UNIVERSITY OF AGDER

Effect of Entrepreneurship Education on Students' Entrepreneurial Intentions

Educators' Perspectives at Universities in Norway and Russia

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This master's thesis is carried out as a part of the education at the University of Agder and is therefore approved as a part of this education. However, this does not imply that the University answers for the methods that are used or the conclusions that are drawn.

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Acknowledgement

This Master Thesis has been the final step towards my Master degree in Economics and Project Management at the University of Agder, Kristiansand, Norway.

The purpose of the thesis is to conduct to existent knowledge about entrepreneurship education (EE) influence on students' entrepreneurial intentions (EI) from the educator's perspective, and to form a base for my future PhD fellowship.

The interest to the topic has been formed through my participation in the "Venture Cup" competition as an ordinary student - to the leadership of my own organization StudentPower SB and the student organization STRAT-HiNT.

I strongly believe that the EE constructed in a proper way would allow the increase of entrepreneurial competencies and intentions among students.

I would like to offer my gratitude to my supervisor Rotem Shneor for the guidance and support throughout this semester. It was interesting to learn from him. I appreciate the help and constructive criticism which helped me to improve the quality of my master thesis and its contribution to the entrepreneurship education theory.

Lidia Kritskaya,

Kristiansand, 2015

Abstract

Øyvind Gustavsen (2013) explains that entrepreneurs, as creators of the employment places, are the most important drivers of economy development. Just in the period 2002-2007 in Norway, 248,000 new job places were developed in the companies younger than 5 years old, while 181,000 jobs disappeared at the companies older than 5 year. Therefore, when aiming to inspire entrepreneurship behavior (EB) and improvement of the quality of new start-ups and innovation, governments create programs, which strive to develop a cooperation between universities, schools, business and research institutions (Gustavsen, 2013).

Bakotic and Kruzic (2010) state, that students are generators of the future economic development. Their entrepreneurial attitudes and behavior determine the future business activities and sustainability of economy (Bakotic & Kruzic, 2010). The Global Report (2014) of the Global Entrepreneurship Monitor (GEM) states that proactive approach in the developing of EB and enhancing entrepreneurial intentions requires consistent improving of entrepreneurship education (Singer, Amorós, & Arreola, 2015).

The research literature within entrepreneurial intentions confirms that entrepreneurship education programs are the right and effective tool to enhance entrepreneurial intentions. However, researchers are inconsistent about their findings. One of the possible reasons to the inconsistency is the lack of any qualitative exploratory research papers within this particular topic. The other reason is the complexity of the "entrepreneurship" phenomenon. As a result, methodological biases and self-assessed questionnaires of students lead to the incomparable research findings.

This master thesis deals with entrepreneurial intentions of students because of its potential effect on future context of entrepreneurship and economics impact. Educators' perspective was chosen to view the entrepreneurship education – entrepreneurial intentions relationship from the other perspective based on instructors' work and experience. It allowed finding variables which were neglected by the research based only on the students' perspective. Two countries, Russia and Norway, research allowed to separate common for EE and dependent from the culture variables. The qualitative multiple case study design was chosen as a tool for the theory development study.

Key Words: *Entrepreneurship, Entrepreneurship Education, Entrepreneurship Education Program, Enterprise Education, Entrepreneurial Education, Entrepreneurial Intentions, Entrepreneurial Intent, Self-employment, Career-choice*

Foreword

I chose "Venture Cup" as a voluntary module for my Bachelor in Economics and Administration at the College in Northern Trondelag (HiNT) during the spring semester 2011. My intentions were aimed to receive knowledge about the business plan creation and to get credits for the diploma. However, it appeared to be the very start of my interest in entrepreneurship as a tool for the economic development, the process and the way of observing life full of opportunities. From this moment, my friends and I have taken part in different conferences and competitions, and won the second place of the Venture Cup Middle-Norway in 2012 and 2013. In addition, I became the leader of the START-HiNT organization during the academic year 2012-2013, and the founder of the student company StudentPower SB.

However, I have always seen myself working at the university helping students to develop their knowledge, intentions and self-efficacy. Therefore, I am interested to gain both strong theoretical and practical knowledge about entrepreneurship. My first bachelor was written about the development of a new education program at the Northern Arctic Federal University in Russia. The second bachelor was conducted to study the development of the leadership role through the process of reestablishment from the Student Company to the ordinary company in Trøndelag, Norway. I would like to continue the journey of the entrepreneurship discovery during this thesis.

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List of acronyms and abbreviations

EB – Entrepreneurship Behavior

EC – Entrepreneurship Education Course(s)

EE – Entrepreneurship Education

EEP - Entrepreneurship Education Program

EET - Entrepreneurship Education Training

EI – Entrepreneurial Intentions

GEM - the Global Entrepreneurship Monitor

Mnth. -Month

PBC – Perceived Behavior Control

PD – Perceived Desirability

PEE – Previous Entrepreneurship Experience

PF – Perceived Feasibility

SCT – Social-Cognitive Theory

SE – Self-efficacy

SEE – Shapero's model of the Entrepreneurial Event

SN – Subjective Norms

TPB - The Theory of Planned Behavior

Var. – Variable(s)

UK – United Kingdom

USA – United States of America

CHAPTER 1 Introduction

The introduction to the research is a conceptual presentation of a research problem and its significance (Cooper, 1998). This chapter is aimed to clarify the research topic, question and contribution to the existent theory.

The topic formulation framework

Narrowing and actualizing our research topic, we have used three steps from the work of Machi and McEvoy (2012).

Step 1: Create specific topic by narrowing a general idea of your interest to a more specific topic of the research;

Step 2: Focus on the topic by identifying multiple subjects and choosing which one should be studied. These boundaries are useful to establish the direction to narrow the literature search;

Step 3: Search of academic literature to gain a basic understanding of terminology, perspectives on the topic and lack of the information on the phenomena;

In addition, the topic remained open during the theoretical research and review period to maintain flexible view on the actual research perspectives (Machi & McEvoy, 2012).

1.1 Research topic

There are many definitions of entrepreneurship in the research literature. Kuratko (2005) defines entrepreneurship as the engine for value creation and economic development through a process of fundamental transformation of an idea to an enterprise (Bilić, Prka, & Vidović, 2011a; Farashah, 2013; Kuratko, 2005). Schumpeter describes an entrepreneur as an agent for economic growth who creates industry development (Spilling, 2008). Innovation Norway (Innovasjon Norge) emphasizes that entrepreneurship is the main source of jobs and innovations' creation which could protect economics and social politics after the reduction of oil and gas resources (Valland & Fanghol, 2013). Therefore the development of entrepreneurship behavior have been strategic objectives for governments for many years, while educational institutions have been chosen as the main providers of the knowledge about entrepreneurship (Aasland, Brustad, Meltveit Kleppa, & Solhjell, 13.09.2011).

In psychological literature intentions have proven to be the best antecedent of planned behavior

if that behavior is rare, involve unpredictable time lags and hard to observe. Entrepreneurship process could be classified as a planned behavior because it emerges over time and requires substantial planning (I. Ajzen, 1991). Therefore, entrepreneurial intentions (EI) are the best predictors of entrepreneurship behavior (EB) (I. Ajzen, 1991; Bird, 1988)**.**

EI are the state of mind that manages individual's attention towards establishing a new independent venture or creation of a new value within existing companies (Bird, 1988; Tkachev & Kolvereid, 1999; Yar Hamidi, Wennberg, & Berglund, 2008). Entrepreneurship theory confirms that EI could be influenced through exogenous factors such as entrepreneurship education (EE). EE is a tool for maintaining and enhancing of EI through development of an individual's abilities to recognize new opportunities and understanding of the entrepreneurship process (Tokila & Tervo, 2011). The study of EE and its impact on EI has been underway worldwide since early eighties (Ronstadt, 1987). However, several researches have highlighted lack of robust research regardless educators' perspective on influence of EE on students' EI (Alain Fayolle & Gailly, 2008; A. Fayolle, B. Gailly, & N. Lassas-Clerc, 2006; Hindle & Cutting, 2002).

Garud and Giuliani (2013), and Rasmussen and Sørheim (2006) explained that entrepreneurship is a dynamic phenomenon that requires constantly improving EE program to be able to cover students' demands and prepare them to the reality (Garud & Giuliani, 2013; Rasmussen & Sørheim, 2006). Understanding the process of EE interaction with students EI is essential to improve effectiveness and complementarity of EE policies, and increase EI among students.

Literature review at the intersection of EE and EI have found out the gap of educators perspective on the EE – EI relationship. Most studies thus far were conducted from the perspective of students. Since educators stand at the interaction between instructors, partners and participants, it is important to examine the educators' perspective on the relations between EE and EI, based on their work and experience. More specifically, such investigation may help us to identify elements that are not recognized in student-focused studies but may also be critical for understanding the effect of EE on EI. Moreover, instructors' experience with multiple programs and course graduates could shed light about the important elements that may be evident only from longitudinal perspective, which has been absent in most research in this area. Finally, examining the same phenomenon from a different stakeholders' perspective may help us to triangulate findings across studies, while further understanding of the influential factors and their dynamic relations.

The topic of this thesis is the EE influence on the students' EI. The aim of the research is to find out whether EE influences EI and it is based on multiple case analyses. It leads to the following question of the research:

> ***Does entrepreneurship education influence students' entrepreneurial intentions? And How?***

In addition, we have decided to study Norwegian and Russian educators' perspectives on the topic. The research has shown low EI of population in both countries. The majority of population in Russia and Norway is not involved in business activities because they are unable to recognize opportunities to build a business, despite of the states' policies towards the increase of EI and the variety of EE programs.

1.2 Structure of the thesis

The first chapter 'Introduction' presents the topic of the research underlying the direction for theoretical approach. The second chapter 'Literature Review' summarizes the existent knowledge about EE effects on EI with the aim to formulate relevant propositions about EE influence on EI and its antecedence. Those propositions are visualized in the empirical model (Research model 1), that is re-visited, compared and adjusted in Chapter five based on the qualitative analysis. The third chapter clarifies the methodology of the study that examines the most effective approaches for data collection to ensure validity of the research results. Chapter four introduces case-educators and presents the findings from the interviews, that are further discussed using cross-case analysis in Chapter five, and compared to existing theory in Chapter six. Finally, the study results in a fine-tuned model (Research model 2), followed by the list of propositions that a future study will be able to test via a quantitative analysis. The list of literature and the interview guide are presented in the Appendix Section of the master thesis.

CHAPTER 2 Theory

The chapter presents existing theories relevant to the study. We have used Arlene Fink (1995) and Machi and McEvoy (2012) literature review techniques to ensure satisfying quality of the chapter for further access to relevant and credible information during the discussion chapter and model re-visiting (Fernsler, 2014; Fink, 1995; Machi & McEvoy, 2012).

2.1 The Process of the Literature Review Conduction

Once the topic is fully focused, the literature review should be conducted to find out as much as possible information to answer the research question and to find out what is known about the particular topic. Fink (2010) describes literature review as "*a systematic, explicit, comprehensive and reproducible method for identifying, evaluating, and interpreting the existing body of original work produced by researchers and scholars*" (p.44). Therefore, the literature review objective is to describe current knowledge about the topic of the research, to justify the need for and significance of the new research, and to collect components to form proposals to guide the data sampling and research findings discussion.

A theory development study requires correct, unbiased and comprehensive information which depends on study's objective research methods, date and source of information. The most scientifically rigor studies are presented in scholarly journals and articles (Fink, 1995).

Fink (2010, p.45) notes: "*Online searchers are the most efficient to start with*". We have chosen to use the online Ebsco and Scopus databases applied at the University of Agder library's search system. These systems databases are known as credible, stable and unbiased.

According to the research topic we used "*Entrepreneurship education*", "*Entrepreneurial education*", "*Enterprise education*", "E*ntrepreneurial intentions*" and "E*ntrepreneurial intent*" search-words; and found 178 articles. The next step has been to choose the articles, which contain relevant information for the research topic, meet quality standards and criteria for the inclusion into and exclusion from the review. Some researchers prefer to include all eligible studies, regardless of the methodological quality, into the literature review. Others prefer to use scoring systems or system of standards (Fink, 1995; Arlene Fink, 2010). We used The Practical and Methodological Quality screens to ensure eligibility and actuality of the literature review.

Such factors as the language in which the article is printed, and the setting of the study are included in practical screening criteria (Arlene Fink, 2010). We decided that the relevant for

our research articles have to meet all the criteria form the practical screening: 1. Study should be conducted and published in the twenty first century to ensure actuality of findings; 2. Research paper should be available in English; 3. The study provides information on the topic about EE effect on EI directly.

Methodological Screening criteria include factors for evaluating of a study's scientific quality and the adequacy of achievement of its objectives (Arlene Fink, 2010). The relevant to this master thesis articles have to meet five of the six following criteria:

1. Key terms are defined;

2. The methodology of the study is explained;

3. The choice of sample size is explained;

4. The research provides evidence for the validity of the results;

5. Studies looking into the existence or non-existence of EE effect on EI, or studies explaining what and how EE affects EI;

6. Paper defines EE program that was studied during the research.

We've read the abstract section of every article that was found and received 31 articles to work with during the literature review. The result of the literature search is the table that includes relevant papers and answers the research question: "How does EE influence EI?" (Table 2 Literature review: EE influence on EI, Appendix 2).

The literature review of this master thesis is descriptive and is based on the knowledge in identifying similarities and differences in the research methods and findings. When writing the literature review, we have chosen to synthesize all the articles to gain the common picture of the EE influence on EI and its antecedence (Fink, 1995).

This type of literature review is efficient when rigorous observational studies are scarce (Fink, 2010, p.234). The literature review presented further reveals the lack of rigorous qualitative studies in the field of EE influence on student's EI.

2.2 Theoretical models

At this section, we focus on general EI to become an entrepreneur and on the factors influencing its formation.

The two most common theories used in the research literature are Ajzen's theory of Planned Behavior (TPB) (1991) and Shapero's model of Entrepreneurial Event (SEE) (1982). We have also included the Bandura's Social-Cognitive theory (SCT) model to explain the effect of exogenous factors on individual's self-efficacy (SE) and behavior formation.

2.2.1 Theoretical models of Entrepreneurial Intentions

The research literature is focused on EI since publishing of the works of Shapero and Sokol in 1982 (Shapero & Sokol, 1982). Initially, researchers looked on relationships between personality traits, entrepreneurial intentions (McClelland, 1961), and demographic characteristics such as age, gender, origin, religion, family's background (Robinson, Stimpson, Huefner, & Hunt, 1991). However, many authors criticized those approaches for their limited predictive capacity (I. Ajzen, 1991; Reynolds, 1997). Gartner (1985) emphasized impossibility of clear identification of an "average entrepreneur" traits due to heterogeneity of factors influencing the person's entrepreneurial intentions and potential (Gartner, 1985).

However, Krueger. JR, Reilly and Carsrud (2000) explain that career choice is a voluntary and conscious process, and therefore can be analyzed (Krueger Jr, Reilly, & Carsrud, 2000).

Ajzen's TPB

The most common theoretical model of intentions that is used in almost every reviewed article (Table 2) is the Ajzen's theory of Planned Behavior (TPB). The TPB is based on earlier theory of the reasoned actions (1975) (I. Ajzen, 1991; I. Ajzen & Fishbein, 1975).

The TPB offers insight into underlying process of behavior formation through intentions as an unbiased predictor of behaviors which are rare or difficult to observe where time lags exist (Bagozzi, Baumgartner, & Yi, 1989; Krueger Jr & Brazeal, 1994). Ajzen (1991) presents three antecedences of intentions: attitudes, subjective norms (SN) and perceived behavior control (PBC). The interrelations between antecedences and behavior are presented in Figure 1.

Attitudes are expectations and beliefs about personal outcomes from performance of the behavior. Intentions and attitudes vary across situations and individuals, and could be learned.

Therefore they could be classified as perception-based.

Subjective norms (perceived social norms, SN) are the second major construct from the TPB. It represents important for individual perceptions and beliefs about specific behavior. In other words, it is social desirability of performing an action by specific individual.

Perceived behavior control (PBC) is an individual's perception about his or her ability to execute a target activity (I. Ajzen, 1991).

