used only for financial gain. It was evident from the students' answers that one does not have to be an entrepreneur to have the entrepreneurial mindset.

“I developed a way of thinking, a mentality, in which you get more understanding of the problem, and you look at solutions rather than complaining about the problems.” (Alex)

Attitude

Participants talked about gaining a more proactive attitude in taking responsibilities, becoming more accountable for their actions, being more adaptable with their work and ideas, and a desire to further develop their personal and professional skills.

“I noticed a change in my attitude, I started having more ideas, creating change, and being flexible.” (Dana)

Not only about opening a business

During the interviews it was mentioned several times that after taking the entrepreneurship education minor, participants gained a different understanding of what the concept of entrepreneurship represents. Participants mentioned that entrepreneurship is not only about opening your own business, being your own boss or the financial gain of it, but it is a process in which you gain certain skills, knowledge, and a different way of looking at things. The participants added that everything they learnt in this minor can be applied in their personal life, while studying or working in any field. Hence, another code is not only about opening a business.

“After taking the minor I realized that entrepreneurship education it's not entirely about opening a business, but it's only a small part of it.” (Bogdan)

Opening a business

Another code that emerged during the interviews was related to the knowledge that students acquired on how to open a business. Participants stated that what has helped them gain this knowledge were the discussions they had during classes, group work activities, assignments based on case studies, company guest lectures, collaboration with local companies, networking, and in general the overall structure of the courses that offered plenty of opportunities for students to work on their business ideas. Participants also mentioned that after these courses they felt more inspired to work on their business idea and become an entrepreneur.

“I got to develop business ideas and gained an understanding of what it takes to create a company, something that I will be using in the future.” (Maria)

Business process

After learning how to open a business, the interviewees stated that two courses also focused on teaching about the next phases in the business life cycle. Participants mentioned that certain tools like the Business Model Canvas and creating a business plan helped them understand how the business process works and how to move from a startup phase to a growing phase. Some participants also shared that the courses should provide more knowledge about the business process, and that they hoped for a more theoretical approach when learning the steps of a business process.

“During some lessons we also discussed how to further develop your business and what are the steps in doing that. I wish we had more lessons about growing your business, as I think it’s important knowledge that we should have.” (Silviu)

Confidence

After taking the minor, participants noticed a positive change in their confidence level. They mentioned that they felt more keen in sharing their ideas in public without being judged. They also followed through with their ideas and further developed them into something tangible, received constructive feedback and were less afraid of making mistakes.

“After taking the minor I felt more confident in taking initiatives, sharing my ideas, and further developing them.” (Lori)

Risk-taking

The participants mentioned that after taking the minor, they learned how to get out of their comfort zone while taking risks. They also understood that every decision comes with a certain risk and responsibility, learnt how to assess the risks involved, and be less afraid of taking risks.

“After taking the minor, I feel more prepared for taking risks in order to achieve my goals.” (Silviu)

Collaboration

Participants mentioned that as the courses are based on collaborative practices, there was a lot of group work involved, sometimes in the same group and sometimes in completely new groups. In this way, participants had the chance to meet new students, develop new ideas, learn about team dynamics, become more flexible in adapting to a new group, identify and assess a group's strengths and weaknesses, and ultimately create something multidimensional.

“The courses are based on group work and collaborative practices. I really enjoyed working with other students and learning from them.” (Mihai)

Open minded

Being an interdisciplinary program, the entrepreneurship education minor is opened for students across different faculties and educational levels, hence attracting a diverse group of students. The interviewees mentioned that it was an enriching experience working and studying together with students from different academic backgrounds. The diversity in thinking and each person's expertise has helped them come with unique ideas, understand and accept different viewpoints, and become more aware of possible cultural differences.

“The diversity in thinking has helped me come with unique ideas and understand the concepts from different angles.” (Dana)

Communication

The participants learned how to articulate and present their ideas in a more systematic way, make their voice heard and some worked with their fear of public speaking.

“Before taking the minor, I was afraid of public speaking, however working with so many people I had to be vocal, which helped me improve my communication skills.” (Bogdan)

Coping with stress

Participants mentioned that the practical side of the courses, the amount of work during the lesson, the deadlines, and working in different groups and with different topics, made students feel stressed, but at the same time this helped them learn how to cope with stress.

“Having the opportunity to develop our own business ideas during the lessons, I have learned how to cope with the stress that entrepreneurs face when opening their own business.” (Lori)

Leadership

Working in different groups with new people, some of the participants organically took the lead of the group, while others happened to be in a leadership position. Some participants also mentioned that the concept of leadership was also discussed in different lessons, and students were encouraged and given the space to gain and develop this skill during collaborative practices.

“While working in groups to develop business ideas, I have found myself in different leadership positions.” (Maria)

Creativity

The participants stated that during the courses they explored and experimented with different creative approaches that helped enhance their creativity, such as: brainstorming, future thinking, problem solving, and thinking hat. These approaches were used in different case studies and with the aim of making students think outside the box, develop new solutions to existing and new challenges, and act as a prerequisite for the last code.

“The minor has helped me in expanding ideas and challenged me in becoming a more creative person.” (Dana)

Innovation

Innovation is the last code that emerged from data analysis. Closely tied to creativity, participants mentioned that after learning several approaches that would enhance their creativity to come up with new ideas, they were introduced to different innovative methods, such as design thinking methods. This has helped them develop and practically implement their creative ideas.

“During the minor, I have learned how to use innovation and practically solve a problem.” (Mihai)

Step 3. All 14 inductive codes were then classified into four subcategories based on how different codes are related and linked, as it can be seen in the following:

The three codes: “mindset”, “attitude” and “not only about opening a business” were grouped together under the subcategory called Perceptions, as it describes students’ interpretation and understanding of entrepreneurship education. More specifically, the code “mindset” describes students’ way of thinking of entrepreneurship education. The code “not only about opening a business” describes students’ complex understanding/perspective of what entrepreneurship education represents, and the code “attitude” describes students’ approach towards entrepreneurship education.

Perceptions		
Mindset	Not only about opening a business	Attitude

The two codes: “opening a business” and “business process” were grouped together under the subcategory called Entrepreneurship knowledge, as it describes students’ knowledge about entrepreneurship education. More specifically, during the courses students learned about the life cycle of a business, with a focus on the startup and growth phase. This knowledge was acquired through theoretical learning on one side, and experiential learning on the other side. The participants stated that the courses represented a good balance between theory and practice, and by the end of the courses even students without a business background had a good grasp of how to open a business, and how a business process should look like.

Entrepreneurship knowledge	
Opening a business	Business process

The four codes: “collaboration”, “communication”, “confidence” and “open minded” were categorized under the subcategory called Interpersonal skills, as it describes a set of social skills that students use when interacting and communicating with other classmates. More specifically, the codes “collaboration” and “open minded” make reference to the collaborative practices, which take place during the lessons, and allow the interviewees to become more open to new ideas, new team members, learn from a diverse group of students and together

develop new ideas. The code “confidence” describes a positive increase in the students’ confidence level, which helped them believe in their ideas and further develop them. The last code “communication” is strongly connected to the other three codes, and describes a positive change in how students’ communicated their ideas in groups and during courses.