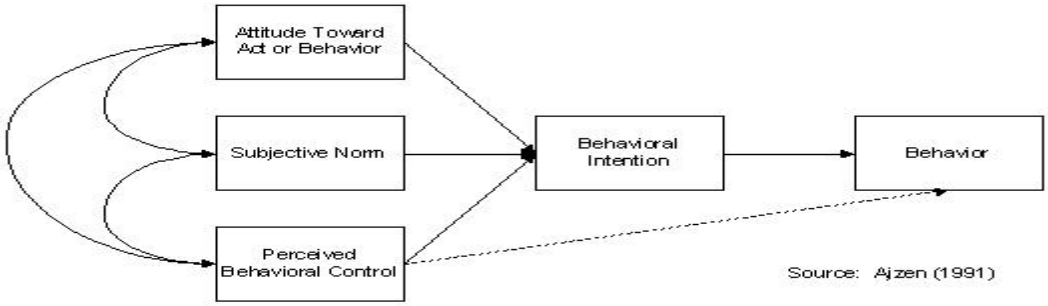

Figure 1 The Theory of Planned Behavior (I. Ajzen, 1991)

The main idea of the theory is that the antecedents increase intentions, which manage a goal-directed behavior in the situations where control is problematic, such as career choice (I. Ajzen, 1991).

Shaperos' Model of the Entrepreneurial Event (SEE)

Social psychology and entrepreneurship research literature find SEE appropriate for comparison and supplementary to the TPB.

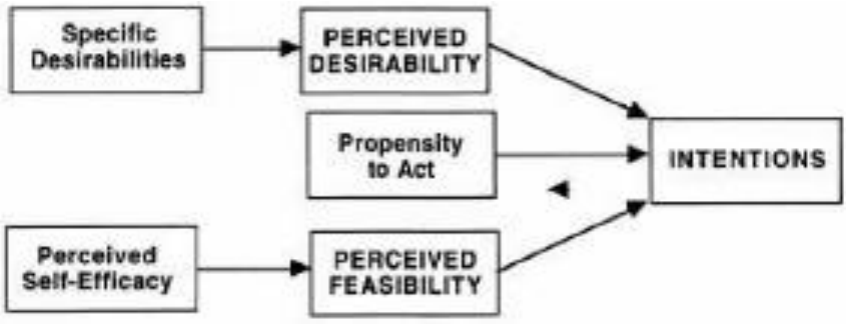

Figure 2 Shapero's Model of the Entrepreneurial Event (SEE)

SEE explains that people consciously choose the behavior from the range of possible behavioral alternatives. Thereafter, the specific behavior is performed by inertia until something interrupts and displaces it by the next best possible alternative (Katz, 1992; Krueger Jr & Brazeal, 1994).

The interruption could be negative as a job loose, or positive such as finding money or winning the lottery.

SEE (Shapero, 1982) is a model that is specified for EB choice where intentions to start a business are driven from three antecedents, which are personal perceived feasibility (PF), personal perceived desirability (PD) and propensity to act (Figure 2):

- *Personal perceived feasibility (PF)* is a degree to which individual feels able to start a business.

- *Personal perceived desirability (PD)* is the attractiveness of starting a new venture. It overlaps Ajzen's perception of attitudes and SN towards performing the behavior (Harris & Gibson, 2008).

- *Propensity to act* is a desire to take an action which is essential for intentions realization into a specific behavior and control over it.

These three antecedents are main tools towards EB choice and realization. PF and PD form credibility for potential behavior that further could be activated by strong desire to act (Shapero & Sokol, 1982). Shapero (1982) reports that PF explains the most variants in intentions as well as explores SE, that influences the behavior.

Bandura's Social Cognitive theory (SCT) (1986)

SCT takes it roots in Social Learning theory (1986) and is used in entrepreneurship, psychology, education and communication to explain individual's knowledge acquisition. Entrepreneurship researchers use it to create the theoretical framework for understanding and evaluation of entrepreneurship learning process.

The theory posits that people learn by observing others and taking decisions about realization of the same behavior. The decision is taken through analysis of outcomes that others receive as the results of the performance. However, Bandura (1986) explains that the learning and decision-making processes depend on the three determinants. These determinants are: 1) *Personal factors* and believes in own SE to realize the specific behavior and expectations about outcomes; 2) *Behavioral factors* give possibilities to learn from the action. They are response (self-judgment, self-reaction, self-observation) that individual gets after performing the behavior; 3) *Environmental conditions* support individual's SE by resources, knowledge and materials. These three determinants create the so-called triadic reciprocal causation (Figure 3).

Bandura specifies that learning occurs through observation and, therefore, does not necessarily contain visible behavior performance (Bandura, 1977, 1982, 1986). Therefore, the quality of knowledge and analytical thinking is important to enhance personal SE and draw conclusions in uncertain and probabilistic environment.

Bandura (1986) presents four processes, which influence SE formation: 1) (formal leaning) enactive mastery provided through competition, simulated business exercises, provision of venture capital to students engaged in the tasks, pitching the idea, creation of business plan; 2) (previous experience) the role modeled from lectures or studying the case from real life experience and vicarious experience by working with real entrepreneurs under the case; 3) social persuasion or mentoring through the project about their career goals, feedback from others; 4) providing examples of working and life styles of successful entrepreneurs to allow students to cope with their own psychological state judgments such as anxiety, motivation and high-expectation of success (Shinnar, Hsu, & Powell, 2014; Zhao, Hills, & Seibert, 2005).

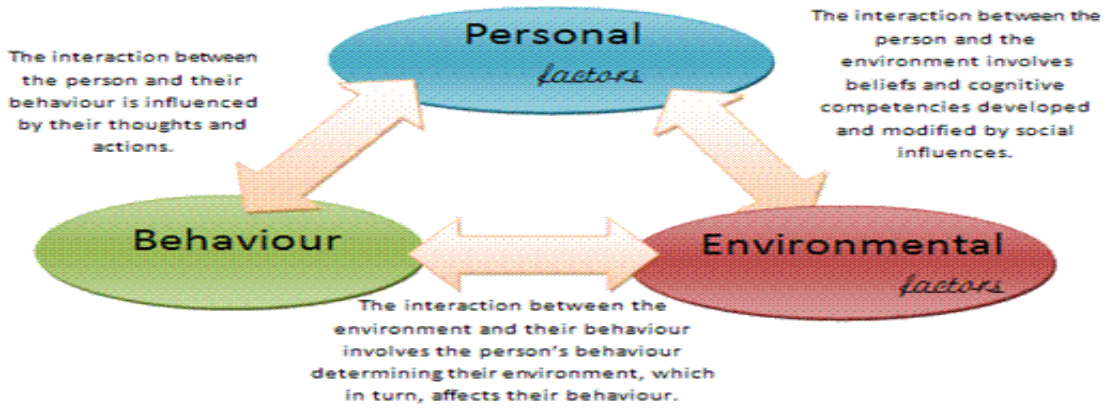

Figure 3 Bandura's triadic reciprocal causation (Bandura, 1986)

A special feature of this theory is that it explains the unique way in which individual controls their behavior in social environment. The theory takes into account the person's prior experience and SE recovery capacity under the threaten environment influence on his motivation and believes.

Ajzen's (1991) PBC antecedent overlaps Bandura's (1986) view of perceived SE that allows individual to set higher goals, to reduce tread-rigidity and to persist on intentions' realization under uncertainty.

Summary and limitations

The entrepreneurship theory contains overlapping between the theories. Ajzen (1991), Shapero and Sokol (1982), and Krueger et al. (2000) state that intentions are determined by attitudes. Attitudes are affected by exogenous factors such as traits, education, knowledge, demographics and social support. This signifies that intentions serve as important variable between behavior and potential exogenous influence (Krueger Jr et al., 2000). In addition, Ajzen's TPB (1991) and Bandura's SCT (1986) models explain that PD is moderated by attitudes and perceived SN, while PF is moderated by SE. SE, attitudes and SN are the info-processing capabilities which could be developed by EE tools (Bandura, 1986). The reason is that EE is an exogenous variable that affects students' entrepreneurial attitudes and intentions. Understanding of that influence and what shapes students' EI is critical for developing the effective policies to encourage EB. Therefore, these three theories represent a great foundation for research within EE influence on EI.

It is important to notice that these three models are descriptive models to predict the individual's behavior. However, research literature applies them to study the groups of individuals and their behavior prediction. It could negatively affect validity of the research and, thus, requires caution formulation of methodology (A. Fayolle & Gailly, 2014; Liñán & Fayolle, 2015).

2.2.2 Entrepreneurship Education

This sub-chapter presents common goals and structure of EEP to enrich the readers' understanding of EE, influencing factors and its relationship with EI and other variables.

Numerous research have highlighted the increasing interest of students in entrepreneurship (A. Fayolle & Gailly, 2014; James S. Fleming & Courtney, 1984; J. S. Fleming, Courtney, Leith, & Baumeister, 1994; Kolvereid, 1996), relating on EE as one of the important exogenous factors influencing students' entrepreneurial awareness and mentality (A. Fayolle et al., 2006; Garalis & Strazdienė, 2007; S. Lee, D. Chang, & S.-b. Lim, 2005; Peterman & Kennedy, 2003).

The earliest course of entrepreneurship is dated 1948, it took place in Harvard University and was given by Professor Miles Mace (Bilić et al., 2011a; BiliĆ, Prka, & VidoviĆ, 2011c; Katz, 1992). The growth of scientific approach towards EE began at early eighties (von Graevenitz, Harhoff, & Weber, 2010). Clark et al (1984) found out that almost 80% of students who graduated from the entrepreneurship courses considered starting up their own business, while general business management education had no significant effect on students' EI (Hostanger,

C., Decker, & Lorentz, 1998). Later, Shane et al. (2004) proved that entrepreneurs with academic entrepreneurship education perform better and are able to employ more people than their non-academic counterparts (Zilz, Woodward, Thielke, Shane, & Scott, 2004). One of the reasons is that ordinary education reduces entrepreneurial risk-taking attitudes, preparing students to the demands of established organizations and secure career, contrary to EE that primary focuses on entrepreneurial attitudes and skills (T. J. Bae, S. Qian, C. Miao, & J. O. Fiet, 2014; Bakotic & Kruzic, 2010; Liñán, 2008).

Entrepreneurship education is *"any pedagogical program or process of education for entrepreneurial attitudes and skills"* (A. Fayolle et al., 2006, p. 702). Educators are the primary actors who deliver knowledge about entrepreneurship. The research literature identifies three types of EE pedagogies models:

1. Supply model that aims to transfer knowledge to students to develop their entrepreneurial awareness (Sanchez, 2011). This model represents the theoretical approach combined with elements of the experiential learning such as business plan creation.

2. Demand and demand-competence model pedagogy (Béchard & Grégoire, 2005) that focuses on experiential educational programs (A. Fayolle et al., 2006), and includes students organizations. It allows students to gain practical experience through development of various entrepreneurial projects and tasks, and cooperation with role models (Chang & Rieple, 2013). The main advantage of that pedagogic model is the elements of realism and problem-solving tasks in real environment.

3. Competence model of pedagogy (Béchard & Grégoire, 2005) focuses on interaction and problem-solving exercises. It aims to increase communication- and decision-making skills of participants. The target audience is students who have started enterprise or dealing with "real word" problems to start enterprise (Gilbert, 2012; Vincett & Farlow, 2008).

Researchers explain that all models could be used to influence students' EI. However, demand and competence teaching models have been proved to be more effective towards EI's formation and entrepreneurial self-image (Walter & Dohse, 2012; Wang & Verzat, 2011).

The other factors affecting EE program outcomes are EE purposes and targeted audience (A. Fayolle et al., 2006; Laviolette, Lefebvre, & Brunel, 2012; McMullan & Long, 1987). Farashah (2013), Fayolle and Gailly (2008) identify three types of EE objectives:

1) Learn to understand entrepreneurship process;

2) Learn to act in entrepreneurial way;

3) Learn to become an entrepreneur (Farashah, 2013; Alain Fayolle & Gailly, 2008).

In addition, research highlights two main approaches to learning. Constructivism presents learning as an active participation aimed to develop a new understanding while behaviorism presents learning as the passive transfer of knowledge from a professor to the target audience. Universities EEP are mostly behaviorist and aimed to increase entrepreneurship awareness and promote entrepreneurship as a career choice (Tae Jun Bae, Shanshan Qian, Chao Miao, & James O. Fiet, 2014; Garavan & O′ Cinneide, 1994). Souitaris et al. (2007) present four necessary components for an effective EEP, based on the studies of e.g. Gartner and Vesper (1994) and the research of EEP in the major universities in the world: 1) a "taught" component with one or more modules; 2) "business-planning" component containing advisory about a specific idea development and business planning competition; 3) an "interaction with practice" involving networking events and role models; 4) a "university support" including space, resources, technology and even funding (Gartner & Vesper, 1994).

Therefore, EE could be divided into seven forms:

1) The supply theory-focused EE programs aimed to increase students' awareness of EE as a process and career choice;

2) Case studies where students are working on solving the problem;

3) Simulated business programs which give opportunity to simulate safe environment to train entrepreneurial skills such as analytical skills and decision-making. However, these EE programs are mostly separated from reality;

4) Incubators are the low-risk and low-investment environment created for experimentation within supporting and synergetic environment;

5) "Real business" program aimed to create the real start-up in real world;

6) Coaching programs allow communication of students and experienced entrepreneurs for guidance and support;

7) Serious games or simulator games aimed to train students in experimental environment and challenge students skills through competition with each other (Mayer, Kortmann, Wenzler, Wetters, & Spaans, 2014b).

Fayolle et al. (2014), Fayolle et al. (2006) and Bilic et al. (2011) present five levels of EEP (Bilić et al., 2011a; A. Fayolle & Gailly, 2014; A. Fayolle et al., 2006) with respect to the development of entrepreneurial knowledge and skills (Table 1).

Levels	Focus of EE	Target
1. "Know-why" Why entrepreneurs act, what are drivers	Entrepreneurship as a matter of culture and state of mind	Attitudes, values, motivation, mindsets
2. "Know-how" how to realize entrepreneurship activities	Behavior	Abilities to see the opportunities, catch and use them
3. "Know-who" Who should we know	behavior	Social skills and short- and long-term relationships
4. "Know-when" When to act	Behavior	Intuition of the right moment
5. "Know-what" What should be done	Creating the specific entrepreneurial situations like new ventures	Theoretical and practical knowledge

Table 1 Five levels of EEP

Fayolle et al. (2006) and Bilic et al. (2011) highlight that EEP focuses on the last dimension nowadays, while the real challenge is in the entrepreneurship as a matter of culture and as a tool to develop skills and abilities.

2.3 The Literature review of the main effects of EE on EI

General overview

Global Entrepreneurship Monitor Research states that there is a correlation between a country's per capita GDP, national economic growth rate and the level of entrepreneurship activity in the country (Singer et al., 2015). Seeing entrepreneurship as a driven force of economy and effective way to ease employment pressure, governments all over the world develop policies to support EB and increase EI (Wu & Wu, 2008). Angrist and Krueger (1998), Kuip and Verhul (2003) explain that EE has been acknowledged as an important part of these policies (Martin, McNally, & Kay, 2013).

Kunnskapsdepartementet (2011) emphasized the importance of entrepreneurship awareness and culture promotion through EE at universities (Aasland et al., 13.09.2011). Universities around the world implement "the third task", which is an influence on economic and innovational growth through the increase of students EI (Piperopoulos, 2012; Rasmussen & Sørheim, 2006). Katz (2003), Klandt (2004) and Davidsson and Honig (2003) explain that universities transfer entrepreneurship "know-how" education and, therefore, increase students' knowledge and competence for opportunities recognition and exploration (Davidsson & Honig, 2003; Katz, 2003; Klandt, 2004). Unfortunately, research findings at the intersection of EE influence on EI are inconsistent due to the heterogeneity of the EE programs, entrepreneurship definitions and research methods.

This master thesis attempts to answer the question: "Does EE influence EI? And how?" from the instructors' perspective to conduct to the research field and examine the phenomenon from a different stakeholder's perspective.

31 articles have been reviewed to collect the theoretical information. Most of the research was conducted in France (A. Fayolle & Gailly, 2014; A. Fayolle et al., 2006; Laviolette et al., 2012; Souitaris, Zerbinati, & Al-Laham, 2007; Wang & Verzat, 2011), Spain (Lanero, Vazquez, Gutierrez, & Garcia, 2011; Liñán, Rodríguez-Cohard, & Rueda-Cantuche, 2011; Sanchez, 2011), United Kingdom (Nabi, Holden, & Walmsley, 2010; Paco, Ferreira, Raposo, Rodrigues, & Dinis, 2015; Souitaris et al., 2007), United States of America (S. M. Lee, D. Chang, & S.-B. Lim, 2005; Shinnar et al., 2014) and Germany (von Graevenitz et al., 2010; Walter & Dohse, 2012), whereas Bangladesh (Azim & Akbar, 2010), China (Wu & Wu, 2008), Croatia (Bakotic & Kruzic, 2010; Bilić et al., 2011a), Greece (Petridou & Sarri, 2011; Piperopoulos, 2012), Iran

(Farashah, 2013), Korea (S. M. Lee et al., 2005), Netherlands (Mayer et al., 2014b), Norway (Shneor & Jenssen, 2014), Poland (Jones, Jones, Packham, & Miller, 2008), Sweden (Yar Hamidi et al., 2008), Uganda (Byabashaija & Katono, 2011) and Malaysia (Mohamed, Rezai, Shamsudin, & Mahmud, 2012; Zainuddin & Rejab, 2010) were also presented. Twenty four papers out of thirty one presented quantitative methodological approach. Only fourteen articles were longitudinal.

During the analysis, we observed EE influence on EI and its antecedence. Most of the EE programs, studied in articles, represent teaching in the classrooms, whereas some included additional active component such as teamwork, business planning, role models and simulation. The type of EE programs represented in articles is inconsistent and varies from a singular course to a comprehensive program of EE. It was also difficult to identify specific pedagogies, as some of the researchers did not provide specific details on the EE design.

Table 2 Literature review: EE influence on EI see at Appendix 2

Total Number of articles	Method				Measurement		
	Qualitative	Quantitative	Meta-Analysis	Mixed Qualitative & Quantitative	Longitudal	Ex-post/ During	Unspesified
31	0	24	2	5	14	13	4

Table 3: Literature review: Methodological statistics

Dependent variable

Fink (2010) defines a variable as "*a measurable characteristic that varies in the population*" (p.124). Dependent variable represents the objective of the study and is the factor which depends on the outcomes of the intervention (Arlene Fink, 2010).

Research papers at the intersection of EI define dependent variable as "*entrepreneurship intentions*", "*entrepreneurial intentions*" and "*intentions to self-employment*" (*EI*). Most studies captured the dependent variable using single EE item or multiple items on the various Likert scales. The average age of respondents was about 21-25 years old.

Not to be forgotten, however, is the fact that the literature review failed to find any conceptual

theory development based on qualitative date studies.

Independent variables. Overview

Independent variables are independent of any intervention and are used to explain or predict dependent variable (Arlene Fink, 2010).

This section of the Chapter two presents the most frequent and relevant independent variables; defines and discusses their effect on EI in different research papers overviewed in Table 2. Table 4 "Literature review: Independent variables" presents and visualizes those findings.

Overall the literature review presents thirty independent variables:

- Three core variables of the theory of planed behavior: subjective norms (SN), entrepreneurial attitudes, perceived behavior control (PBC);
- Three variables of social psychology (Shapero,1982): perceived self-efficacy (ESE), perceived desirability (PD) and perceived feasibility (PF);
- Two variables of cognitive theory (Bandura): personal traits and environmental factors. As earlier discussed, due to the researchers' common understanding and analysis of PBC, PF and ESE variables, they are generalized into ESE variable in this master's thesis;
- Prior exposure such as family background, international experience, work experience; and previous EI independent variable as an EI before taking the course;
- Finally, entrepreneurship education components such as teaching methods, structure, duration and type receive an increasing attention from the researchers;
- Gender was used to split EE influence on EI findings for further explanation of the moderation effects on independent and dependent variables.

Independent variable	Positive effect	Negative effect	Type of effect	No effect
EEP	27	1	Direct (26); Indirect (2); mediation between ESE and EI (1)	3
Attitudes	7	1	Positive direct effect on EI(2); Positive mediation of EE effect on EI (5); Negative moderation of risk perceptions on EI (1)	0
SN	4	0	Direct (3); Mediation of EE effect on EI (1)	2
PBC/SE	8	0	Direct (4); Mediation of EE on EI (3), Positive moderation of attitudes effect on EI (1)	2
Personal traits	4		Direct (2); Moderation of ESE and EE effect on EI (2)	0
Motivation/inspiration/ emotional arousal	3	0	Moderation of EE, ESE effects on EI(2); Mediation of ESE and attitudes effect on EI	
Creativity	3		Direct (1); Moderation of Previous Exp. and EE on EI	
Role models	2		Moderation (1), partial Mediation for males (1)	1 (females)
Previous EI		3	Negative Moderation of EE on EI (3)	
Prior exposure	2	2	Direct positive (2), Negative Moderation of EE on EI (2)	
Family background	2	1	Moderation of EE on EI(1), Direct positive (1), Negative moderation (1)	1
Risk perseption	0	3	Dorect negative (3)	
PD	2		Mediation (2)	1
PF	6	0	Direct (3); Mediation EE-EI (3)	
University culture	2		Moderation EE-EI	
Regional culture	4	1	Positive moderation of EE on EI (4); Negative moderation of risk perception on EI (1)	2
Gender females	4	1	Positive moderation of ESE, Role models, EE effect on EI; Negative moderation of EE on EI	1
Gender males	4	1	positive moderation of EE and ESE on EI (4), Negative moderation of ESE on EI (1)	

Table 4 Literature review: Independent variables

Independent Variables and propositions

Entrepreneurship education (EE) is a variable aiming to capture educational program influence on students' entrepreneurship awareness, competencies and motivation.

Literature review presents two approaches to measurement of EE: 1) Measurement as a dichotomous variable whether student participate or not in EE course, training or simulation; 2) Measurement as a continuous variable whether student has an entrepreneurship specialization or not.

The literature review points out the inconsistence of EE effect on students' EI. Most of the articles (25) presented positive direct effect of EE on students EI, and mediation between entrepreneurial SE and students EI. Contrary to it, three articles present insignificant effect (A. Fayolle & Gailly, 2014; Mayer et al., 2014b; Shinnar et al., 2014), while one article emphasizes a negative effect on EI (von Graevenitz et al., 2010).

The inconsistence could be explained through other EE context variables and moderators.

Independent variable	Positive effect	Negative effect	Type of effect	No effect
EE structure	1		Direct	
Active type: mix of theory and Business plan	3		Direct	1
Passive	1		Direct	1
Duration	1		Direct	1
Compulsory	1	1	Positive moderation of EE on EI; Negative direct on EI;	2
Voluntary	4		Direct (3), Moderation of EE on EI(1)	
Motivational teaching	3		Moderation of EE on EI	
Type of general high education: Business	4	2	Moderation (3 positive, 1 negative); Direct effect (2)	
Engineering/technical	5	1	Moderation (3 positive, 1 negative);	

Table 5 Literature review: EE context variables

The literature review demonstrates that all articles written about compulsory and theoretical EEP identify negative or insignificant effect of EE on students' EI. The studies of voluntary and active types of EEP show positive direct effect on the increase of students' EI. The reason might be the "one-size-fit-all" nature of the compulsory theoretical EE programs. Hamidi et al (2008) explain that one-size-fit-all EE programs reduce students' motivation and, as a result, decrease the EE effect on EI (Yar Hamidi et al., 2008). The result is found to be consistent with studies conducted by Brown, Collins and Duguid (1989), and Minniti and Bygrave (2001). They argue that EE is more efficient if it includes training and learning-by-doing elements, providing students with more practical skills and increasing their SE (Brown, Collins, & Duguid, 1989; Minniti & Bygrave, 2001).

Walter et al. (2012) propose, based on Kolb's experiential learning theory (1976), that active and reflective/passive EE should be complementary. Passive EE increase students' entrepreneurial knowledge, while active EE increase students' skills, attitudes and SE. As a result, EI is expected to grow (Walter & Dohse, 2012).

Furthermore, the effect of EE on EI is found to be positively moderated by closer contact with professors and role models through the motivational teaching approach. In addition, researchers require diversity within educators. Especially effective influence of EE has been found among students of business and engineering education specialization (Douglas & Shepherd, 2000; Petridou & Sarri, 2011; Zainuddin & Rejab, 2010).

Table 6 presents effects of EE on other independent variables in order to expand our understanding of factors influencing EE-EI relationship.

Influence of EE	Positive effect	Negative effect	Type of effect	No effect
Attitudes	3	0	Direct	0
SN	2	0	Direct	1 (males)
PBC/SE	9	0	Direct	3, (one of which is only on females)
Personal traits	1		Direct	
Motivation/inspiration/ emotional arousal	2		Direct	
PF	3		Direct	1

PD	1		Direct	1
Entrepreneurial skills/Knowledge/Competencies	6		Direct	
Risk tolerance	1		Direct	1

Table 6 Literature review. EE effect on independent variables

Respectively to these findings, propositions 1 and 2 a-c were formulated.

Proposition 1: Entrepreneurship education has a positive effect on EI.

Proposition 2a: The extent to which EEP includes active elements positively moderates the effect of EE on EI.

Proposition 2b: The extent to which students' participation in EEP is compulsory negatively moderates the effect of EE on EI.

Proposition 2c: The extent to which participation in EEP includes inspirational elements positively moderates the effect of EE on EI.

Gender – is an independent variable that splits findings in order to explain contradictory relationships in the literature review. Eagly (1987) explained that the gender-based expectations lead people to act accordingly gender stereotypes, which emphasizes problems of EE programs which are based on the man narrowed theories, but aimed to increase both male and female EI (Tae Jun Bae et al., 2014; Williams & Subich, 2006).

Five of seven articles have reported positive general moderation effect of gender on EE influence on EI (Tae Jun Bae et al., 2014; Bilić et al., 2011a; Jones et al., 2008; Nabi et al., 2010; Petridou & Sarri, 2011). Thus, Shneor and Jenssen (2014), Petridou and Sarri (2011), and Raposo et al (2013) have reported more significant EI for males, while EE had direct influence only on women.

EI antecedences are variables playing mediation role between EE and students EI.

The most frequent variables are entrepreneurial attitudes and self-efficacy (ESE). SN, Perceived

desirability and motivation were excluded from this study due to the small frequency of conducted empirical research on their influence on EE effect on students' EI.

The most frequent and significant independent variable is ***ESE***. It measures individuals' confidence in his/her abilities to successfully perform entrepreneurial behavior and tasks (Chen, Greene, & Crick, 1998; Shinnar et al., 2014). The literature review found out the mediation effect of ESE on EE influence on EI' formation (Farashah, 2013; Laviolette et al., 2012; Mayer et al., 2014b; Sanchez, 2011; Zainuddin & Rejab, 2010; Zhao et al., 2005).

Zhao et al (2005) and Shinnar et al. (2014) emphasize that EE aims to improve students' entrepreneurial knowledge and skills to increase students' abilities of opportunities recognition and risk tolerance (to the tolerance of fear of fail). Moreover, entrepreneurial skills and knowledge improve students' self-confidence and ESE (Shinnar et al., 2014; Zhao et al., 2005). Therefore, researchers have concluded that ESE is the most significant antecedent of students' EI. Table 6. *"Literature review. EE effect on independent variables"* shows direct positive effect of EE on students' entrepreneurial skills, knowledge and intentions. Respectively to research literature and the social cognitive theory, proposition 3a-d were formulated.

Proposition 3a: The extent to which relevant skills and knowledge are acquired in an EE mediates the effect of EE on ESE.

Proposition 3b: The extent to which relevant skills and knowledge are acquired in an EE positively influence ESE.

Proposition 3c: ESE mediates the effect of an EE on EI.

Proposition 3d: ESE positively influences EI.

Research findings about EE effect on male students' EI remain inconclusive and controversial. Shinnar et al (2014) analyzed a sample of 187 undergraduate students taking the twelve sections of the two-semester-long introductory mandatory EE course in US, and found positive significant effect on males EI after the EE course. In contrast, Shneor et al. (2014) studied 1972 students from variety of faculties in the University of Agder and found no direct effect of EE course on males EI. Jones et al (2008) analyzed 50 undergraduate students in the Polish University and found that EE influence women more significantly then males.

In addition to these findings, the literature review demonstrates positive moderation effect of gender on EE and ESE effect on EI for females (Jones et al., 2008; Laviolette et al., 2012; Paco et al., 2015). Contrary, Mayer and Kortmann (2014) and Shinnar et al. (2014) found negative moderation of EE effect of simulation gaming on females' EI. This result could be also explained by underrepresentation of women and their lack of gaming skills for the simulation gaming EE.

Lavolette et al. (2012) explain that EE influence on males and females' EI could be improved through other factors. Thus, involvement of entrepreneurial role models positively mediated EE effect on students' EI (Laviolette et al., 2012).

Proposition 4a: Sex of participant will moderate the effect of ESE on EI

Proposition 4b: Sex of participant will moderate the effect of EI on ESE

Attitudes are an independent variable measuring personal attraction towards entrepreneurship including positive and negative valuation about being an entrepreneur (I. Ajzen, 1991; Kolvereid, 1996). Davidsson and Honig (2003), and Linan (2008) state that human capital have been viewed as a determinant of EI, and EE might cultivate students' entrepreneurial attitudes towards increase of EI (Davidsson & Honig, 2003; Liñán, 2008). Tkachev and Kolvereid (1999) based on the theory of planed behavior confirmed that EE can influence EI through the entrepreneurial attitudes (Tkachev & Kolvereid, 1999).

Four of five articles in the literature review confirm mediation of attitudes on EI, while the remaining paper explains negative moderation effect on risk perception influence on EI. None article have conducted the gender independent variable effect on attitudes.

Proposition 5: Entrepreneurial attitudes mediate the effect of an EE on EI.

Prior exposure to entrepreneurship (PEE) is an independent variable that was used in different articles to measure influence of previous work experience, self-employed member of the family and experience of life abroad.

Fayolle and Gailly (2014) and Fayolle et al. (2006) report insignificant effect of experience of

life abroad variable, while other researchers prefer to measure only family background variable (Mohamed et al., 2012; Wang & Verzat, 2011; Yar Hamidi et al., 2008), which bears mostly positive moderation of EE on EI (A. Fayolle, B. E. C. GAILLY, & N. Lassas-Clerc, 2006; Mohamed et al., 2012). Therefore, contradictory findings could be the result of generalization of three independent variables into one.

Respectively to the discussion above, family's self-employment background is the most frequent independent variable. We limited this variable to one aspect of the family member entrepreneurial experience (FMEE).

Fayolle and Gailly (2014) found negative moderation effect on short compulsory introduction EE effect on students' EI. However, Laviolete et al (2012) and Shapero and Sokol (1982) argue that there is a similarity between role models and FMEE effect on EE influence on EI. Self-employment family is expected to develop entrepreneurial understanding and motivation among their siblings, thus, increasing their entrepreneurial attitudes. Therefore, we propose:

Proposition 6a: FMEE moderates positively the effect of EE on students' entrepreneurial attitudes

Proposition 6b: FMEE moderates the effect of EE on EI.

Previous EI is an independent variable measuring students' EI before taking the EE program. All articles, which included prior EI variable, conduct negative moderation effect of this variable on EE effect on EI (Tae Jun Bae et al., 2014; Alain Fayolle, B. ENOu00CET GAILLY, et al., 2006; von Graevenitz et al., 2010). For example, Von Graevenitz et al (2010) found the strong influence of ex-ante EI on EE effect on EI during the education and ex-post EI. Bae et al. (2014) and Von Greavenitz et al (2010) explain that EE effect on EI is reduced by high prior EI.

Proposition 7: EE effect on EI is negatively moderated by prior EI.