Interpersonal skills			
Collaboration	Communication	Confidence	Open minded

The last five codes: “coping with stress”, “risk taking”, “leadership”, “creativity” and “innovation” were categorized under a fourth subcategory called Entrepreneurial skills. The subcategory was named Entrepreneurial skills as it describes a set of job specific skills that are widely recognized as entrepreneurial skills within entrepreneurship literature. More specifically, in the entrepreneurship journey a potential entrepreneur learns how to take and cope with different decisions that come with a certain level of risk and stress. During this journey a potential entrepreneur also needs to develop and display leadership skills to lead a team, and use different creative and innovative methods to further expand and implement ideas. However, as the participants also mentioned during interviews, these five skills can be learnt and applied by everyone not only by entrepreneurs or people in their entrepreneurial journey.

Entrepreneurial skills				
Coping with stress	Risk taking	Leadership	Creativity	Innovation

Step 4. Depending on the purpose of the study, researchers might decide to identify the relationship between categories and subcategories further based on their concurrence, antecedents, or consequences (Hsieh & Shannon, 2005). The aim of these seven interviews was to understand and explain how the entrepreneurship education minor influences students’ entrepreneurial learning outcomes. Through content analysis, four different subcategories emerged and showcased that by taking the entrepreneurship education minor, students gained entrepreneurship knowledge, skills (interpersonal and entrepreneurial) and new or different percep-

tions about entrepreneurship. As students gained these four subcategories as a result of the minor, they represent students' learning outcomes. Based on that and on the concurrence of the subcategories, the four subcategories were combined into one main category, called Entrepreneurship Education Learning Outcomes.

Table 3. Data analysis summary of students' interview

Codes	Subcategory	Main Category
Mindset	Perceptions	Entrepreneurship Education Learning Outcomes
Attitude		
Not only about opening a business		
Opening a business	Entrepreneurship knowledge	
Business process		
Collaboration	Interpersonal skills	
Communication		
Confidence		
Open minded		
Leadership	Entrepreneurial skills	
Risk taking		
Coping with stress		
Creativity		
Innovation		

In a nutshell, the in depth analysis of the students’ interviews through content analysis showed that by taking the entrepreneurship education minor at the University of Oulu students gained four different learning outcomes: perceptions, entrepreneurship knowledge, interpersonal skills, and entrepreneurial skills. In the following subchapters, a simplified analysis of the other three sources of data will be done. Hence, it will be compelling to see what the analysis of the three sources will show and finally how all the four sources will contribute to students’ entrepreneurial learning outcomes.

4.4.2 Interview with professors

The second data source used for this case study is the one interview where two professors that are teaching some of the courses from the minor were interviewed together. In order to analyse this interview, a simplified version of content analysis will be used, inspired by the process of Elo and Kyngäs (2008). In this process, the approach was working with the professors’ interview data from the ‘ground up’ by using inductive methods.

Step 1. Data analysis starts with reading all data repeatedly from the interview, which was compiled in a Word document, to achieve immersion and obtain a sense of the whole as one would read a novel. Then, all passages with relevant information in line with the research question, were highlighted and kept as data pool, and the non-highlighted passages were rejected.

Step 2. The highlighted passages that were kept as a data pool were then coded using an open inductive approach. At this point, instead of making detailed codes, I made large subcategories. In total four subcategories were derived by using an open inductive approach, as it can be seen in Table 4, followed by examples to illustrate the code creation.

Table 4. Data analysis summary of professors’ interview

Entrepreneurship Education Learning Outcomes			
Entrepreneurship knowledge	Mindset	Interdisciplinary skills	Collaboration

Entrepreneurship knowledge

When asked what kind of learning outcomes students should gain by taking the minor, both professors mentioned that the first thing students should gain from the entrepreneurship education minor is knowledge about opening a business and the life cycle of a business. Every course introduces knowledge about a certain phase of the business process and throughout the six courses, students gain an overall understanding of what entrepreneurship is, how to open, run and grow a business. Besides the theoretical understanding students also get to put in practice everything they learn through group assignments and case studies.

“Students should gain actual knowledge about entrepreneurship, and different phases of entrepreneurship.” (Professor 1)

Mindset

During the interview both professors stated that besides the business knowledge another thing that students should gain is an entrepreneurial mindset. Both of them stated that entrepreneurship is not only about knowledge that comes from specific models, theories, tools but it is also about getting a wider understanding of what entrepreneurship is, and that entrepreneurship is more than creating a business.

“And then we are not only focusing on the knowledge, but also the mindset.” (Professor 1)

“I think that the main idea behind our entrepreneurship minor education is to broaden the perspective of students and how they think about entrepreneurship.” (Professor 2)

Interdisciplinary skills

Both professors pointed out that another important part of the entrepreneurship education minor is acquiring certain skills, which can be in the form of inner skills or entrepreneurship specific skills. These skills can then be transferred and used to contexts outside the entrepreneurship minor in academia or other working fields, no matter the career path students choose. One of the professors gave the example of a PhD student using the acquired skills from the minor to find funding for their PhD project and sell their research idea.

“So what we think is important is that no matter in which field you work, you will need this entrepreneurial skills and knowledge. So we are not only thinking that all the students who are taking these courses will be entrepreneurs, but we think that you will need some entrepreneurial skills and knowledge in the working life.” (Professor 1)

“And then, secondly, it's important to recognize your own inner skills, and utilize your strengths in different fields, not just in the field of entrepreneurship, but also in the field of education while studying and also in the working life.” (Professor 2)

Collaboration

Lastly, both professors mentioned another thing that students can acquire is the opportunity to meet and work with students from different faculties. This can help them gain new knowledge, fresh ideas, becoming more open and tolerant to other people’s ideas, and possible future work collaborations or even friendships. Besides group work, students also have the opportunity to meet and collaborate on different case studies with local companies. This cooperation offers students the opportunity to gain a better understanding of the local business environment and practical experience.

“As the entrepreneurship studies are multidisciplinary, you can actually get some really good networks when you are involved in the courses.” (Professor 2)

To sum up, the content analysis of the interview shed light on professors’ perspectives on students’ learning outcomes when taking the entrepreneurship education minor. The results illustrated that from the professors’ perspectives students taking the minor should gain four entrepreneurial learning outcomes: entrepreneurship knowledge, mindset, interdisciplinary skills, and collaboration. These results contribute to the overall findings of this case, which will be expanded in the next subchapters.

4.4.3 Internal documents

The third data source used are internal documents representing the minor’s curricula. Access to the internal documents was given by the minor’s coordinators in May 2020. These documents are made by the minor’s coordinators and are updated at the beginning of each academ-

ic year in case of any changes. By using these documents, the focus is on examining the expected learning outcomes of the six courses from the program.

In order to analyse the expected learning outcomes a simplified version of content analysis will be used, inspired by the process of Elo and Kyngäs (2008). In this process, the approach was working with the curricula data from the ‘ground up’ by using inductive methods.

Step 1. As the focus is on examining the expected learning outcomes of the minor’s courses, data analysis starts by selecting the paragraph that describes the expected learning outcomes from each of the six course curricula. In total six paragraphs were selected, one from each course, which were then compiled in a Word document becoming the data pool. In this step an inductive coding was used to get an overall understanding of the data pool.

Step 2. After open inductive coding the data pool, I noticed some keywords being repeated between the learning outcomes of the six courses. The keyword occurrence helped me identify patterns in the data and to contextualize the code. In total 10 codes were derived by using an inductive approach, as it can be seen in the Table 5, followed by three examples to illustrate the code creation.