2.4 Research model one

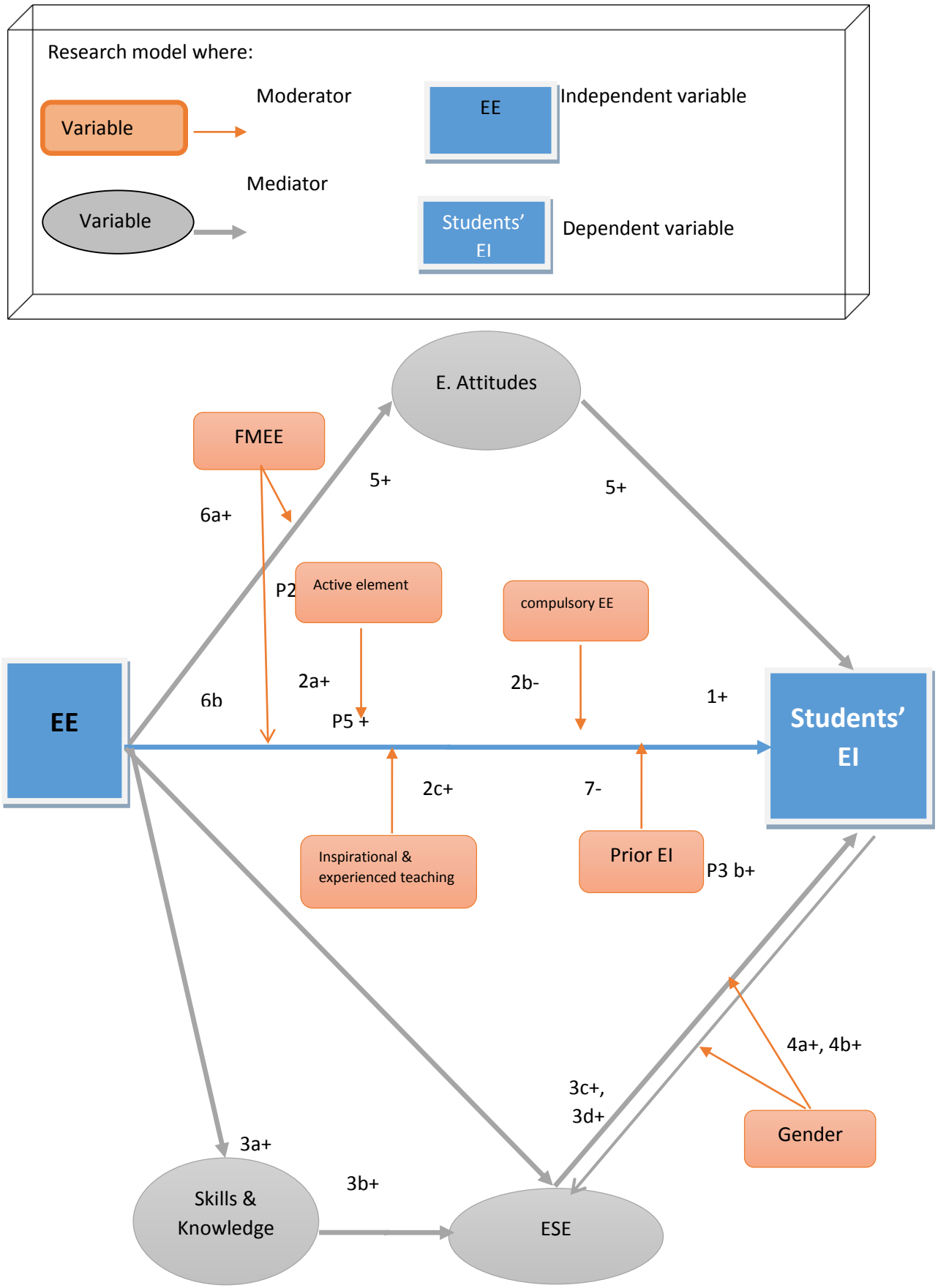

Figure 4 – Research model 1

Chapter 3 Research design and methodology

The chapter attempts to clarify the research design and methodology which are appropriate for investigation of the research question and examination of the research model.

3.1 Methodology

Research is translated as «*to search again*», and presents the scientific and careful investigation to discover all information about the subject.

"Business research is an application of the scientific method in searching for the truth about business phenomena. … This process includes idea and theory development, problem definition, searching for and collecting information, analyzing data, and communicating the findings and their implications." (Zikmund et al., 2010, p. 5).

When it comes to methodology, the main choices are quantitative research, qualitative research or triangulation of the both methods. Quantitative research focuses on big-numbered collections in ordered way to conduct the exact information about the well-known phenomena. This kind of research answers the "what"-question. Contrary to it, the qualitative research focuses on relatively small samples from which in-depth information is collected. The qualitative research includes close interaction with the research objects in order to explore less-studied topics. This type of research answers "why"- and "how"- questions (Arlene Fink, 2010; Zikmund, Babin, Carr, & Griffin, 2010). Moreover, qualitative research helps to explore and understand the differences in definitions of the phenomena, underlying motives, attitudes or processes (Anderson & Braud, 2011).

The literature review demonstrates that all researches use quantitative or meta-analysis to explore EE influence on EI. However, all of these studies aim to analyze students' self-assessment of their EI and report inconsistent results due to the heterogeneity of EE and EI. In addition, these studies miss the educators' perspective that is the effective tool to identify EE effects not recognized through students assessments (Azim & Akbar, 2010; Nabi et al., 2010; Souitaris et al., 2007).

Respectively, the purpose of this study is to conduct to the existent knowledge about EE and EI relationship, to expand this knowledge with qualitative study and to underline the educators' perspectives on entrepreneurship education effect on students' entrepreneurial intentions.

3.2 Research design

The research design provides a framework for the study. It is a guidance that specifies methods and procedures for collecting and analyzing the required information (Zikmund et al., 2010).

Amaratunga et al (2002), Andersen (2011), Eisenhardt (1989), Peterman and Kennedy (2003) and Rasmussen and Sørheim (2006) highlight a qualitative case study design as a tool to reveal complexity and to understand the dynamics of the studied phenomenon (Dilanthi, David, Marjan, & Rita, 2002; Eisenhardt, 1989; Peterman & Kennedy, 2003; Rasmussen & Sørheim, 2006). Case studies allow researchers to discover meaningful information and sum it into the complex model that further could be studied by quantitative studies (Arlene Fink, 2010). A primary advantage of the case study is the attention to the details, and identification of the relationships among variables and the order of the interactions as they occur (Zikmund et al., 2010). Gummesson (1991) and Meredith (1998) present additional advantages of the case study, which are the richness of explanations, critical evaluation of theories, holistic view of a specific research project and exploratory depth (Gummesson, 1991; Meredith, 1998). Consequently, the case studies have been recognized as the effective design for qualitative research.

This master thesis tries to explain the EE influence on EI from educators' perspective in order to fill out the gap and conducts with the propositions to the future empirically validate research. The qualitative case study approach has been chosen to cover the educators' perspective about "why" and "how" EE influence students' EI, and to contribute to the knowledge of the phenomena (Yin, 2003; Zikmund et al., 2010).

3.3 Data collection

Andersen (2011) explains that qualitative data collection can be done through observations, depth interviews or content analysis. Pole and Lampard (2002) state that advantages of interview technique allow interviewer to enter the interviewee perspective, ask him/her open-ended question to receive detailed information, and clarify complexity of the phenomena. Moreover, interview allows getting in touch with new information and tendencies, to which researchers had no access before (Pole & Lampard, 2002; Thagaard, 2009).

For the purpose of the research and due to the time limitation, we have chosen the depth interview with a general interview guide approach. Depth interview is a one-to-one interview between interviewer and respondent about the only one research topic (Zikmund et al., 2010).

To prepare to the interview and to ensure the coverage of all required questions, we have prepared an interview guide, which is presented in the Appendix 1.

The interview guide development is a very important stage. The credibility of the research depends on the quality of the collected data and, therefore, on questions asked. An interview guide has to meet the basic criteria of relevancy and accuracy to fulfill the research purpose. A relevant interview guide includes relevant to the research topic questions. An accurate interview guide ensures that those questions are formulated simply and unbiased to establish respondent understanding and will to cooperate during the interview.

The interview guide consists of the list of question in accordance with each subject of the research. It is a tool to ensure the similarity of questions and the attitude to interviewees. In addition, the interview guide makes the dialog flexible, thus, providing an opportunity for gathering extra information that is relevant to the study but was neglected by the researcher.

We used a semi-structured interview guide that allows expressing the interviewee's ideas freely as well as it helps to enter topics and their comparison across the interviews to evaluate propositions and the conceptual model of the study.

Constructing the interview guide, we tried to avoid leading and didn't load questions which suggest or imply certain answer. The interview guide includes only open-ended questions to avoid leading questions and collect most exploratory response. In addition, we tried to limit and to clarify the double-barreled questions that cover two issues at once. The funnel technique of asking general questions before the specific ones has been used at the beginning and at the end of the interview to warm up the respondent and to check the interview consistency.

Our interview process contains three parts:

- A lead-in section is describing the study, implications and our appreciation;
- The agenda is starting with a broad reflection questions and following up with more concrete and open-ended questions;
- The last part is closing the interview and asking about confidentiality.

Before starting the interviews, we asked permission to use a voice recorder. We explained that it would be only used for transcribing the audio content of the interview into text-format

content. All our interviewees are professors and are expected to talk freely about entrepreneurship education process and its effects on their students in front of audio tape.

We tried to use the neutral body language and the questions only related to the masters topic to limit the possible influence on the respondents. We also asked them about their preferences to confidentiality.

All interviews took place between 40 and 60 minutes and were audio-taped.

Sampling method

Sampling involves a procedure of selecting an element from a larger group (population), in order to infer something about the group. A population is the totality of cases that includes all designed specifications. The specifications define the elements that belong to the totality of cases (Zikmund, 2013).

There is a specific order that should be followed to draw a sample:

1. Define the population. This step defines the unit of analysis that is to be studied. This is specified in the problem formulation as Entrepreneurship educators at universities in Norway and Russia. They are to have a good experience and research work within entrepreneurship, and can participate at the interview in August-October 2015.

2. Identify the sampling frame which is the listing of elements from which the actual sample will be drawn. In our case it is a list of universities and educators in Norway and Russia offering entrepreneurship education and conducting research work within the topic.

3. Selecting the sampling method. Due to the qualitative nature of the methods of this research, we chose a purposeful non-random probability selection of cases, which answer certain criteria and are relevant to the analysis. The selected cases represent different aspects of the key issues and different types of education institutes: business and no business schools in Norway and Russia which teach entrepreneurship.

4. Determine the sample size that depends on several factors such as money, time and type of the research, etc. We decided to include three cases from Norwegian Universities and two cases from Russian Universities. In our opinion it is enough to cover the master thesis research.

5. Collect data. (Zikmund, 2013).

3.4 Data analysis

Cooper H. (1998) explains that data analysis involves processing the separate collected data points into a unified statement about the research problem (Cooper, 1998).

Data analysis is divided into two steps: 1. Editing and coding; 2. Case analysis.

Editing and coding

This chapter deals with coding and editing raw data.

Raw data is the unedited exact responses from a respondent. Once the raw data collection has been completed, researcher begins with data analysis where raw data transforms into the intelligence data. The intelligence data requires data integrity as a structured representation of the legible data relevant to the research topic. Editing and coding are the two processes aiming to provide data integrity. The most important part of these processes is careful attention to the details and checking for errors for further presentation of the most relevant and legible information for data analysis (Zikmund et al., 2010).

Data editing is the process of making data ready for coding by checking its completeness, consistency and legibility. Editing is used to identify omissions, such as item 'no response', and to clarify responses that are logically or conceptually inconsistent. Item 'no response' is the term for an unanswered question resulting in missing data and limiting data integrity. The prepared interview guide aims to limit opportunities for item 'no response'. Inconsistency of data can be recognized though complex analysis of logical consistency in respondent's answers. To deal with item 'no response', data inconsistency and limit opportunities for our subjective invasion, edited data had been sent to each of the respondents for confirmation before the case analysis started.

Coding is the process of assigning a character symbol to represent the meaning of the raw data. In qualitative research, the codes are words or phrases that represent meaningful segment of the research topic. There are two basic rules for coding. First, the coding categories should exist for all possible responses. Second, the categories should be independent to ensure clear identification of the responses to only one category. However, the coding aim is to summarize and present the relevant information. Therefore, the coding scheme should not be too elaborate (Zikmund et al., 2010).

The coding process continues until the researcher segmented all the collected data. The next step is to group codes into categories by relationships between them. It is so called axial coding – the process of creation themes or categories by grouping codes into groups or phrases (Strauss & Corbin, 1990).

This research attempts to clarify the relationship between EE and student's EI. Therefore, we have chosen to use the hierarchical coding (code tree) that divides data in several categories and sub-categories. Codes in a tree relate to their categories by being "causes of" or "context for". Respectively, codes have been divided by "type of relationship", while responses have been grouped by "relationships between variables" as categories. We also included the category "other" to ensure that the categories are exhaustive. See table 7

Category/ Main. By influence on EE effect on EI	**Subgroup**
1. General EE effect on students' EI	• Direct positive • Direct negative • Indirect positive • Indirect negative • Moderation • Mediation • No effect
2. Including of the active elements into the EE program design	• Effect on knowledge and skills • Effect on EI • Effect on ESE • Effect on attitudes •
3. The compulsory introductory programs influence	• Effect on knowledge and skills • Effect on EI • Effect on ESE • Effect on attitudes •
4. Including of the inspirational teaching element into the EE program design	• Effect on knowledge and skills • Effect on EI • Effect on ESE • Effect on attitudes •
5. Skills and knowledge effect	• Effect on EI • Effect on EE effect on EI • Effect on ESE • Effect on attitudes •
6.Effect of EE on ESE	• Direct positive • Direct negative

	• Indirect positive • Indirect negative • Moderation • Mediation • No effect
7. Effect of ESE	• Effect on knowledge and skills • Effect on EI • Effect on EE influence on EI • Effect on attitudes •
8. Effect of gender	• Direct positive • Direct negative • Indirect positive • Indirect negative • Moderation • Mediation • No effect
9. Gender effects	• Effect on knowledge and skills • Effect on EI • Effect on EE influence on EI • Effect on ESE • Effect on attitudes •
10. EE effect on attitudes	• Direct positive • Direct negative • Indirect positive • Indirect negative • Moderation • Mediation • No effect
11. Attitudes influence	• Effect on knowledge and skills • Effect on EI • Effect on EE influence on EI • Effect on ESE •
12. FMEE effect	• Effect on knowledge and skills • Effect on EI • Effect on EE effect on EI • Effect on ESE • Effect on attitudes •

Table 7 Code tree

Case study analysis

Researcher Robert Yin (1994) defines the case study research method as an empirical study that examines a phenomenon within its real-life context when the boundaries between the contemporary phenomenon and context are not clearly evident (Yin, 1994). When conducting

case analysis, the researcher investigates raw data in order to find relationships between the research object and the outcomes accordingly the research topic.

Ghauri (2004, p.118) defines six methods for case study data analysis:

1. Chronologies – a chronological narrative of the events;
2. Coding – sorting and organizing the data after common characteristics;
3. Clustering – grouping cases according to common characteristics;
4. Matrices –the interrelationship between identified factors are explained;
5. Decision tree modeling – uses multiple cases and describes real-world decisions and actions coherently;
6. Pattern matching – comparing predicted and an empirically based pattern.

(Ghauri, 2004)

Miles and Humberman (1994) and Thagaard (2009) suggest matrix form for analysis of information that includes many categories and variables. It enables researcher to organize relevant information from different respondents, to present cases in publicly assessable way and to display sufficient evidence that all aspect of research topic have been explore (Humberman & Miles, 1994; Thagaard, 2009).

The purpose of matrix is to effectively present the respondents' information to visualize the tendencies and relationships between variables. Matrix form represents the guideline for further data analysis and discussion. Therefore, only the specific and relevant information should be included in carefully structured matrix. An ordinary layout of matrix presents units of analysis vertically and define categories for research focus horizontally (Thagaard, 2009).

After the data collection and transcription to a code tree were done, we have decided to use cross-case analysis focusing on categories from code tree. This type of analysis divides the data by type across all cases to catch the interrelationship between variables and similarity of respondents' answers. This similarity of proposition from a number of cases increases finding's credibility.

During this step, the units of analysis are separated from the received information to be assigned into relevant categories. We have ensured that all ethical requirements are met during the work with matrix. We focus on presenting the information exactly as it was meant by respondent to retain the original meaning and ensure credibility of findings.

3.5 Quality of the research

Qualitative study has to satisfy the requirements to methodological quality. Otherwise, the research could be criticized for the lack of objectivity and validity. Reliability and validity are the two most important measurements of a quantitative study's quality. A qualitative research requires eligibility, objectivity and credibility (A. Fink, 2010).

Eligibility

Fink (2010, p. 14) explains that *"the objective of high-quality research is to produce accurate information"* (Arlene Fink, 2010). Accurate information is a condition for eligibility of the research. The eligible study contains relevant information, meets present standards for methodological quality and limits features for its exclusion.

To ensure eligibility of this master thesis, we have based our literature review on high-quality research papers and have tried to precisely define the methodology of the study. Researched high quality experimental, observational and theoretical studies presented in Table 2 are characterized by clearly formulated research objectives and questions, valid data collection, and exacting data collection and interpretation.

Replicability and objectivity

Replicability and objectivity are the two characteristics of the high-quality research. It means that the same conclusions will be drawn if the study is repeated by other researchers with different respondents following the same methods. We have also ensured to conduct conclusions of the study directly from the data collected by the literature review and interviews with respondents which are presented in Table 2 and section 3.6 (Arlene Fink, 2010). However, the propositions confirmed in this research could be further developed into hypothesis and tested using tools of the quantitative research.

Fink (2010) represents the following standards which the qualitative study has to meet to become objective high quality research:

- Specific research question and detailed description of the study design;
- Defined and justified gathering of high-quality information and its synthesis;
- Explained sampling, and valid and explained information collection procedures;
- Appropriate analytic methods;
- Discussed the study's methodological limitations;

- Conclusions based on comparison with the literature reviewed data.

(Fink, 2010, p.148-200)

Credibility

To be able to ensure the credibility of the research, researcher has to be able to divide between relevant and irrelevant information. Researcher has to monitor the quality of the literature review and the data coding to ensure the selection of the objective information and to formulate free from the researcher's subjective opinions conclusions. The literature review and matrix are the essential components for comparing research findings to the outcomes of other researchers and respondents within the topic (Arlene Fink, 2010).

Data integrity is essential for high-quality research. Information with a large portion of nonresponse or "made up data" limits data integrity and research credibility (Zikmund et al., 2010). We conducted interviews during September - October 2015 to ensure the common historical period for all respondents. Interview guide has helped us to limit the attrition effect. The attrition effect is a data loss that occurs when participants do not answers all relevant to the study questions (Arlene Fink, 2010).

We conducted careful editing and coding process to ensure clear and relevant to the topic presentation of interviewees' responses.

To ensure credibility of results of case analysis, we have contacted the respondents and have received their confirmation of the case analyses and the code trees relevant to their own cases. We did not show or discuss with the respondents the results from other cases to exclude any influence on them.

3.6 Methodological limitations

This research is the master thesis conducted by the master student under the supervision of the professor at the University of Agder. Student's qualification, time and resources limitations have influenced our choice of sampling and methodology. However, the research satisfies the requirements for the high quality of results.

Given the qualitative methodology and the small number of cases it is impossible to generalize the results (Zikmund et al., 2010). Moreover, the literature review of the thesis includes articles

with contradictory findings and lacks any pure conceptual and rigor qualitative studies within the topic.

However, we have reviewed 31 relevant articles which were enough to develop the research model for further investigation. As a result, this thesis conducts to the existent findings by proposing a new model of EE influence on student's EI from educators' perspective in Norway and Russia. These findings can be further tested by the quantitative methodology.

3.7 Context

The purpose of this section is to give an introduction to conditions for entrepreneurial intentions development in Norway and Russia.

Norway

History

Development of entrepreneurship in Norway started in the eighteenth century. Until that time, Norway was the part of Danish-Norwegian Union (1524-1814). The union was created to provide a military security and strength of the countries within the union. However, some of the union's acts prevented economic development in Norway. Thus, The Conventicle Act (1741) limited freedom of organizing meetings and associations, thus, reduced opportunities for entrepreneurship activities in Norway.

Norway was released from Denmark and called her own constitutional assembly under the leadership of Hans Nilsen Hauge (1771-1824). The development of entrepreneurship in Norway is historically attributed to his name because H.N. Hauge encouraged people to participate in economic development of the country. Moreover, H.N. Hauge became the spiritual leader, addressing ideas of business activity and empowerment through economics initiative, to the core of Christian religion. The Hauge Movement had changed people perceptions about religion and their capabilities to improve their lives (Dalgaard & Supphellen, 2011).

Current situation

Norway is one of the countries covered by the Global Entrepreneurship Monitor (GEM) that provides the result of the sixteen surveys on entrepreneurship situation in the world.

Despite that the GEM Norway Report (2013) found out that during the period 2008-2012

entrepreneurship in Norway was in declining trend and reached its lowest level of innovation and entrepreneurship (6,8%) since 2007; social attitudes towards entrepreneurship as a good career choice increased to 56% among population, while successful entrepreneurs received high status in 83% of population in 2013 (Alsos, Clausen, Isaksen, Åmo, & Bullvåg, 07. 2014). However, less than 50% of respondents answered that entrepreneurship is a preferable career choice.

The importance of EE and development of population's EB as a tool for economic development is a frequent subject for debate of the government in Norway. There has been established a variety of support organizations such as Innovation Norway, START Norway, Park of Knowledge (Kunnskapsparken), and other supporting and educational programs aimed to increase EI among population.

GEM (2014) was unable to count media attention to entrepreneurship projects in Norway, while education and media have been recognized as the crucial tools for creation and spreading of entrepreneurial culture (Singer et al., 2015). GEM Norway (2013) explains that the respondents are satisfied with media attention to successful entrepreneurship stories.

GEM Global Report (2014) provides information that despite highly educated population and high levels of identified opportunities for entrepreneurship (63.5 %); only 5% of them have intentions to start business within six month. The reason is the low ESE of population. Norwegian respondents describe themselves as lacking the skills, required experience and capabilities relevant for realization of entrepreneurship behavior, while 37.6% of Norwegians have shown fear for failure. Norwegian population shows low level of desirability towards entrepreneurship activity and requires development of target EE programs to cover population demand and understanding of entrepreneurship as a tool and a process in the context of Norwegian national features. Among other factors preventing EI, GEM Norway (2013) names: secure labor market conditions combined with uncertain outcomes for start-ups prevent and general education. Long education might reduce young people's entrepreneurship activity; whereas men at 55 years old demonstrate the highest EB due to their background and work experience.

GEM Norway (2013) indicates that 10% of educational programs in Norway focus on entrepreneurship. As a result, 5% of education prevents EI, while only 8% increase them. EE is an important factor for the development of entrepreneurship framework conditions, creativity,

ESE and initiative for development of national economy (Singer et al., 2015). Norway has shown highest primary and secondary EE index among non-European countries. The index of a post-secondary EE is lower than indexes of other non-European countries except Bosnia and Herzegovina. Moreover, GEM researchers are less satisfied with entrepreneurship opportunities and framework conditions related to EE for children and youth, than researches from Sweden, Finland, Ireland; and more satisfied with framework conditions for female entrepreneurship.

Since 2008 the goal for the Government's action plan for entrepreneurship had been to gain increase in female entrepreneurship activity up to 40% until 2013. However, the percentage of female people involved in early entrepreneurship activity was only 29% in 2013. It could be explained by low abilities of females to recognize opportunities for entrepreneurship. GEM Norway Report (2013) indicates that 70% of men saw positive opportunities for entrepreneurship, while only 50% women agreed with them. In the whole, women scored lower than men level in EI, early staged entrepreneurship and entrepreneurship activity. It is interesting to notice that female entrepreneurship activity is more stable than male.

Russia

History

Geopolitical position of the country has had a strong influence on the entrepreneurship development in Russia. Russia, in fact, has served as an international transit trade routes: Great Way from the Vikings to the Greeks, the Great Volga Route and the Northern Sea Route. However, the majority of military activities and the systems of government, tradition and orthodoxy have prevented entrepreneurial intentions among population.

Russian entrepreneurship development history is rich and includes many stages including the business development from the ninth to the nineteenth century and total dissolution of any entrepreneurial activity to the twentieth century (Burov, 2013).

Entrepreneurship was born in Russia in the days of Kieval Rus in the ninth century in the form of crafts and trade. The Code of "Russian Truth" (eleventh century) is known as the first regulative document of Russian business. The document regulated long- and short-terms loan terms, and trade commission's contribution to the trade. Russian merchants were the first representatives of entrepreneurs who made business of the country famous both inside and outside the borders. Enterprises existed in the forms of rural crafts until sixteenth century. Thereafter, development of trade and industry began. The reason for the growth was the

government's system of support and motivation of entrepreneurs. The system included loans without interest, guaranteed government contracts, duty-free import of machinery and tools from abroad, freedom from civil service and many other exemptions.

EI had continued to rise under Ekaterina government. Granted Letters and the name of "eminent citizen" were introduced in 1785 to elevate the social status of businessmen. As a result, the number of entrepreneurs increased 12 times.

Further entrepreneurship development is connected to the abolition of serfdom in 1861 and the land reform in 1864. This period of reformation is known as "the golden age of entrepreneurship" in Russia and lasted until the October Revolution in 1917 (Burov, 2013; Pershikov, 2013).

October 1917 was the time of total entrepreneurship destruction due to the nationalization of the factories within the country. Entrepreneurship activity and private enterprises in industry production were allowed again only in 1921 with the NEP New Economic Policy. However, the government introduced an extra tax for entrepreneurs and made entrepreneurship the unprofitable and dangerous career. Entrepreneurs disappeared from trade and production.

The revival of business activity in Russia started with the Law of self-employment in 1987. The revival process is traditionally divided into two periods. The first period was the time of risk. Entrepreneurs tried to break traditional system of economy and created their companies despite condemnation of the society.

The second period started in 1992 and is still in the process of development of market relations (Asaul et al., 2008).

Current Situation

Russia is one of the countries covered by the Global Entrepreneurship Monitor (GEM) that provides the result of the sixteen surveys on entrepreneurship situation in the world.

GEM Russia (2013) states that population's motivation towards entrepreneurship activities declined over 60% in the period 2012-2014. Despite of the support programs and strategic focus of the government on development of EI of the Russian citizens, there is a low level of early stage entrepreneurship in comparison with countries of the Eastern Europe and other BRICS

(Brazil, Russia, India, China, and South Africa). Moreover, the majority of start-ups do not overcome the initial stages of development.

GEM Russia (2013) states that the opportunity for entrepreneurship depends on the infrastructure and population density of the town. The study found quite low level of EB among population in the countryside, whereas they have demonstrated the highest EI. The highest amount of new staged entrepreneurs were found in cities with millions population.

Russia is efficiency driven in transition to innovation driven economy. The availability of financial resources to entrepreneurs is constrained due to the high interest rates on loans. Only 18% of people consider the external conditions in Russia as favorable for startups and entrepreneurship activities, while the fear of failure is 42% of non-entrepreneurs. The GEM Russia (2013) has shown that only 3.5% of the population has EI. However, a half of them is already active entrepreneurs (Verhovskaya, Dorohina, & Sergeeva, 2014). The reasons of such a small rate of EI are growing fear of failure and results of controversial legislation of centralized state - and market economic policies (Burov, 2013). The fear of failure was the critical factor preventing entrepreneurship activities for 59.5% of the respondents. Moreover, even the opportunities driven entrepreneurs are using new startups to secure their income (Verhovskaya et al., 2014).

The majority of the respondents of the GEM Russia (2013) have shown positive entrepreneurship attitudes. In addition, 50% of Russians consider the media attention to the successful entrepreneurs as an active working tool. However, the entrepreneurial attitudes and self-efficacy indexes differ between entrepreneurs and employed respondents. The research has shown 82.6% self-confident in their ability to realize entrepreneurship activities entrepreneurs, while there are only 20.5% non-entrepreneurs with high index for ESE. Not to be forgotten, as well, only 28.5% of the respondents consider that they possess enough knowledge and skills to realize their EI.

Government considers educational institutions as the prior tool of influence on population's EI. Traditionally, there is a high rate of well-educated entrepreneurs in Russia. The study recognized 50% of respondents with high education. During the 2013, the number of respondents with complete educational level grew twice. However, the number of entrepreneurs among students, who were receiving higher education, remained the same. The average entrepreneur is a male aged 25-34 with secondary and post-secondary education.

During all GEM analyses, men have been always more active than women in Russia. However, the difference between EI of early staged entrepreneurs reduces in 2013. Moreover, amount of early staged women entrepreneurs grew more than amount of man in 2013. The study notices the controversial results among settled entrepreneurs.

Summary

Governments in Russia and Norway consider entrepreneurship as one of the main driver of future economy and welfare of the countries. The GEM (2014) names a well-developed educational system and a highly educated population – the main factors towards enabling entrepreneurship and EI. Therefore, Norway and Russia are working actively towards cooperation through educational and support organizations such as Innovation Norway to increase populations' EI.

However, it is notable that despite political efforts to promote entrepreneurship among population, the EI have been remarkably low over the years. The reason of such low EI in Norway could lay in innovation-driven economics. It reduces desirability of self-employment and EI, comparing to factor- and efficacy-driven economics where job options are less available. The reasons of such low EI in Russia could lay in insecure economy with high rates for loans, which increases the fear of failure.

On the bright side, GEM (2014) has shown an increase in early-stage entrepreneurial activity among young adults (25-34 years old) indicating strengthening of the entrepreneurial culture.

Entrepreneurial activities in both Russia and Norway are opportunity driven and constrained by a perceived lack of entrepreneurial skills. GEM (2014) reports that perceived capabilities in general are higher than opportunities in factor- and efficacy-driven countries, while they are declining in innovation-driven ones.

Table 8 demonstrates that both countries have shown a fear of failure and lack of perceived capabilities for opportunities exploitation. There is a difference between some indexes due to the economic policies of the countries. The indexes for the perceived opportunities and high status of successful entrepreneurs are much higher in Norway due to the innovative driven and secured economy of the country, while entrepreneurship as a good career choice index is higher for Russian respondents due to their intentions towards the secure and better life.

	Norway (%)	Russia (%)
Perceived opportunities	63.5	26.5
Perceived capabilities	30.5	27.8
Fear of failure	37.6	39.5
EI	5	3.5
Entrepreneurship as a good career choice	58.2	67.1
High status to successful entrepreneurs	83.5	65.9
Media attention for entrepreneurship	no info	50.4

Table 8 Norwegian – Russia entrepreneurship indexes

Entrepreneurial population in both countries has shown higher rates for job and life satisfaction than non-entrepreneurial respondents. Due to the common for Russia and Norway factors such as the fear of failure driven by the lack of knowledge and skills to find and exploit opportunities for entrepreneurship, which prevent the growth of EI, the problem of EE efficacy is a frequent subject of debate in both countries.

Chapter 4 Cases analysis

4.1 Case A

4.1.1 Case presentation

Lars Kolvereid has been a professor and researcher within entrepreneurship for the Business College at the University of Nordland, Bodø since 1993. He had received education from Norway, the USA and Britain. The main occupation of the professor is education of master level students with specialization in Entrepreneurship and research within Entrepreneurship and Entrepreneurship Education. In addition, Lars Kolvereid supervises six PhD students. Further, we refer to Lars Kolvereid as to "the respondent" and "the professor A."

The professor A teaches the "Specialization in Entrepreneurship" during the 5th year of Master of Science in Business and PhD courses in Entrepreneurship.

Bodø is a Nordland's capital of Norway, which is the largest city in Nordland, the northern Norway's second biggest and one of the fastest growing cities in the country. The town is located to the north of the Arctic Circle. Bodø is a national hub for transport, education, business, tourism and culture (Bodokomunne, 2015).

University of Nordland is the Norway eighth and youngest university. It was ordained as a university in January 2011 and now it offers degrees at undergraduate, postgraduate and doctoral levels. It has established collaboration with partners in Russia, Ukraine, and the USA and around the globe. It has a responsibility for research and higher education in Nordland.

Business College at the University of Nordland (HHB) cooperates with business organizations and prepares highly qualified and attractive specialists according to regional and national needs. Moreover, HHB is a research center where the Global Entrepreneurship Monitor of Norway is conducted (UiN, 2015).

4.1.2 Case analysis

Entrepreneurship education and its objectives

The professor A explains:

"*The main challenge in Norway is to figure out how to encourage people to start businesses and become self-employed despite the fact that they actually prefer employment."*

The reason of such preferences is "comfortable" and secure employment system in Norway, which has led to the fact that there are only 25% of population who prefer being self-employed.

The lack of information about entrepreneurship and its tools is the other reason of the low index of self-employment in Norway. That fact has resulted into the lack of interest in exploring self-employment as the work opportunity among people who do not understand entrepreneurship as a process and have no knowledge about the security system within entrepreneurship as a career choice.

Therefore, the main objectives for EE are to increase students' awareness of entrepreneurship as a career choice and field of science, enable them to see and exploit opportunities, and make decisions, where making a decision and doing things are the most important criteria for success. EE should *"teach students about entrepreneurship theory, empirical findings and implication for policy makers, prospective and actual entrepreneurs".*

The professor A suggests that EE should be available for both students who want to become an entrepreneur and students who prefer employment.

"The main objective is to teach students about entrepreneurship as a field of research and field of science ... I define entrepreneurship as a science of opportunities; and defining an opportunity, finding an opportunity and exploiting that opportunity are things this field is concerned with ... Opportunities are relevant for not only people who want to start a business and people self-employed, but also, certainly, it has relevance to business in general, to the public sector and to social entrepreneurs, and in schooling, in education."

EE effects

Among EE effects the respondent A names: "*decision to become self-employed", "the intentions to start a business", "the intentions to buy a business", "actual involvement into business startups" and "an actual involvement in small business management*".

However, he had emphasized the two effects as the main results of EE:

- Awareness of entrepreneurship as a process and career choice;

- Developing students' abilities to find the right information to enable them to see and to exploit opportunities.

In other words, the main effects of EE are skills and knowledge that empower people to perform as entrepreneurs.

"I think that we enhance their ability to face these challenges during the startup process … So, we think they are better able at discovering the opportunities, better able at finding capital, are able to find partners for their business; and also they are able to evaluate the market, the number of customers and calculate break event points and things like that. So they are, definitely, better to write business plans."