Table 5. Data analysis codes from internal documents

Codes				
Types of entrepreneurship	Creating a business	Designing solutions	Business life cycle	Communication skills
Presentation skills	Planning skills	Analytical skills	Creativity skills	Collaboration skills

Types of entrepreneurship

Four out of the six courses stated that during the sessions students will get exposed to different kinds of entrepreneurship such as sustainable or creative entrepreneurship. In this way, students will get a better insight into the diversity of entrepreneurship and make connections with other fields where entrepreneurship can be applied.

“On successful completion of the course, students understand the different forms of entrepreneurship.” (Learning outcome from Introduction to Business Development course)

Creating a business

Four out of the six courses stated that during the sessions students will learn how to discover and create different business opportunities. Students will get this knowledge through theoretical models, and also through different assignments or group work activities that will encourage participants to create their own business.

“Have the basic knowledge about start-ups and new business creation.” (Learning outcome from Building Change through Entrepreneurship course)

Analytical skills

In four courses students learn how to analyse different business opportunities, ideas, and case studies. Students are also encouraged to questions some of the current mainstream values, practices, and assumptions taken for granted in the business field and not only.

“...analyze alternative sustainable entrepreneurial business ideas based on individual strengths, values and the UN SDGs.” (Learning outcome from Entrepreneurship for Sustainability course)

Step 3. All 10 inductive codes were then classified into two subcategories based on how different codes are related and linked, as it can be seen in the following:

The four codes: “types of entrepreneurship”, “creating a business”, “designing solutions”, and “business life cycle” were grouped together under the subcategory called Entrepreneurship knowledge, as it describes students’ knowledge about entrepreneurship education. More specifically, students are exposed to different types of entrepreneurship which allows them to make connections with other fields, learn how to create a business, understand the business life cycle, and design solutions to existing problems throughout the six courses.

Subcategory 1. Entrepreneurship knowledge			
Types of entrepreneurship	Creating a business	Designing solutions	Business life cycle

The six codes: “communication”, “presentation”, “planning”, “analytical”, “creativity”, and “collaboration” were categorised under the subcategory Interdisciplinary skills, as it describes a set of common skills that students gain throughout the six courses. These interdisciplinary skills are not only limited to the entrepreneurship field, but can be applied to any field.

Subcategory 2. Interdisciplinary skills					
Communication	Presentation	Planning	Analytical	Creativity	Collaboration

To sum up, the content analysis of the learning outcomes of the minor’ six courses shed light on what entrepreneurial learning outcomes students expect and are expected to gain by taking the six courses. The results illustrated two main entrepreneurial learning outcomes: entrepreneurship knowledge and interdisciplinary skills. These results contribute to the overall findings of this case, which will be expanded in the next subchapters.

4.4.4 Student course feedback

The last data source that adds a different perspective to this case study comes from the students’ course feedback. Due to the fact that these course feedbacks are archival documents, I was able to get access to only three feedbacks sessions done in 2020, based on the courses: Introduction to Business Development, Entrepreneurship for Sustainability, and Building Change through Entrepreneurship. The surveys are usually done after each course through The Feedback Tool that sends a link to the students registered in the course, and works automatically based on WebOodi’s registration information. The names used in this data analysis are not the real names of the participants. The identity of the participants is unknown as the course surveys are totally anonymous, which might also encourage students to offer honest feedback. To this I can add, as the participants’ identity is unknown, these participants are not necessarily the same as the seven ones previously interviewed, thus offering some new insights. On average between 20 and 30 people participated in each of the three course surveys. Some of the comments were very brief, whereas other participants offered more informative feedback. As this data source offers students’ course feedback on specific courses and not an overall feedback of the minor, it only serves a secondary purpose to gain and add a different perspective to the overall findings.

In order to analyse this data, a simplified version of content analysis will be used, inspired by the process of Elo and Kyngäs (2008). In this process, the approach was working with students’ course feedback data from the ‘ground up’ by using inductive methods.

Step 1. Data analysis starts with reading all data repeatedly from each of the course feedback, which was compiled in a Word document, to achieve immersion and obtain a sense of the whole as one would read a novel. Then, all passages with relevant information in line with the research question were highlighted and kept as data pool, and the non-highlighted passages were rejected.

Step 2. The highlighted passages that were kept as a data pool were then coded using an open inductive approach. At this point, instead of making detailed codes, I made large subcategories. In total three codes were derived by using an open inductive approach, as it can be seen in Table 6, followed by examples to illustrate the code creation.

Table 6. Data analysis summary of students' course evaluations

Entrepreneurship Education Learning Outcomes			
Entrepreneurship knowledge	Interdisciplinary skills	Collaboration	Mindset

Entrepreneurship knowledge

Several students from all three courses mentioned that one thing they gained is knowledge about how to come up with a business idea, and how to open and grow a sustainable business. The courses had a practical approach which helped business and non-business students get a better understanding of entrepreneurship.

“Really enlightening. As a non-business student the course was very useful and not too difficult. I wanted to learn the basics of entrepreneurship and it was a very practical way to do it. The course was much better than what I expected and it helped see things through an entrepreneurial perspective.” (Mosab)

“I learned a lot about how to actually start planning a business idea and how to make it sustainable. Lots of good entrepreneurial advice in such a short time! Also, it was very nice that you had to constantly think of new business ideas to explore the topic with.” (Fatima)

Interdisciplinary skills

Different students that participated in the Introduction to Business Development, and Entrepreneurship for Sustainability course mentioned that some of the things they learnt during the course, such as knowledge and skills are not only limited to the entrepreneurship field but will be useful to other contexts as well. By being able to apply the things they learn during the course to other fields, the two courses equipped students with interdisciplinary skills.

“It met my expectations, because it was really interesting and we can follow and apply the things we learn outside the business life.” (Hayam)

Collaboration

Participants from all three courses stated that during the lessons they had the opportunity to explore working with students from other faculties, and perhaps other countries, which helped them gain different perspectives. They also mentioned in the course feedback that working in groups played an important role in getting a practical understanding of entrepreneurship.

“I really enjoy the group work. Every lesson I work with other people, which results in completely different ideas.” (Faisal)

Mindset

Participants from all three courses mentioned that the courses helped them gain an entrepreneurial mindset which allowed them to identify and make the most of opportunities, succeed in a variety of settings, think of solutions and alternatives, and understand that entrepreneurship is more than just business creation. Students also stated that they will be able to use this mindset not only in the field of entrepreneurship, but in other fields as well.

“I enjoy that the course explored the sustainability mindset in the way I expected.” (Samia)

To sum up, the simplified content analysis of the course feedback analysed students' evaluations on three courses of the minor. The findings showed that after participating in the courses students gained four entrepreneurial learning outcomes: entrepreneurship knowledge, interdisciplinary skills, collaboration, and mindset. These results contribute to the overall findings of this case, which will be expanded in the next subchapter.

4.4.5 Summary of data analysis

This case study used four different data sources to gain multiple perspectives for a more comprehensive understanding on the entrepreneurship education minor's influence on students' entrepreneurial learning outcomes. All four sources of data were analysed through inductive content analysis using Elo and Kangas (2008) process of data analysis, with the main goal of looking specifically at students' entrepreneurial learning outcomes. All sources were coded and analysed independently, with their own codes, to make sure that I kept the meanings proper to each of the sources and of the participants contributing to them. As mentioned before, from the four data sources, the main focus was on analyzing students' interviews, as this type of data would provide a more in-depth insight into students' entrepreneurial learning outcomes, and as a secondary focus I also spent time on analyzing the other three sources of data. Hence, the most influential part of the data analysis represents the analysis of the students' interviews followed by the other three data sources. In this summary, Table 7, I compared and contrasted the findings of the three data sources to the findings of the students' interviews to find similarities and differences and get an overall picture of the analysis.