The respondent A explains that EE has contrary effects on students' EI. At first, it increases students' EI through their awareness and interest in entrepreneurship and self-employment. However, the growth of volume of information and awareness of challenges and requirements within the entrepreneurship process often "*scares them off*".

"First of all, you tell them about what is required to start a business and to become self-employed…, and sometimes they are surprised by the number of requirements that they have to come through, and things they have to do in order to become a successful entrepreneur."

Moreover, the respondent A emphasizes that due to the lack of the rigorous research and scientific proofs, it is quite hard to distinguish whether the increase of students' EI is a result of EE or their initial interest to the area.

"We know that people with specialization in Entrepreneurship have stronger intentions to start business, they prefer self-employment more than other students, they actually…are more involved in business startups, and they are more involved in small businesses as small business owners and small business managers. But we don't know whether this is an effect of education or of their interest with this topic, to begin with."

"W*e are not sure that it is possible to isolate the effect of EE."*

Skills and knowledge

Increasing students' awareness of entrepreneurship as a career choice and the field of science is the main purpose of EE. Access to these skills and knowledge involves that students develop

deeper interest to the entrepreneurship as a field of science and self-employment opportunity; better abilities to see and exploit opportunities, take decisions and actions; that improves their ESE. The respondent A thinks that one of the main results of these effects is a growth of participants' EI and amount of successful startups.

The respondent names: creation of business plan, ability to find and analyze an optimal amount of information, development of a network, ability to take a decision and action as the most important skills that should be developed by EE.

Moreover, the professor explains that EE should include both success and failure stories, and supply students with information about opportunities, requirements and challenges of the entrepreneurship as a process and the career choice. However, only knowledge of successful stories is able to increase students' EI, while knowledge of failures, requirements and challenges "scares students off", reduces their ESE, thus reduces EE effect on student's EI. The *"learning about how difficult it is and how much work it requires prevents EE effect on students' EI".*

Teaching tools

Active elements

As an example of active elements, the respondent A mentions: television watching, games, contacts with different entrepreneurs and successful guest lectures and solution of real cases.

As a result of this part of the interview with the professor A, three main effects of active elements have been found:

- Including active elements into the teaching process enables to improve student's skills and knowledge application towards more successful realization of entrepreneurial behavior and exploiting opportunities.
- Active elements within EE increase students' interest in the field of science. This interest could be further exploit as the base for increasing students' EI towards their future involvement in entrepreneurship as a career choice and the field of science.
- Active elements can be used as the tool to transform students' SN through development of their network and delivering new friends with entrepreneurship interest and backgrounds.

"…we provide them with networks, we provide them with new friends, and, therefore, we think we change their social and subjective norms. That is possible. That is probably easier to change their attitudes."

Compulsory theoretical elements

The definition of compulsory theoretical EE courses has been used during the interview as courses that students have to attend and to pass in order to get their master degree.

The professor A emphasizes that compulsory courses have no effect on students' EI *"what so ever"*. The reason is the different objective of these components. They do not strive to increase students' interest and involvement into the field of science.

However, during the interview, it becomes clear that compulsory theoretical elements, such as reading books and theoretical journals supplied by other scientific proofs, are an essential element of education in order to increase students' awareness and to improve their skills and knowledge; that further improves EE effect on students' EI.

"All teaching of students should be research based."

"In my experience, the compulsory courses have no effect on intentions what so ever, but they may have an effect on awareness, because many people have not given a thought of possibility of becoming an entrepreneur, of becoming self-employed. I believe that it enhances their awareness. But I don't think that compulsory courses have effect on the intentions."

Inspirational teaching

The respondent A thinks that inspirational teaching, such as success stories, motivational and entertaining teaching, is an important tool to enhance students' interest and, thus, to effect positively their EI. However, he explains that due to the educational objectives of EE, the inspirational teaching is a supporting element to the education process.

"*It certainly has an effect … I think students enjoy an inspirational teacher, obviously, but it also has its limitations, because an inspirational teacher is not always a knowledgeable teacher. …but for entertainment purposes and inspiration, an inspirational teacher is of course important."*

"Sometimes we invite lecturers that get poor scores from students, even though they are boring, because you know that they are knowledgeable and very good researchers, and that they possess valuable knowledge that, we think, students should have."

Additional elements

During the interview, the professor emphasizes that the length of the course is an important factor towards increasing EE effect on students' EI.

"The longer the course is- the stronger the effect."

Summary:

The respondent A emphasizes the importance of combining all teaching elements to increase EE effect on students' EI. Thus, the compulsory theoretical elements are essential in order to increase students' awareness and to prepare high quality specialists. However, he emphasizes that only *"elective courses may increase students EI. And the longer the course is - the stronger effect is*".

Furthermore, the right combination of teaching elements and inspirational teaching allows reaching better EE effects mediated by effects of skills and knowledge on students' ESE and its mediation effect on their EI; and EE effects mediated by SN and its effect on students' EI.

"I believe that we should combine different pedagogic approaches, we should combine book reading and television watching, games, contacts with real entrepreneurs and real cases. I believe in combination of all methods, rather than believing in one method. I think that students like the change of getting involved and have different approaches."

Therefore, the combination of different teaching methods is the key to enhancing EE influence on students' EI. However, the professor A gives a warning that the active elements and the inspirational teaching should be included in EE as a positive and motivational tool.

"If focus only on EI, you probably should not invite discouraged entrepreneurs. You probably should not tell people how difficult that is. You probably should focus on the use of only successful entrepreneurs as guest lecturers, and only focus on success stories rather than failures. That is not being honest to our students. And even though, increasing their EI would be incorrect, because that would probably lead to many failures among them. And that is

something we don't want to encourage, because we know that failure can be very difficult, and it can lead to heart attack, and suicide, and other terrible things."

Attitudes and ESE

The professor A means that attitudes are hard to measure and to change. However, he explains that it should be possible to change them in a long term and within a combination with other antecedence of intentions, presented by the TPB theory. The other antecedence that could affect attitudes and its effect on EE influence on students' EI are SN and PBC, where PBC and ESE contain the same characteristics: such as believe in your own ability to perform a certain behavior.

EE has a positive direct effect on SN, PBC and students' ESE. Through the creation of the entrepreneurial space where students receive opportunity to meet new friends and develop relevant networks EE improves students' SN. In addition, EE courses deliver knowledge and help to develop and practice essential entrepreneurial skills. It leads to the increase in PBC and ESE, and, as a result, it increases EI.

"… but we don't think we change attitudes, because attitudes are very hard to change. But what we do think, we provide them with networks, we provide them with new friends, and, therefore, we think we change their social and subjective norms."

"If we use the theory of planned behavior, the antecedence of EI are attitudes, subjective norms and PBC. I believe that the easiest things for us to change are subjective norms, because we can change people's friends, close relations and we can probably also change their opinion about entrepreneurship. The thing we can also probably change is PBC, we believe that we enable people to start businesses … we believe that we enhance their skills and thoughts about the businesses. I am not sure about attitudes. I can say that they are more stable and difficult to change than PBC. But it is possible to change it through ages, yes".

"The only thing, that shows to be actually changed, is SN."

Gender

Gender is a moderator of mediation effects on students' EI. Thus, the professor A explains that, in general, women have lower entrepreneurial attitudes and intentions. Moreover, women score

lower on SE and self-confidence indicators, which influence on their attempts towards self-employment.

However, EE enables to increase women awareness of entrepreneurship as a career alternative, its opportunities, requirements and sources of information about the process, the security and support systems, and other network elements. Improved awareness enhances women's ESE and moderates its effect on their EI.

"There are several studies now, which indicate that EE has stronger effect on females than on males. ...the reasons are possibly, that one of the things that we know about women that they have lower self-confidence and they probably score lower on central self-efficacy: the factors that are important for entrepreneurship. And we also know that females have a lower score on decisions to become self-employed. So, many girls haven't even thought about the possibility of becoming self-employed before participating in the course that increases their awareness and also their intentions to pursue the career of self-employed."

Prior EI and background

The professor A applies the definition of the prior EI as student's entrepreneurship interest, intentions, knowledge and experience before taking the EE course.

He means that prior EI are the important moderator of EE effect on EI. Moreover, the respondent A explains that students' background, on a par with prior EI, moderates EE-EI relations, due to the students' already established interest and capacity to learn and perform a certain behavior. The previous experience and EI improve mediation effects of skills and knowledge on students' ESE and attitudes (in a long run), and effect of SN on students' attitudes (in a long run).

"Previous interest of students helps, of cause. If you're interested in subject, you are more motivated to learn about it… So having a prior interest in subject… means that we have more motivated students, more interested to learning about that subject area and, probably, also having a capacity to start a business, at least helping other entrepreneurs."

"*We noticed that past behavior predicts future behavior … The background of students is important. Students with a background with entrepreneurship and business management, and students, who want to pursue the career as business owner or entrepreneur, are more interested in advice that we can give them as entrepreneurs."*

Family members

Entrepreneurial experienced family members are one of the strong factors effecting EE influence on students' SN and ESE, and, as a result, on their EI. The reason lies in environment that maintains students' attitudes, confidence and opportunities to financially and non-financially support and security.

FMEE influences EE effect on student's EI "*to large extent. We know that children have a tendency to follow their parents' steps. If your father is an entrepreneur, you have a tendency to become an entrepreneur yourself. And also… if you have a family background in entrepreneurship, your family is, probably, more aliened to support you in your entrepreneur networks and, probably, more willing to help you with a capital and non-financial support".*

Moreover, entrepreneurial families conduct to students' skills and knowledge within entrepreneurship and industry they are working in. The respondent A means that these are the most important factors influencing a person's ESE and the success of start-ups. Students' awareness of requirements, challenges and solutions and the knowledge of the entrepreneurial tools, which should be used in order to overcome those challenges, increases their ESE and EI.

"If they were working in their parents' shops since they were little kids, obviously, they know the trade and they know the industry. And that is one of the most and most important success factors that we identified. If you are starting a business in the area you are not familiar with, your chances of success are not really that great. So, experience is the most important factor that contributes to success."

Additional factors

Length of EE

The professor A explains that "*the longer the course is then more likely it has an effect*", due to the availability of opportunity to enhance EE effects on ESE through skills and knowledge, and on SN through group work and motivated individuals within the groups.

Volume of EE

The volum of information students receive during the EE courses and further during the practice, influences noticably EE effect on their EI. The respondent explains it as a fact that too

much information about risks and requirements can scare students off, while too much information in general becomes complex and impossible to manage.

"So, for instance we have found that while entrepreneurs are seeking for information, there is an optimum mode of that information to seek. The more information he has, then less likely he would succeed; and the same goes for networking; and those who networks a lot is less likely to succeed, than those who network to some extent. So there is an optimal … level of many things in life. Too little, or too much can be harmful."

SN

The respondent A states that society and EE environment have a major effect on persons' intentions. Thus, EE enable students to contact with motivated and experienced fellows and successful entrepreneurs, and develop required entrepreneurial skills and personalities, that, as a result, increase their EI through the interest, ESE and SN.

"In case that they have developed new networks, they have and find new friends, they have new sources of information, they have network that is more appropriate for a business startup, for instance … They change subjective norms. They choose the people who are important to them, and they change … the extent to which they care about opinion of people who are not important to them."

Personal traits

The professor A mentions that personal traits can be a moderator of ESE's mediation effect of EE influence on students' EI. Such personal traits as risk tolerance, creativity and desire of self-fulfillment run individuals' SE and motivation towards entrepreneurship.

"…we know that people concerning about security are probably not advised to start businesses, because people starting businesses are tolerant to insecurity and risk … are interested in creativity, in challenges, in … self-fulfillment."

Conditions on the labor market

The respondent explains that availability of a job opportunity can push students for a natural path of receiving education and, then, becoming an employee. Moreover, the comarison of risky self-emloyement career with secure conditions within Norwegian employment system, moderates negatively EE effect on students' EI.

"…most people in northern countries prefer to be employed rather than self-employed… And the reason of this is that it is so good to be employed in the Nordic countries and in Norway. We have work environment act that … that makes it hard to fire somebody in these countries … So, the challenge in Norway is to figure out how to encourage people to start businesses and become self-employed or despite the fact that they actually prefer employment."

Not to forget, the fact that the respondent A notices that intentions play a very important role here, because *"trying to persuade an unemployed to become self-employed, is not going to result in business that would last for very long, because as soon as job appears, he is likely to quit his business and take the job."*

Accordingly, the professor names "*learning about how difficult it is and how much work it requires. There are only a few winners of the lottery*" as the factor preventing EE effect on students' EI

4.1.3 Summary

To summarize the interview with the respondent A, a complex model has been developed to visualize all the findings about relationships between variables.

The model shows that EE, which includes a right combination of teaching elements and length of the EE course, has a positive direct effect on students' EI. This effect could be moderated by the existence of students' prior EI and entrepreneurial family members in students' families.

In addition, an optimal combination of teaching elements and length of the EE course affect EE influence on student's knowledge, skills and network development. An optimal combination and volume of these factors are very important for creation of the positive relationship, because exaggeration or lack of them create a controversial moderation effect of EE influence on students' EI.

One of the main objectives for EE is the increase of students' entrepreneurial knowledge and abilities, which improves students' ESE and EI. This relationship is especially observable for female students.

In addition, EE is a tool to create an entrepreneurial environment to enhance students' SN and, as a result, to improve the effect of EE on their EI.

Table 9 Code Tree, Case A

Category/ Main. By influence of EE effect on EI	Subgroup	Case A
1. General EE effect on students' EI		Complex phenomena, hard to separate EE effect from other factors • Direct positive effect • Positive effect of EE is mediated by skills and knowledge, ESE and SN • Positive effect of EE is mediated by attitudes in a long run
2. Including the active elements into the EE program design	• Effect on knowledge and skills	• Strong positive moderation
	• Effect on EI	• Strong positive moderation through ESE, skills and knowledge
	• Effect on ESE	• Strong positive moderation
	• Effect on attitudes	• Positive moderation effect of EE through knowledge, PBC and SN in a long run
3. The compulsory introductory programs influence	• Effect on knowledge and skills	• Positive moderation of EE effect on knowledge • No effect on skills
	• Effect on EI	• No effect
	• Effect on ESE	• Positive moderation through knowledge
	• Effect on attitudes	• Small positive moderation effect through knowledge and SN in a long run
4. Including of the inspirational teaching element into the EE program design	• Effect on knowledge and skills	• Positive moderation of EE effect
	• Effect on EI	• Moderation of EE effect

	• Effect on ESE	• No effect
	• Effect on attitudes	• Positive moderation of EE effect in a long run
5. Skills and knowledge effect	• Effect on EI	• Direct positive effect • Strong positive effect mediated by ESE
	• Effect of EE effect on EI	• Strong positive mediation
	• Effect on ESE	• Strong positive direct effect
	• Effect on attitudes	• Positive direct effect in a long run mediated by SN
6.Effect of EE on ESE		• Strong positive effect mediated by skills and knowledge gained from EE course with combined theoretical and practical tools
7. Effect of ESE	• Effect on knowledge and skills	• No
	• Effect on EI	• Strong positive direct effect
	• Effect of EE influence on EI	• Strong positive mediation
	• Effect on attitudes	• Direct positive effect combined with SN effect (in a long run)
8. EE effect on gender		• Moderation of females' ESE
9. Gender effects	• Effect on knowledge and skills	• No
	• Effect on EI	• Negative effect on females

	• Effect of EE influence on EI	• Strong positive moderation of EE effect on females ESE, and thus their EI
	• Effect on ESE	• Negative moderation of ESE for females
	• Effect on attitudes	• Negative moderation for females
10. EE effect on attitudes		• Positive effect mediated by skills and knowledge, and SN in a long run
11. Attitudes influence	• Effect on knowledge and skills	Positive direct effect on desire to receive EE
	• Effect on EI	• Positive direct effect
	• Effect of EE influence on EI	• Positive mediation in a long run
	• Effect on ESE	• No effect
12. FMEE effect	• Effect on knowledge and skills	• Positive direct effect • Positive moderation
	• Effect on EI	• Strong positive moderation effect through ESE and attitudes •
	• Effect of EE effect on EI	• Strong positive moderation effect through skills and knowledge effect on ESE and attitudes • Strong positive moderation effect through SN effect on attitudes
	• Effect on ESE	• Strong positive moderation effect through skills and knowledge