Table 7. Summary of overall data analysis

4.4.1 Interview with students		
Codes	Subcategory	Main Category
Mindset	Perceptions	Entrepreneurship Education Learning Outcomes
Attitude		
Not only about opening a business		
Opening a business	Entrepreneurship knowledge	
Business process		
Collaboration	Interpersonal skills	
Communication		

Confidence		Entrepreneurial skills	
Open minded			
Leadership			
Risk taking			
Coping with stress			
Creativity			
Innovation			
4.4.2 Interview with professors			
Mindset		Entrepreneurship Education Learning Outcomes	
Entrepreneurship knowledge			
Interdisciplinary skills			
Collaboration			
4.4.3 Internal documents			
Types of entrepreneurship	Entrepreneurship knowledge		
Creating a business			
Designing solutions			

Business life cycle		Entrepreneurship Education Learning Outcomes
Communication skills	Interdisciplinary skills	
Presentation skills		
Planning skills		
Analytical skills		
Creativity skills		
Collaboration skills		
4.4.4 Student course feedback		
Mindset		Entrepreneurship Education Learning Outcomes
Entrepreneurship knowledge		
Interdisciplinary skills		
Collaboration		

As it can be seen from Table 7, there are similarities and differences between students' interviews and the other three data sources.

Similarities

Skills is one of the findings that emerged from all four data sources. Students' interviews analysis indicated two types of skills, *Interpersonal* and *Entrepreneurial*, whereas the other

three sources of data identified only *Interdisciplinary skills*. Under this subcategory some similarities can be noticed. *Collaboration skills* is one common finding that emerged from all four sources of data, followed by *communication* and *creativity skills* that emerged from two sources of data: students' interviews and internal documents analysis.

Entrepreneurship knowledge is a finding that has also emerged from all four data sources. By taking the entrepreneurship education minor students gain entrepreneurial knowledge about *opening a business* and the *business process* which focuses on the *business life cycle*.

Mindset is a finding that came from three data sources: students', professors' interviews and students' course feedback. By taking the entrepreneurship education minor students gain a certain mindset that helps them understand entrepreneurship from different angles and the complexity of the field. Moreover, during the professors' interviews and students' course feedback, participants also mentioned that gaining an entrepreneurial mindset helped them understand that entrepreneurship is *not only about opening a business*, a code which emerged from students' interviews. Thus, the code *not only about opening a business* will be described as part of the similarity *mindset*.

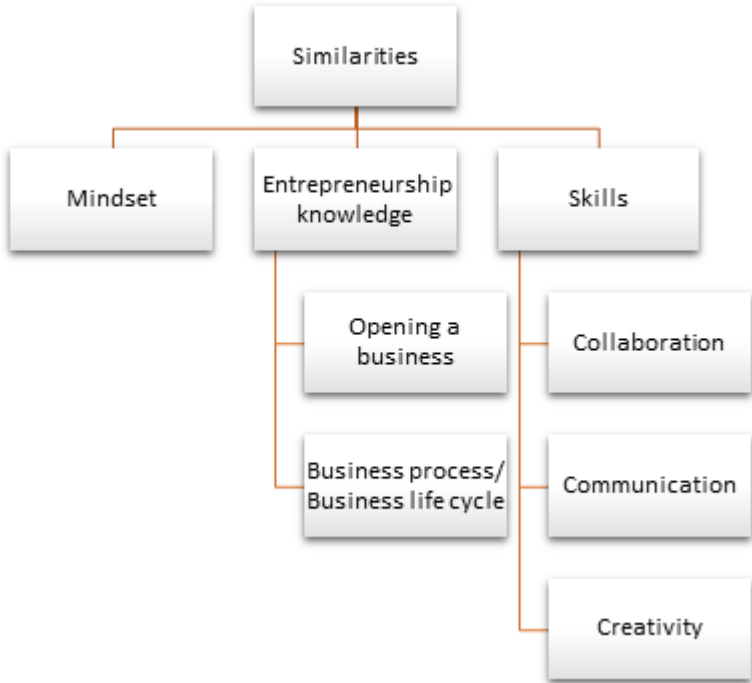


Figure 3. Data analysis similarities

Differences

One of the first differences, which adds to the overall findings, that emerged only from students’ interviews and not from the other three sources is the code *attitude*.

Under the common subcategory, entrepreneurship knowledge, *designing solutions* and *types of entrepreneurship* are two new codes that emerged only from the internal documents analysis and not from the other data sources, pointing out some differences in the overall findings.

Under the common subcategory, skills, *confidence*, *open minded*, *leadership*, *risk taking*, *cop-ing with stress* and *innovation* are skills that emerged only from the students’ interviews analysis. Whereas *Presentation skills*, *Planning skills*, and *Analytical skills* are skills that came up from the Internal documents’ analysis, indicating some differences in the overall findings.

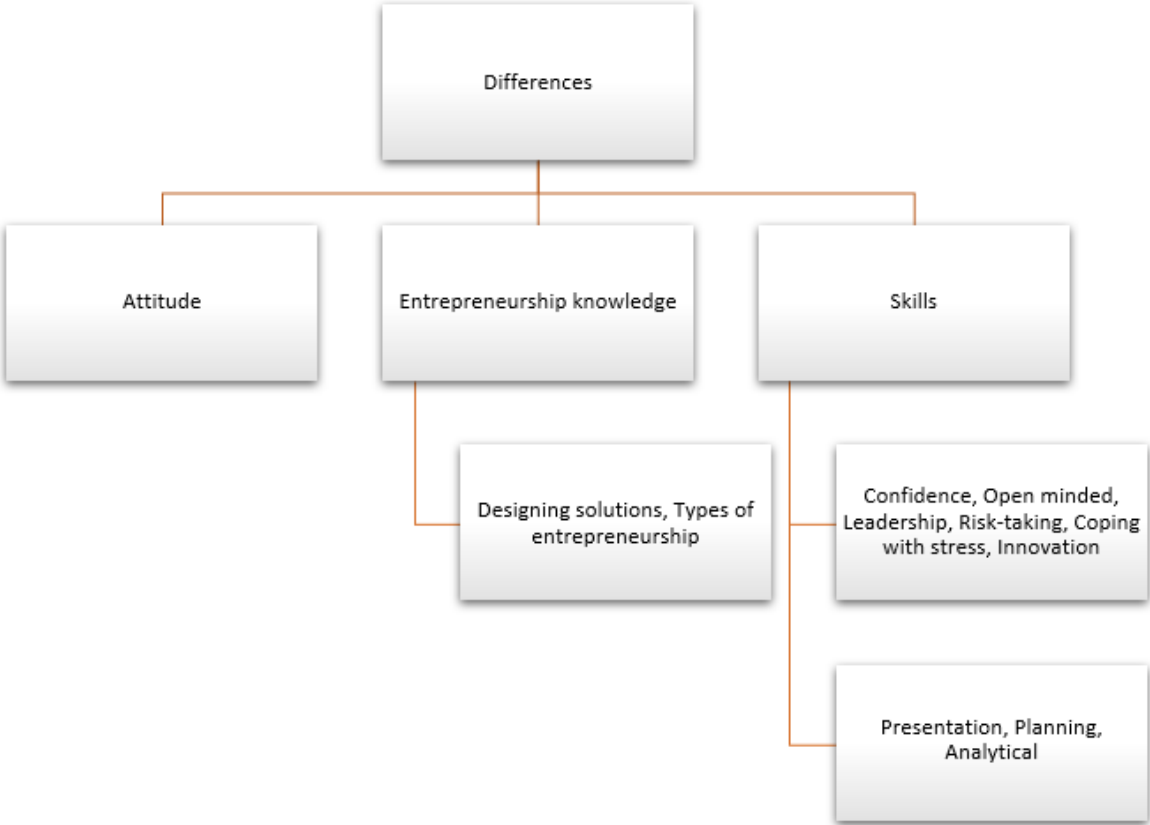


Figure 4. Data analysis differences

After analyzing all four data sources, the next chapter of this thesis will focus on discussing the implications of the findings.