	• Effect on attitudes	• Strong positive moderation through SN, and skills and knowledge
13. EI before the EE course effects	• Effect on knowledge and skills	• Positive direct effect
	• Effect of EE influence on EI	• Strong positive moderation
	• Effect on ESE	• Strong positive moderation effect through skills and knowledge
	• Effect on attitudes	• Positive moderation through skills and knowledge in a long run
14. Additional Factors		**SN effect of EE influence on EI** • Positive mediation between EE influence on network and environment, and its effect on EI
		Background • Positive moderation of EE effect on ESE through prior skills and knowledge
		Personal traits • Positive moderation of EE effect on students EI
		Length of EE effect on EI • Positive moderation of EE effect on ESE
		Volume of EE effect on EI • Positive moderation of EE effect on ESE through optimal level of knowledge Negative indirect moderation of EE effect on ESE of too little or too much information

		Unsuccessful stories and role models • Positive moderation effect on knowledge • Negative moderation of ESE effect on EI, and, thus, EE effect on EI
		Availability of satisfactory job or job opportunities effect on EE influence on EI • Negative strong moderation of EE effect on EI •

Table 9 Code tree, Case A

Figure 5 – Research model case A

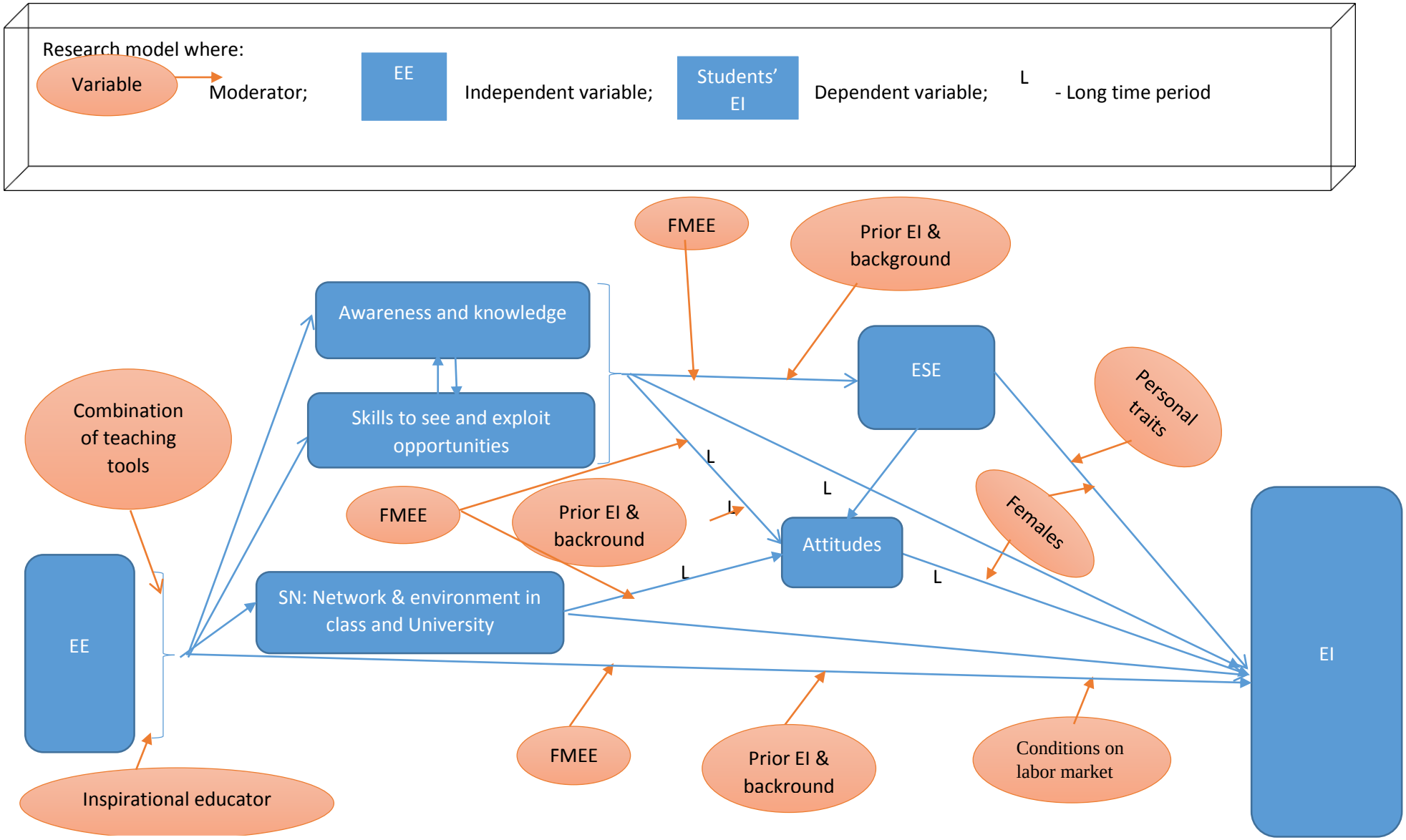

Figure 5 – Research model Case A

4.2 Case B

4.2.1 Case presentation

Nikolai Evmenov is a professor at the Higher School of Economics at the Northern (Arctic) Federal University in Russia, Arkhangelsk and business ombudsman under the governor of the Arkhangelsk region and the president of Russia. He describes himself as practice-based professor, professor having experience in entrepreneurship. He started business within restaurant, service, consulting and supporting of the state purchase industries. He has higher education in the Economics and State Municipal Administration. Three years ago in 2012, Nikolai Evmenov defended his thesis in economics about social economic costs and transformation of the labor market in the region, and started lecturing on the "Introduction to Entrepreneurship and Management Decisions" at the Northern (Arctic) Federal University.

We apply to Nikolai Evmenov as to "the professor" and "the respondent B" during the discussion section of the study.

Arkhangelsk is a city and administrative center of the Arkhangelsk region in the North of European Russia. Arkhangelsk is the center for timber and fishing industries. The town has exit to the White Sea and Arctic. It is a major seaport, which is opened all-year-round due to the active usage of icebreakers. In addition, Arkhangelsk plays strategic role for Russia and its geopolitical interests (LonelyPlanet, 2015; narfu.ru, 2010a).

There are a number of active programs aiming to develop and support EI of the population in the region. The Northern (Arctic) Federal University named after M. V. Lomonosov was established in order to develop innovative scientific and human resources for the purposes of meeting needs of the Russian North and Arctic, where the creation of innovative solutions is the main success factor (narfu.ru, 2010a).

The Higher School of Economics provides European level of specialist training and guarantees employment of graduates due to its great experience, high reputation among the employers and stable relations with business community of the region (narfu.ru, 2010b).

"The Introduction to Entrepreneurship and Management Decisions" are compulsory semester-long modules with pass-no pass system.

"The Introduction to Entrepreneurship" is divided into two sub-modules, which are "The Introduction to Entrepreneurship" and "The Organization of Entrepreneurship". These sub-modules have similar structures. Respectively, the Introduction to Entrepreneurship is a semester- long course with a pass-no pass system, while the Organization of Entrepreneurship is a semester-long course, which includes exam and a list of questions to the final graduation exam.

The courses are taught to bachelor students who are 20-21 years old. There are mostly female students who take specialization within economics, while there is a dominance of male students within the technical specializations such as engineering, automobile production and forest engineering.

4.2.2 Case analysis

Entrepreneurship education and its objectives

The professor B explains that the main objective of EE is:

- to develop students' awareness of entrepreneurship as a process in general and within the context of the industries and the geographical region of the country;

"… A person should get an understanding of the algorithm of actions that should be realized in order to start up a new company. The correct algorithm of the actions is a key to the effect we are talking about."

- to develop students' knowledge of a productive organizational process and risk management within the context of entrepreneurship;

"…because the organization of work force, finances, and processes of getting resources, capital and labor are the base operations for management and every business."

"*However, we try to improve students' ability to evaluate and manage the risk. Certainly, people, who do not know about entrepreneurship and risk management, do not possess better information about entrepreneurial processes; can be afraid to take that risk. Therefore, my goal as a professor is to break some myths, which prevent people from starting a new business…and to teach them how to manage risks efficiently."*

- To develop students' understanding of entrepreneurship role for the government, the region and the country, and to increase their interest in entrepreneurship as a career choice;

"I think that this education helps students to understand the important mission of entrepreneurship for the government… It is an important element for a healthy government, because it creates self-employment opportunities, organization of labor force, and the solution for social problems… Therefore, small and middle businesses within the government strategies are something we talk about at my classes either."

EE effects

Among EE effects, the respondent B names: skills and knowledge of entrepreneurship process, decreased fear of risks, improved self-awareness and personal qualities such as self-confidence and decency, increased EI expressed as increased interest and motivation.

"… The EE effect means that each person understands what entrepreneurship is as a process, and what elements this process includes. I mean that the expected learning outcome is the understanding of the algorithm of actions that should be realized in order to start up a new company."

"The system of liabilities and responsibilities is very important in entrepreneurship, because if you look at this system as one of the key elements, it teaches you and makes you moral as a person and a business partner who are going to realize their promises. Moreover, I think that it gives confidence, decency, and ability to be concentrated and self-organized."

In the whole, the professor B notices a positive influence of EE on students' EI.

"I think that it is a positive factor. I start my lectures with explanation that income is a cost of the risk. And, anyhow, it is a risk to start a business. However, we try to improve students' ability to evaluate risk properly and manage the risk. … To help them make their first step… My goal as a professor is to destroy that myths and teach students how to manage risks efficiently."

"Every time, when starting a new course, I write down the number of hands, which students raise when I ask if they would like to be an entrepreneur. It helps me to understand who has motivation to become an entrepreneur and why. Can you imagine when only three hands out of

forty (twenty people) are raised? … However, after the course, I ask them again…I would say that … it is more than 50% of students who became interested in entrepreneurship."

However, the respondent B emphasizes that the direct effect of EE is unclear. The reason is that students' motivation and EI are subjective, not lasting and are influenced by other factors, where the strongest mediation of the EE effect is going from students' ESE and SN within the group, moderated by practical experienced and inspirational professor who are able to motivate students by increasing their risk tolerance.

"*I understand that emotional component is very high here. Students are getting closer to the finals and understand the subject more. We also do not know how sincere they are about their motivation, because in some days after the end of the course, they can forget it. They understand the course content and can apply the knowledge. However, the motivation is a key factor that drives person towards realization of their intentions such as entrepreneurial behavior."*

Skills and knowledge

During the interview, the respondent B emphasizes four principal skills and knowledge, which students should develop during the EE:

- knowledge of the entrepreneurship process and the algorithm of its realization;
- knowledge of the entrepreneurial history worldwide;
- knowledge of entrepreneurship process specifics of the region and industries;
- the ability to construct and to realize an efficient entrepreneurial process, to find information, to write an efficient business plan, to manage a risk, to work in a team.

The professor B emphasizes that understanding of the entrepreneurship is the key element towards the increase of EI. EE are an essential tool in order to develop students' common understanding of the entrepreneurial process and the required actions. It improves students' skills and knowledge and leads to students' awareness of entrepreneurship as a processes and career choice. Moreover, the professor B stresses out that improved skills and knowledge within entrepreneurship are able to improve students' personality by increasing their decency, self-organizational skills and risk tolerance. As a result, EE increases students ESE through decreased fear of risks and failure due to the improved understanding of the entrepreneurship process, algorithm and requirements. Students become more interested and motivated in entrepreneurship as the field of science and the career alternative. Thus, their EI grows up.

"Certainly, people, who do not know about entrepreneurship and risk management don't possess better information about entrepreneurial processes; can be afraid of taking that risk. Therefore, my goal as a professor is to break some myths that prevent people from starting a new business. Therefore, my goal is to help them to make the first step."

"*Moreover, I think that it gives confidence, decency, and ability to be concentrated and self-organized. Thus, I think that if entrepreneurship is not suitable for a person, he will understand it during these studies."*

"Furthermore we reduce the risk connected to failures. The thing is that there are people who do not want to risk and to perform a certain behavior as long as this behavior includes the risk component. However, there is always this component in business. Therefore, during this module, a person gets to test himself…as a type of self-analysis, if these activities are matching his expectations."

Teaching tools

Active elements

As an example of the active elements, the respondent B mentions: creation of business plan, participation at entrepreneurship conferences, case studies and contact with real entrepreneurs.

The professor explains that practical studies are essential element of EE in order to increase students EI, because it increases students' ESE and self-confidence through the improved understanding of knowledge application within the specific industry, environment and situation.

Active elements create a better environment for two-ways communication between the participants and participants with professor, and help to answer the questions that students collect during the theoretical course. Moreover, active elements should be constructed in a way to support the already received basic knowledge about entrepreneurship and theoretical knowledge they are still getting. This supporting function cultivates students' interest within the entrepreneurship field.

"I am trying to combine many methods. I mean, that I'm trying to organize …case solution work, students' attendance to the conferences about small and middle businesses, the government support of these businesses."

"Within my teaching, I try to include both in- and outside elements within the module. Thus, I'm trying to broaden their minds and to show how interesting it is to be an entrepreneur and to work with people, because it follows the access to new information. Entrepreneurship is an ability to use information that you get. In practice, I want to teach students how to do it."

"The parallel practice processes answers to all questions and create confidence and interest towards the application of theoretical knowledge in practice. Thus, it is the tool that we should use in order to sustain students' interest in the subject. I think that if practice is far away from theory, we would not be able to develop students' interest in the subject."

Compulsory theoretical elements

The definition of compulsory theoretical EE courses has been used during the interview, as the courses that students have to attend and have to pass in order to get their degree.

The professor B explains that theoretical understanding of entrepreneurship process is essential in order to create a qualified specialist - a person who is able to understand and to realize the algorithm of required activities in order to launch a new firm and to take decisions. Theoretical EE increases students' awareness, and improves their skills and knowledge that further influences EE effect on students' personality. As a result, it follows to a small positive effect on students' EI.

"Compulsory theoretical subjects…help a person to see some fundamental elements of the industry and the field he is studying. I mean, without theory we cannot reach a general and basic understanding of the fundamental field of science. Moreover, theory helps to broaden students' minds, because it includes both historical and modern elements of the field development."

"I think there is a small effect. For example when a student didn't have any knowledge and got it in the EE course, he could become interested in entrepreneurship. This factor can also increase EE effect on students' EI if students had prior EI or entrepreneurship experience, and would like to receive more knowledge and skills. However, the influence of this factor is very small."

Inspirational teaching

The professor B stresses out that one of supportive elements within EE, which enhance students' interest and EI, is an environment within the class. Therefore, the professors' ability to engage students into the learning process and into the cooperation during the group work is essential. Moreover, inspirational teaching improves students' skills of teamwork and team motivation, and their abilities to manage others in order to achieve a common goal.

"Certainly, I think that three different professors of the same module will have three different approaches to teaching and, as a result, at least, three different outcomes. Therefore, it is important to motivate students, to be able to find this motivation within a student, and to give him an opportunity to work in an interesting team. It is important even more for the students, who are not interested in entrepreneurship, because it makes them feel useful within the study process."

"So, we need to find some interest and to cultivate it during the lectures. Thus, everyone who really wants to be entrepreneur will understand that people are different, but each person contains a potential that could be concentrated in order to achieve a common goal."

Additional elements

Four additional elements of EE structure were emphasized during the interview.

- Length of the EE course and presentation of the material

The respondent B explains that in order to create students' understanding of entrepreneurship process and to enhance students' interest towards it, the right balance of information should be chosen. The reason is that misbalanced informational channel would stress students out, make them tired and, thus, reduce their interest in the subject. As a result, educator risks the decreasing of students' EI.

"I think that length, as a time loading of the course, should be balanced, because each subject if it is too long and deep gives too much information. As a result, person gets tired. Moreover, the big volume of information disperses a real life and practical use of knowledge. Therefore, a module should be strictly planed according to the balanced amount of information and time."

- Professor's background

The professor B stresses out the importance of educators' background. As the main messenger, who is responsible for making knowledge about EE available for students, educator should be experienced in order to be able to involve students and to deliver logical entrepreneurship process.

The respondent B explains that theory-focused educators are used to over-focus on EE requirements and to make the course mostly about receiving the grade. Moreover, he suggests that theoretical professors are unable to separate between useful and not useful theoretical knowledge due to their lack of experience and knowledge of what works in real life. It decreases students' interest and SE, and can reduce their EI.

"When persons have gone through all the stages of entrepreneurship projects within different industries, they know what is working and what is wrong. Therefore, the effect, if we are speaking about some concrete result, within the system of education, especially higher education, as I think as a practice-oriented person, is positive if the teacher is experienced."

"If the professor is only a theory-oriented person, the course is managed in order to focus students on getting the module passed and on moving on to the other. If you do not try to motivate and activate students during the lecture, there would be a low effect on students' intentions."