5 Findings

As mentioned before, one benefit of doing a case study is using multiple sources of data that provide a fuller picture of the phenomenon. In this process three similarities and three differences were found.

5.1 Similarities

Skills

The first similarity, which was highly emphasized during the data collection and data analysis in all four data sources, is related to different types of skills. Data analysis of the students' interviews showcased two subcategories: *interpersonal skills* which describe a set of social skills, and *entrepreneurial skills* that describe a set of job-specific skills. In other words, the entrepreneurship education minor helped students gain a set of personal and professional skills which can be used and further developed while studying or working. The subcategory "skills" also appeared in the other three data sources but under the name *interdisciplinary skills* due to their wide variety and applicability in other disciplines. During the professors' interview, the concept of skills as *entrepreneurial skills* and *inner skills* was brought into discussion, but without any specific examples of what goes under these two types of skills. However, in the internal documents, certain concepts such as *creativity*, *collaboration* and *communication skills*, were mentioned as potential outcomes of more than one course, being introduced as *interdisciplinary skills*. Lastly, in the course evaluations, students also mentioned that they gained skills such as *teamwork* and *creativity*, which were broadly categorised as *interdisciplinary skills*.

When comparing and contrasting, the four data sources pointed out three common skills.: collaboration, communication, and creativity skills. *Collaboration skills* is one common finding that emerged from all four sources of data. In students' interviews, *collaboration* emerged as a code under the subcategory Perceptions, whereas in the analysis of the internal documents *collaboration* developed as a code under subcategory Interdisciplinary skills. From the professors' interview and student course evaluations, *collaboration* was also mentioned as a subcategory emphasizing the importance of this skill. In contrast to collaboration skills, *communication* and *creativity skills* were mentioned in only two sources of data. In the analysis of

students' interviews, *communication* emerged as code under the subcategory Interpersonal skills, and *creativity* developed as code under Entrepreneurial skills. Whereas in the analysis of the internal documents, both *communication* and *creativity* developed as code under Interdisciplinary skills. Hence, one entrepreneurial learning outcome of the entrepreneurship education minor is gaining *interpersonal/ entrepreneurial/ interdisciplinary skills* such as *collaboration, communication, and creativity*.

Entrepreneurship knowledge

The second similarity that emerged from the four data sources is knowledge about entrepreneurship. Data analysis from the students' interviews showed entrepreneurship knowledge as one subcategory which was formed from the two codes *opening a business*, and *business process*. This is something that has also emerged from the interview with the professors, which talked about the importance of gaining an overall understanding of what entrepreneurship is, and knowledge specific to the business creation process. Moreover, in the internal documents it was mentioned that students are expected to learn how to *create a business* and about the *business life cycle* after taking the courses. Lastly, the course evaluations added that after taking some courses, students gained a basic understanding of what entrepreneurship is, how to *create a business*, and the *business process* which focuses on the steps of a *business life cycle*. Thus, one entrepreneurial learning outcomes that students gain after taking the minor is entrepreneurship knowledge, more specifically knowledge of how to come up with a business idea, the process involved in opening a business and the process of growing a business. This knowledge was acquired through theoretical models and tools, discussions, guest lectures, group assignments, presentations, feedback sessions, case studies and collaboration with local companies.

Mindset

One of the last similarities that emerged from the three data sources is mindset. The analysis of the students' interview showcased *mindset* as a code under the subcategory Perceptions. It was described as a shift in their way of thinking, bringing their attention to more ethical and sustainable thinking that can solve some societal problems, and that you do not have to be an entrepreneur to have an entrepreneurial mindset. During the professors' interview, mindset, or more specifically entrepreneurial mindset, was also mentioned as an entrepreneurial learning outcome, and it was described as a way for people to identify and make the most of opportu-

nities, succeed in a variety of settings, but also see entrepreneurship as more than just business creation. The last data source where mindset was mentioned was in the students' course evaluations, and it was described as seeing the problem from different angles, but also understanding that entrepreneurship is more than just business creation. Thus, another entrepreneurial learning outcome that students gain from taking the minor is a mindset.

While these three similarities showed a cohesion between the four data sources, some differences also emerged between the data sources.

5.2 Differences

Attitude

The first difference came up from the analysis of the students' interviews, with the code *attitude* from the Perceptions subcategory, which did not appear in the analysis of the three data sources. The code *attitude* was described by participants as a change in their attitude by becoming more flexible, responsible, and proactive when making decisions. Even though the code appeared only from students' interviews, this difference points to a learning outcome that played an important role for students, but was omitted in the other three data sources.

Skills

A second difference that came from two sources of data is different types of *skills*. From the students' interviews six skills came up that were not mentioned in the other three data sources. The codes *confidence* and *open minded* emerged under the subcategory *Interpersonal skills*, whereas the codes *leadership*, *risk taking*, *coping with stress* and *innovation* were categorised under the subcategory *Entrepreneurial skills*. These six skills point to learning outcomes that were acquired by students, but were omitted in the other three data sources, showing a discrepancy between the alignment of the outcomes with what is taught. Moreover, from the analysis of the internal documents another three different skills emerged that were not mentioned in the other data sources. The codes *presentation*, *planning*, and *analytical skills* were categorised under the subcategory *Interdisciplinary skills*, pointing to learning outcomes that students were expected to acquire from the minor, but were not mentioned in the other data sources. These three codes add to the discrepancy between the alignment of the outcomes with what is taught.

Entrepreneurship knowledge

The last difference that came from the analysis of the internal documents represents the two codes *designing solutions* and *types of entrepreneurship* under the subcategory Entrepreneurship knowledge. *Designing solutions* was emphasized as an expected learning outcome in three courses, as learning to solve entrepreneurial problems and make a change. Whereas *types of entrepreneurship* was emphasized as a learning outcome in four courses, as exposing students to different kinds of entrepreneurship in order to get a better insight into the diversity of entrepreneurship and make connections with other fields. As these two codes emerged from the analysis of internal documents, this points out two learning outcomes that students were expected to gain during the courses, but were absent in the other three data sources.

In a nutshell, the multiple sources of data used in building this case study showcased a comprehensive picture of the overall findings formed by similarities and differences. The findings illustrated three main similarities that emerged between the data sources, such as Skills - more specifically collaboration, communication and creativity - , Entrepreneurship knowledge - more specifically opening a business, and business process - , and Mindset. These similarities demonstrated a cohesion between what students are expected to learn/ gain from the minor and what they actually learnt/ gained. The findings also illustrated three main differences that emerged between the four data sources such as Attitude, Skills - more specifically confidence, open minded, leadership, risk taking, coping with stress, innovation, presentation, planning, and analytical skills -, and Entrepreneurship knowledge - more specifically designing solutions and types of entrepreneurship. These differences demonstrated a discrepancy between the alignment of the outcomes with what is taught.

6 Discussion

The research aims to show how entrepreneurship education influences students' entrepreneurial learning outcomes, by studying the case of the minor at the University of Oulu. In order to fulfill this objective and answer the research question, this research analysed four sources of data that displayed a comprehensive picture of the overall findings formed by similarities and differences. In total four findings contribute to answering the research question.

6.1 Skills

This finding represents the first entrepreneurial learning outcome that students gain by taking the entrepreneurship education program, and contributes to answering the research question. More specifically, by taking the entrepreneurship education program at the University of Oulu, students gained a set of skills that can be used in the field of entrepreneurship and in other fields as well.

This finding is supported by multiple researchers (Koiranen & Peltonen, 1995; Eggers, 1995; Hietaniemi, 2002; Rae, 2000; Jones & English, 2004; Verheul et al., 2001; Kuratko, 2005; Fayolle et al., 2006; Azizi & Mahmoudi, 2019) which were introduced in Chapter 1 and 2, and connect entrepreneurship education and entrepreneurial learning outcomes with equipping students with certain skills. This finding also goes in line with Sansone et al. (2019) third approach towards entrepreneurship education which represents a way of developing skills.

Data analysis pointed out different skills that were acquired by students. More specifically, the four data sources showed that students gained three skills: collaboration, communication, and creativity skills. These three skills were also mentioned as competences and learning outcomes in the Tripartite Competence Framework and EntreComp Model, models that were discussed in Chapter 3. Furthermore, data analysis of the students' interviews pointed out six extra skills that were acquired by students, such as confidence, open minded, leadership, risk taking, coping with stress, and innovation, that were not mentioned in the other data sources. These six skills were also mentioned as important skills in entrepreneurship education by multiple authors (Rae, 2000; Sansone et al., 2019; Gibb, 2005; Garavan & O Cinneide, 1994) in Chapter 2, and as competences and learning outcomes in the Tripartite Competence Framework and EntreComp Model, in Chapter 3. Lastly, data analysis of the internal documents pointed out three more skills, presentation, planning, and analytical, which did not

emerge from any other data source, but are regarded as important by Tripartite Competence Framework and EntreComp Model. Hence, even though these differences point out a discrepancy between what students are expected to gain from the minor and what they actually gained, theory shows that all the 12 skills are equally important, offering the space for the minor's coordinators to introduce some missing skills in the minor's curricula.

This finding also brings into discussion a larger implication of this research, which is connected to transferable skills. Different definitions (European Commission, 2009; Olesen, et al., 2020) introduced in Chapter 2 stated that entrepreneurship helps students develop skills which are transferable outside of their academic field of study, also known as transferable skills. Olesen et al. (2020) emphasize the importance of transferable skills in higher education institutions as a way of preparing students for the rapid changes in the future labor market and finding immediate employment. Examples of transferable skills include diverse skills such as teamwork, creative thinking, risk taking, leadership, communication, interpersonal skills and in some models numeracy, and self-management (Olesen et al., 2020). These skills have also emerged from this case study's findings and were repeatedly introduced by the four data sources as skills that can be used outside the entrepreneurship field. Hence, one of the larger implications of this research points to the fact that entrepreneurship education courses/ programs equip students with transferable skills, and play an important role at the university level and the local economy in preparing students for the job market. This larger implication can also serve as an inspiration for other higher education institutions in Finland and around the world, to integrate entrepreneurship education courses in their interdisciplinary curricula.

6.2 Entrepreneurship knowledge

The second entrepreneurial learning outcome that students gain by taking the entrepreneurship education program, and contributes to answering the research question is entrepreneurship knowledge. More specifically, by taking the entrepreneurship education program at the University of Oulu, students gained knowledge about opening a business, business process, designing solutions, and types of entrepreneurship.

This finding is supported by multiple researchers (Koiranen & Peltonen, 1995; Rae, 2000; Azizi & Mahmoudi, 2019; Hietaniemi, 2002; Jones & English, 2004; Verheul et al., 2001; Bacigalupo et al., 2016; Gibb, 2005; Garavan & O Cinneide, 1994) which were introduced in Chapter 1 and 2, and emphasized the importance of entrepreneurship knowledge as an entre-

preneurial learning outcome. This finding also goes in line with Sansone et al. (2019) first and most popular approach towards entrepreneurship education, regular entrepreneurship, which talks about the business life cycle.

Data analysis pointed out what entrepreneurship knowledge was acquired by students. More specifically, the four data sources showed that students gained knowledge about how to open a business and about the business process which focuses on the business life cycle. These aspects were also mentioned as learning outcomes in the Tripartite Competence Framework, and important knowledge by different authors (Robinson & Shumar, 2014; Hägg & Peltonen, 2014). Besides these two aspects, data analysis of the internal documents showed that students are also expected to learn about different types of entrepreneurship and how to design solutions, aspects that were also emphasized in the Tripartite Competence Framework and EntreComp Model. Hence, as theory indicates the importance of all the four aspects that emerged from data analysis, this offers the grounds for the minor's coordinators to align the entrepreneurship knowledge that students are expected to learn with what they actually learn.

This finding also brings into discussion the second larger implication of this research, which is connected to students' intentions towards becoming future entrepreneurs. When asked about their reasons for taking the minor, as it can be seen in Table 2, students' interviews showed that four of the students had a clear idea that they want to become entrepreneurs and open a business in the future. Whereas the other three participants wanted to expand their knowledge and understanding about entrepreneurship education, but not necessarily to become entrepreneurs. These two different views also align with the program's view which aims to equip students with knowledge and skills to become entrepreneurs, but does not expect all participants to become one. However, during the interviews some students mentioned that even though they did not start with a clear intention to become entrepreneurs, by expanding their knowledge and understanding about entrepreneurship, their intention to become entrepreneurs gradually changed towards the possibility of creating a business in the future. Hence, one of the larger implications of this research points out the fact that entrepreneurship education programs can influence students' intentions towards becoming future entrepreneurs.

6.3 Mindset

The third entrepreneurial learning outcome that students gain by taking the entrepreneurship education program, and contributes to answering the research question is mindset. Data analy-

sis of students', professors' interviews and students' course feedback emphasize mindset as an entrepreneurial learning outcome. This finding is supported by three authors (Jones & English, 2004; Hietaniemi, 2002) in Chapter 2, which highlight the importance of entrepreneurial mindset as an entrepreneurial learning outcome. However, compared to the previous learning outcomes, skills and entrepreneurship knowledge, the concept of mindset was not as highly emphasized as the other two in academic circles. Hence, data analysis of this case study suggests mindset as an entrepreneurial learning outcome, a fact that needs to be further researched and supported by theory.

This finding also brings into discussion another larger implication of this research, which is connected to the participants view about the field of entrepreneurship. Data analysis of three data sources showcased that professors, business and non-business students shared the common view that entrepreneurship is more than knowledge about opening a business. Entrepreneurship is a mindset that enables people to identify and make the most of opportunities, and succeed in a variety of settings. Thus, this demonstrates the importance of entrepreneurship in the education field and challenges a common misconception about the purpose of entrepreneurship - a neoliberal project that is becoming more present within academia with the sole purpose of preparing students for producing financial gain.

6.4 Attitude

The fourth entrepreneurial learning outcome that students gain by taking the entrepreneurship education program, and contributes to answering the research question is attitude. Data analysis of the students' interviews pointed out that by taking the entrepreneurship education minor at the University of Oulu, students gained an entrepreneurial attitude, something that did not emerge from any of the other data sources. This finding is supported by multiple researchers (Koiranen & Peltonen, 1995; Rae, 2000; Hietaniemi, 2002; Bacigalupo et al., 2016; Fayolle et al., 2006; Garavan & O'Cinneide, 1994) and the Tripartite Competence Framework, that emphasize its importance in the entrepreneurship field as an entrepreneurial learning outcome. Hence, even though this finding emerged only from the data analysis of the students' interviews, theory emphasized its importance offering the space for the minor's coordinator to bring more attention to this learning outcome in the minor's curricula.

6.5 Other observations

Besides the four findings that contribute to answering the research question and show the larger implications of this research, some other interesting observations emerged from students' interviews. These observations only aim to offer some insights in how the minor could be better enhanced in the future.

When asked about what they thought was missing from the minor, five of the participants agreed that the minor was lacking knowledge about financial and economical literacy. Coming from a non-business program, the participants wished they would have gained some financial knowledge, as this is something important when opening a business. This observation is also supported by the Tripartite Competence Framework and EntreComp Model, which emphasize the importance of financial and economical literacy as an entrepreneurial learning outcome. Some students also mentioned that it would be a valuable experience if the lessons would have more guest lectures from companies that can share their practical experience and discuss with students. This observation is also supported by the EntreComp Model, which emphasizes the importance of learning through experience as an entrepreneurial learning outcome. Thus, some extra points that can further improve the minor are: more focus on financial and economical literacy during courses, and more guest lectures and company collaborations. This observation also points to a large implication of this research, which emphasized the importance of financial literacy and learning through experience as two entrepreneurial learning outcomes in entrepreneurship education programs.

7 Ethical considerations

As this study followed the methods advocated by Yin (2014; 2018), it seems fitting to evaluate this study on the basis of the evaluation criteria discussed by the author. The first half of this chapter will focus on these evaluation criteria, followed by a discussion on ethical considerations and limitations of this case study.

7.1 Quality of a case study

Because a research design is supposed to represent a logical set of statements, you also can judge the quality of any given design according to certain logical tests. Three tests have been commonly used to establish the quality of a case study research (Yin, 2018, p. 44)

Construct validity means identifying correct operational measures for the concepts being studied. This first test is especially challenging in case study research, however three tactics are available to increase construct validity (Yin, 2018). The first one is the use of multiple sources of evidence that is relevant during data collection. A second tactic is to establish a chain of evidence, also relevant during data collection. In this present case study, four different sources of evidence were used: interviews, internal documents, and students' course feedbacks and a chain of evidence was established, as it can be seen in Chapter 4.3 Data collection. A third tactic is to have the draft case study report reviewed by key participants, a procedure that will boost the overall quality of the study. By using this tactic, the likelihood of falsely reporting an event or of misinterpreting a relativist perspective should be reduced. In the present study, parts of the case study draft were reviewed in detail by one of the key participants whose identity will remain anonymous. The participant's criticism played an important role in my revision.

Internal validity seeks to establish a causal relation, whereby certain conditions are believed to lead to other conditions, as distinguished from spurious relations. Internal validity is based on data analysis procedures. As this present study used a content analysis procedure, the internal validity of content analysis will be examined. The validity of a content analysis study refers to the correspondence of the *categories* to the *conclusions* (Vaismoradi, Turunen & Bondas, 2013). When creating the categories in the data analysis, multiple classifiers were used to arrive at an agreed upon definition of the category and then the conclusions followed from the data. In the present case study, all four data sources were analysed through content

analysis. Findings of the four data sources were then analysed together to find similarities and differences between the multiple perspectives, establishing a causal relation.

External validity shows whether and how a case study's findings can be generalized. However, how can you generalize from a single case? When doing case study research, the goal will be to expand and generalize theories (analytic generalizations) and not to extrapolate probabilities (statistical generalizations). The term analytical generalisation is used commonly in case study research to generalise a set of results to broader theories. In Chapter 5. Findings and 6. Discussions, I showcased how the Entrepreneurship Education program developed students' entrepreneurial learning outcomes, which entrepreneurial learning outcomes, and how the results advanced the theoretical concepts that were introduced in the theoretical framework.

7.2. Standard Ethical Procedures

When conducting research, attention should also be paid to ethical issues. In a qualitative study, ethical considerations have a particular importance due to the in-depth nature of the study process. The consideration of ethical issues is crucial throughout all stages of qualitative study to keep the balance between the potential risks of research and the likely benefits of the research (Orb, Eisenhauer & Wynaden, 2000). Participants in this research were adequately informed about the research and had the power whether to participate or decline. Before the interviews, the participants had to sign an informed consent. Also, the anonymity and confidentiality of the participants is preserved by not revealing their names and identity in the data collection, analysis and reporting of the study findings.

Another ethical implication is my position as an Education masters' student writing my master thesis while collaborating with Oulu Business School and conducting a quality assurance project for the Entrepreneurship education minor. As an Education and Globalization master student I was taught to approach research through a critical lens and question the neoliberal purpose of educational institutions. Whereas as a researcher collaborating with Oulu Business School I had to keep a neutral stance without seeing the program or the concept of entrepreneurship through a neoliberal perspective. These two positions brought some internal conflict by trying to stay neutral and always questioning my biased assumptions and personal implication - as an Education student and a researcher cooperating with the program - which at times seemed to clash.

7.3 Limitations

The first limitation comes from my theoretical framework. According to Kozlinska (2016) entrepreneurial learning outcomes can be considered successful when they result in the achievement of the objective outcomes such as employability and creating new private enterprises. However, this research gathered data from students that are still doing their entrepreneurship education minor or that just finished their minor, thus the achievement of the objective outcomes cannot be measured yet, which means that the impact of the minor cannot be completely measured. Given that the goal of entrepreneurship education is not necessarily for all participants to create a business in the short-term, the simplest and most obvious indicators are not generally the most appropriate. According to Fayolle, Gailly, and Lassas-Clerc (2006), during and shortly after an entrepreneurship education program some of the relevant evaluation criteria include general number of students enrolled, general awareness of interest in entrepreneurship, intention to act, acquisition of knowledge and know-how. Only between two and five years after taking an entrepreneurship education program, the evaluation criteria includes number of companies created and number of entrepreneurial positions obtained (Fayolle, Gailly, & Lassas-Clerc, 2006). Hence, this research focused on entrepreneurial learning outcomes that students gained during and shortly after the entrepreneurship education program as evaluation criteria.

The second limitation comes from my sample size. As mentioned before, one issue that the entrepreneurship education program has been facing is the low and at the same time uncertain number of students that are taking the whole minor. In the academic year 2019-2020, an estimated guess of students taking the whole minor was around 13. Once all the “areas of interest” were filled, 7 out of the potential 13 students represented a suitable number of participants to be interviewed. However, this sample size might represent a limitation, as getting more students would have perhaps led to different findings.

A third limitation comes from the profile of my participants. As it could be seen in the data collection, in the profile of the participants, all seven participants were in different stages of doing their minor when they were interviewed. Some participants did two courses, some four and two already finished their minor. Thus, one limitation might come from the number of courses and the participants' stage in the minor. Perhaps interviewing students that would have been in the same stage of the minor would have changed or impacted differently their entrepreneurial learning outcomes.

A fourth limitation is the choice of academic articles and books which are mainly based on Western educational institutions and knowledge production. As an Education and Globalization master student, one of things that were emphasized during the master program is to be critical when conducting and utilizing research. Using mainly Western academic articles and books this might showcase a lack of academic inclusion, and a limitation of my overall knowledge and understanding of the entrepreneurship concept as a global phenomenon.

The last limitation comes from my limited knowledge and practical experience with the field of entrepreneurship. Coming from an academic background in business, combined with five years working experience and a passion for the education field, I became more interested in understanding the ramifications of entrepreneurship in the field of education. Before embarking in this research, I lacked the theoretical knowledge and terminology specific to the entrepreneurship field, which at times proved to be limiting my understanding of the field. However, actively engaging with this topic for one year I developed a stronger base which helped me overcome this limitation.

8. Conclusion

The aim of this master thesis was to assess the influence of entrepreneurship education programs on students' entrepreneurial learning outcomes, by studying the case of entrepreneurship education minor at the University of Oulu. Findings of this case study showed that by taking the entrepreneurship education program at the University of Oulu, students gained four main entrepreneurial learning outcomes: skills, entrepreneurship knowledge, mindset, and attitude. These findings were also supported by theory. Findings illustrated similarities between the four data sources, which showcased a cohesion between what students are expected to learn and gain from the minor, and what they actually learned and gained. However, findings also showed differences between the four data sources, which demonstrated a discrepancy in the overall alignment of the entrepreneurship education program, offering the space for the minor's coordinators to do some future improvements. As the only program that focuses on entrepreneurship education at the University of Oulu, the program has a lot of potential of being a successful interdisciplinary program that equips students with practical tools, and at the same time bring a lot of value to the university and the local economy.

Entrepreneurship education and entrepreneurial learning outcomes are not easy concepts to define. Various authors have different definitions which introduce multiple perspectives to the two concepts. Some definitions emphasized the business dimension, and some focused on the individual one. However, entrepreneurship education is more than that. Literature and data analysis of this research illustrate entrepreneurship education as equipping future entrepreneurs with the necessary skills and knowledge, but also something that influences students' attitudes, mindset and transferable skills to be successful in academia and later in the working life. Hence, entrepreneurship education has a lot of potential, especially as a teaching method that can be used in all subjects and on different educational levels.

As this research is context bound, the results are not generalizable to other similar cases, but the results of this research can be used as a benchmark both when similar studies are conducted elsewhere, and similar programs are planned and implemented. Despite the non-generalizability of the results, this study contributes to existing research by providing support to some of the earlier findings as well as revealing new interesting notions that could be studied further to improve the field of entrepreneurship education. Thus, this research demonstrates the importance of entrepreneurship in the education field. By taking an entrepreneur-

ship education program students gain different entrepreneurial learning outcomes, which can be useful in other academic fields besides entrepreneurship. In this way, entrepreneurship education programs are of high importance at the university level as they prepare a wide variety of students, business and non-business, for immediate and meaningful employment or self-employment. This might also encourage higher education institutions in Finland and around the world, to integrate entrepreneurship education courses in their interdisciplinary curricula. This research also contributed to the limited research regarding the importance of entrepreneurial learning outcomes. It also emphasizes the importance of mindset as an entrepreneurial learning, a fact that was not highly emphasized in academic research and can be used as a research topic for future studies.

This study reveals the demand for further research in the field and the variety of potential research subjects around the topic, something that is aligned with the general agreement in academia that entrepreneurship education still requires more research. One recommendation for future work on this topic is to assess how entrepreneurship education influences a different set of entrepreneurial learning outcomes, such as entrepreneurial intentions or behaviours. Research on entrepreneurial intentions and behaviour is rather scarce, offering a fertile ground for future research. Another recommendation for future work would be to reassess students' entrepreneurial learning outcomes between two and five years after taking the entrepreneurship education program, and see the number of companies created, and the number of entrepreneurial positions obtained. This would offer a more comprehensive understanding of the entrepreneurship education program's impact.

I end this thesis by adding that the process of conducting this research has been pleasant and demanding at times. Writing this research has allowed me to use the learning I have acquired during my master in Education and Globalization from theory to practice. Writing for a different audience and finding a balance between my position as a master's student and a researcher collaborating with Oulu Business School brought some challenges. However, the practical utility of the topic has been a motivational factor for conducting this study. Presenting the findings to Oulu Business School confirmed the impact of this study, which is why conducting this thesis has felt meaningful.

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Appendix 1 Informed consent for participating in research

This informed consent form provides you as a research participant general information about the research, its purpose and your rights as a participant.

General information

I am a master's student in the Education and Globalization Master Program, at the Faculty of Education, University of Oulu. As part of my studies, I am conducting research in Entrepreneurship Education. The purpose of my research is to assess how entrepreneurship education influences the students' entrepreneurial learning outcomes, while studying the case of the minor at the University of Oulu. I kindly request your consent for collecting information from you for the research purpose by interviewing.

All information will be used anonymously, respecting your dignity. No personal details that enable identifying you will be included in the analyses and reporting. Systematic care in handling and storing the information will be ensured to avoid any kind of harm to you. After all the information leading to identification of a person has been removed, the information will be destroyed after the thesis has been assessed and approved by the Faculty of Education and published.

Voluntary participation

Your participation is completely voluntary. You have the right to withdraw from the research at any time without any consequences (e.g. withdrawal does not affect your studies or grading). Observe that information collected before your withdrawal may be used. You have the right to get information about the research and may contact me/us, if you have questions.

Confirming informed consent (USE BOXES THAT ARE RELEVANT, DELETE OTHERS)

- I am willing to participate in the research.
- I allow the use of interviews for research purposes.
- I allow the information that I have provided to be stored and archived for further research use.
- I do not allow the information that I have provided to be stored and archived for further research use.

Date ___/___/20___

Signature and name (in capital letters)

Researcher

Signature

Anca Teodosiu, ateodosi19@student.oulu.fi

More information about research ethics and informed consent:

Finnish Board on Research Integrity

<http://www.tenk.fi/en/ethical-review-in-human-sciences>

Social Sciences Data Archive

<http://www.fsd.uta.fi/aineistonhallinta/en/informing-research-participants.html#partIV-examples-of-informing-research-participants>

<http://www.fsd.uta.fi/aineistonhallinta/en/anonymisation-and-identifiers.html>

Appendix 2 Student Interview Questions

1. What university program are you studying?
2. How do you define entrepreneurship as a concept?
3. How do you define entrepreneurship education?
4. Why did you decide to take the entrepreneurship education minor at the University of Oulu?
5. How many courses have you been doing so far from the minor? Which courses?
6. What were your expectations before taking the minor?
7. What was your experience while taking the minor?
 - 7.1. Do you think that your expectations were met?
8. What do you think about the course content and methods?
 - 8.1. Was it practical/theoretical enough?
9. What do you think was missing from the minor?
10. What do you think you gained from the minor?
 - 10.1. Where do you think you will use the knowledge/ skills you gained from the minor?