"There is a lack of experienced professors within such modules. Mostly they teach some basic modules that students have to pass. There is a problem of the lack of experienced professors in educational system. That is a big problem."

- EE structure

The professor B explains that due to the lack of experienced professors and focus on theoretical ones there is a problem of education structure in Russia. It means that students are not qualified and not prepared enough to study some of the modules.

"I think that our system of classical economics education has contradictions between modules order and the year of studies. I mean, some courses should be taught later, when students have got general understanding of life, its processes, and economic questions. For example, teaching them about a stock market … we teach it too early. I think it is wrong, because the stock and currency market is a method of money placement. Money that entrepreneur earns. Therefore, education should firstly teach students how to earn money, and then, how to place and invest

them in the stock market. Therefore, there is a lack of connection between education and the real life. Therefore, the order of economic modules should be logical and should match students' age."

The lack of students' qualification and preparation to courses contents is directly reflected into the lack of understanding and, as a result, it reduces their ESE and EI.

- Presentation of the material

The professors' experience and ability to explain entrepreneurship elements influences their ability to present the material efficiently. The respondent B supposes that this factor is a key element that helps to create students' understanding and interest of entrepreneurship. A visual, clear and logic presentation of the material is a key to stimulation of EE influence on mediation variables and EI.

"I think it is a good presentation of the material. If theory is presented visually and is real, is focused to create an interest within the target audience, then this factor is very important. It is because the presentation of the theory can be a great support to the educational process. I mean not as much as the content of the study, as a form of the teaching and presentation of the study material."

Summary:

The case analysis has found out six essential components of EE, which moderate EE effect on students' EI and other variables:

- Active elements;
- Compulsory theoretical elements;
- Inspirational teaching;
- Length of EE course;
- Educators' background;
- Structure of education;
- Presentation of the material.

The professor B emphasizes that EE module should be theoretically based. Moreover, the proper volume of information is essential to enhance students' interest towards entrepreneurship as the scientific field and the process. However, EE has to be supported by

parallel practice including active elements. It enables to answer students' questions and improve their entrepreneurial skills. In order to create the proper EE program, educational institutions should involve experienced and engaged in entrepreneurship professors, who are able to motivate students, separate and clarify the most important entrepreneurial knowledge, tools and processes.

EE influence students' EI through the EE structure, professors' background, skills and knowledge, which students acquire during EE.

"I think that it is better to have two parallel and interconnected processes...compulsory theoretical programs help to develop a person, while practice teaches students the logic and order of the processes, and ways to reduce the risk within the practical application of theoretical knowledge."

"I think that fundamental theoretical understanding and life practice should be synchronized accordingly. A person who is coming to practice, from theoretical point of view, should not be disappointed that he missed his time and energy on the theory he won't need and apply in future. Thus, practice is a logical sequel of theory from the real life point of view."

"Professors should be able to deliver all that information through connection, interaction and primary communication with students. Therefore, the communication system between professors occupied within theoretical and practical-based modules is very important."

Attitudes

The professor B supposes that EE influences students' attitudes through the increase of their knowledge about entrepreneurship. It destroys myths about entrepreneurship, explains its role for the government and the country. As a result, educators are able to change students' attitudes and increase the respect towards entrepreneurship as a career choice.

"...there is a big stereotype that entrepreneurship is the unserious occupation for people who want to get access to easy money in Russia. I mean that EE helps students to understand that entrepreneurship is, first of all, a hard work."

Students' positive attitudes moderate their ESE and mediate EE effect on students' EI.

"I noticed from my teaching experience, that all students who have positive attitudes towards entrepreneurship understand that entrepreneurship is a tool towards personal development, material/money source, freedom to form their day and plan, they have higher EI than others."

Moreover, EE creates environment that motivates students to cooperate, to share their knowledge and experience, and to compete. All these activities include a great potential towards positive moderation of EE effect on students' interest and EI.

"It is because they are coeval and speak the same language. It motivates them to learn more. Therefore, motivation rises. Motivation rises when your co-partner or class-mate gets to know more and applies it; you would like to get the understanding, skills and knowledge as well."

ESE

The professor B means that EE improves students' ESE through:

- making them aware of entrepreneurship, its tools, requirements and supporting system;
- the application of risk management;
- the change of students' personality and ability to cooperate with and to motivate their mates in order to achieve the common goal.

Moreover, EE helps students to evaluate their risk tolerance and, as a result, influences their EI and their decision to become an entrepreneur.

"As an educator, I pay attention to risk topics within my course. I have a whole lecture about the risks and risk management … I discuss the ability to manage risks with students. When we are talking about risk management, students ESE increases, because they become more aware of risk situations/opportunities and tools to handle those risks. After these lectures about risk management, the number of students willing to become entrepreneurs increases."

"If a student is self-confident, he doesn't try to find negative sides of business, because SE allows him to concentrate on positive sides, which helps him to take a decision. As we say in Russia "the wish has 100 possibilities, while reluctance has 100 reasons". When the person has high ESE, he doesn't try to find reasons not to do something; but he tries to find opportunities to convince himself, his team, investors and others to participate in the project."

"If a person gets a high quality EE and business education, then self-confidence grows. They get the confidence in organization of the process... Thus, a person becomes more disciplined during EE. He becomes responsible."

"Moreover, I think that if the person is not suited for entrepreneurship, he will understand it during the studies. Thus, we reduce the risk connected to failures. The thing is that there are people who do not want to risk and to do some clear understandable actions while these actions include the risk component… Therefore, during this module, person gets to test himself… as a type of self-analysis, if these activities are right for him."

It is important to mention, that the professor B explains that despite the positive mediation effect of ESE on students' EI, the high pre-EE ESE itself reduces the persons' desire to undertake an EE due to his self-confidence, ability to find the required information and desire to save the time resource.

"If a person is self-confident, he values the factor of time. Education is an essential element that requires long time. Therefore, an entrepreneur will not always desire to take education if he is already self-confident. They do not need that additional resource of EE … Very often we observe people, who are self-confident and try to find the required information by themselves using their own intuition, during the entrepreneurial process."

However, the professor B emphasizes the importance of EE in order to increase probabilities for start-ups success.

"ESE is a force that allows students who lack some knowledge and skills, to have positive attitude and realize their EI. However, it leads to high risk of making mistakes during the process, because that person is not always able to properly assess the risks due to the lack of skills and knowledge."

Gender

Based on his experience, the respondent B supposes that EE have a better effect on male audience through the increase of their ESE. The reason could lie in the Russian culture, where the difference between males and females is cultivated through emphasizing the males' need to compete and earn money, as they are hunters by nature.

This male nature of entrepreneurship culture in Russia has a negative effect on women. In addition, the professor B explains that women are more honest to themselves and others about their demand of clear and secure work perspectives.

"The dynamics is higher for males. It is because a man by nature is a hunter. Therefore, he is much more risk averse than females… And I think that women are more honest when you ask them about their interest and motivation in business … while men think that it is prestige to be a businessperson and entrepreneur and to own a business… but it is only due to the fashion prestige of entrepreneurship career. Women are more honest about professional occupation."

"There are always more men who are interested in entrepreneurship because entrepreneurship activities contain many risks. Women are less risk tolerant than men."

"Women decide to become entrepreneurs after getting work experience, taking some business project with their team or doing diversification of some already existent business. There aren't many examples, when females were starting from scratch, throwing away everything they have achieved and made before. Men are more likely to take a risk and start everything from scratch."

However, the picture alters for the older women with strong prior EI and experience.

"I have noticed that older women are more interested in receiving an EE to support their businesses. Therefore, there have been more females and they were older than men, attending the same course. Women, after some period of time, understood that they need additional resources and knowledge to support their own business."

Prior EI

During the interview, we apply the definition of the prior EI as student's entrepreneurship interest, intentions, knowledge and experience before taking the EE course. The respondent B means that prior EI is the important moderator of EE effect on EI, skills and knowledge mediation effects. The reason of the prior EI positive moderation effect is students' already established interest and capacity to learn and to perform a certain behavior.

Moreover, the professor B supposes that students with prior EI are able to enhance EE effect on EI of students with no previous EI through their cooperation and communication during

teamwork and other active elements within the EE course. Hence, prior EI moderates SN mediation effect of EE on students' EI and entrepreneurial attitudes.

"Students with prior introduction to entrepreneurship know the real application of the knowledge and are more active during the lectures. I think it is much more interesting and helpful for me too, because it helps me to create a special climate in the class. In addition, other students, who do not know specifics of the business and entrepreneurial processes, become more interested in the course. It is because they are coeval and speaking the same language."

FMEE

Entrepreneurial experienced family members are one of the strongest factors affecting EE influence on students' SN and ESE, and, as a result, on their EI. The reason lies in the environment that maintains students' attitudes, skills and knowledge. Entrepreneurial families give a person an opportunity to observe and to become a part of an entrepreneurial process. It motivates him and enhances his EI through strengthening his ESE.

"I think that it is a very important factor, because a person gets to observe the life cycle of the family business. A person gets to see in the everyday basis how this member of his family is occupied within entrepreneurial activities... If this family member is an entrepreneur and doesn't stop his entrepreneurial behavior and actions, it becomes a part of family's everyday life."

"I think that there is bigger probability that person will be involved in entrepreneurship if he gets to see a successful experience of his family member. He can compare different factors, which influences the choice and everyday life for the employed and self-employed people."

"There is a big probability that if a student has entrepreneurial parents, he will also become an entrepreneur due to the succession of the business. It's a classical situation."

However, the case analysis has revealed a controversial effect of previous EI and entrepreneurial families. Along with positive effect on motivation, availability of support, skills and knowledge, these variables could decrease students' will to receive an EE. There is a strong believe that "*It is better to see one time, than to hear 100 times. It is a golden rule."*

"I would say that if a person gets to see how each stage of the entrepreneurial process goes, it would, probably, be more useful; and it, probably, would give more useful skills and abilities than an ordinary university module."

"Nowadays, we have many successful entrepreneurs and businessmen in Russia. They could create their businesses from the very beginning when they had nothing. However, some of them didn't graduate from universities and had no chance to study EE. However, they were a part of creation of cooperation after the famous historical events in 1988 and 1989. Therefore, I think that constant ability to observe how business is created and managed is more efficient than an ordinary study. I mean the person gets to be more motivated, and I think that motivation is an essential factor for his interest and intentions to be occupied with business and entrepreneurship."

Additional factors

Practice-experienced educator and a good presentation of the study material

In order to increase students' EI, EE aims to enhance their understanding, motivation and interest to that area of science and to the entrepreneurial career opportunity. The respondent explains that the practice-experienced professor understands the algorithm of the entrepreneurial process, and that makes EE more efficient. In addition, this factor is closely connected with inspirational teaching. Thus, an experienced professor is the motivated person who is able to motivate students through sharing the real life examples and real-life-related knowledge. However, the practical educator should be able to deliver the information and knowledge efficiently in order to enhance students' EI.

"Theory itself could be far from a real logic of the process. When a person has gone through all stages of realizing projects within different industries, he knows what is working and what is wrong. Therefore, the effect, if we are speaking about some concrete result, within system of education, especially higher education, as I think a practice-based person has a positive effect if the teacher is experienced."

"If professor is only a theoretical person, it comes to the focus on getting this module passed and to move on to the others. If you do not try to motivate and to involve students during the lecture, there would be low effect on students."

"If the theory is presented visually, is reality-oriented and is focused on the increase of the interest within the target audience, then this factor is very important. It is because the presentation of the theory can be to a great support within the educational process. I do not mean that as much as the content of study but as a form of teaching and a form of presentation of the study material."

Social environment

During the interview, the professor B explains that social environment such as FMEE, environment in the class and the contact with motivated classmates significantly increase EE effect on students' EI. The reason is that educational system at the university is based on the two-way communication of the professor with the class and backwards, and between students. Thus, the atmosphere and SN within the class infuence students' EI.

"However, taking under consideration the SN within the study group and SN at the university it would have a significant influence, of course, because there are some group leaders who form informational atmosphere within the group; and it significantly influences EE effects."

"It is much more interesting and helpful for me too, because it helps me to create a special climate in the class. In addition, other students, who do not know specifics of business and entrepreneurial processes, become more interested in the course. It is because they are coeval and speak the same language. Therefore, motivation rises. Motivation rises when your co-partner or class-mate knows more and applies it; you would like to get understanding, skills and knowledge as well."

Accordingly, among the factors, preventing EE effects, the professor names:

"Wrong structure of lectures and knowledge, poor quality and professional level of educator are the preventing factors towards EE effect on students' EI. A professor has to be able to present the knowledge to create the whole picture of entrepreneurship process and requirements, risks and opportunities during this process."

"Absence of cooperation with educators from other supporting courses is the other preventing factor. For example, if practical courses do not match the theoretical, students would be tired from the volume of theoretical information, and it will reduce EE effects."

Personal traits

Personal traits are important moderators of students' ESE and, thus, significantly moderate EE effect on their EI. The professor emphasizes one of the main goals of education; it is aiming to develop students' ability to manage risks during the entrepreneurship process. He explains that low risk tolerance of a student and the awareness of risks and challenges during entrepreneurship process, which students become aware of during the EE, are able to reduce students' EI.

"However, those, who don't know it, are willing to take a risk without the clear understanding of the risks during entrepreneurship process. In contrast, those who know about the risks from their friends and family, say that they are not willing to undertake such risks."

Moreover, EE teaches students how to find and apply the required information in order to satisfy a requirement during the entrepreneurship process.

"It is also the ability to plan and to see the main things influencing their projects, because there is a big informational flow going on entrepreneur all the time, and he has to be able to find the proper and relevant information. In addition, entrepreneurs are active people. Such people are the target audience."

Among other important personal traits, the professor B names:

"It is the speed of thinking, receptivity, communicativeness. For a person choosing to become an entrepreneur, it is vital to communicate with people. Therefore, it is a very important personal trait."

He explains that person who has already had these personal traits or is adapting them during the EE shows a serious attention to the EE. Therefore, there is a bigger probability that his EI would grow and he would try to realize his EB.

"Surely. First of all, he will be interested to receive an EE, and during the EE he would be more professional at discussing cases and focusing on details. The person will be more prepared to the future career he can pursue after receiving the diploma of Business Education."

4.2.3 Summary

To summarize the interview with the respondent B, a complex model was developed to visualize all the findings about relationships between variables.

During the interview, it was stressed out that educator's ability to motivate students is the most important key towards EE effect on student' EI. However, this factor reduces the objective side of students' EI evaluation from both students' and educators' perspectives. Therefore, we can neither deny nor approve the direct EE effect on students' EI.

The model shows that EE, which includes a proper combination of teaching elements and length of the EE course, enhances direct EE positive effect on students' EI. This effect is moderated by professor's background and his ability to present information and to motivate students.

An optimal combination and order of the EE elements support indirect influence of EE on students' EI through such variables as student's knowledge, skills and network development.

EE creates entrepreneurial environment that enhances EE effect on students' EI. Students with prior EI and entrepreneurial family members could be great supportive tools during EE. Together with skills and knowledge increase, entrepreneurial environment could be able to improve students' attitudes and personality traits. In addition, EE improves students' respect towards entrepreneurship as a career choice through awareness of entrepreneurship as a process, its value for the government, and all requirements to entrepreneurial person. As a result, it enhances EE effect on EI.

Thus, one of the main objectives for EE is the increase of students' entrepreneurial knowledge and abilities, which improves students' ESE and EI. This relationship is especially observable for male students due to their desire for competition and for a prestige career.

Table 10 Code Tree, Case B

Category/ Main. By influence of EE effect on EI	Subgroup	Case B
1. General EE effect on students' EI		• Direct positive effect • Positive effect of EE is mediated by ESE, skills and knowledge, SN and attitudes
2. Including of the active elements into the EE program design	• Effect on knowledge and skills	• Positive moderation
	• Effect on EI	• Strong positive moderation through ESE, skills and knowledge •
	• Effect on ESE	Strong positive moderation through skills and knowledge
	• Effect on attitudes	• Positive moderation effect through knowledge and skills, and SN
3. The compulsory introductory programs influence	• Effect on knowledge and skills	• Strong positive moderation of EE effect on knowledge • No effect on skills
	• Effect on EI	• Weak positive moderation moderated by previous experience, prior EI
	• Effect on ESE	• Weak positive moderation through knowledge
	• Effect on attitudes	Positive moderation through knowledge
4. Including of the inspirational teaching element into the EE program design	• Effect on knowledge and skills	• Strong positive moderation of EE effect
	• Effect on EI	• Strong positive moderation of EE effect

	• Effect on ESE	• Positive moderation •
	• Effect on attitudes	• Positive moderation
5. Skills and knowledge effect	• Effect on EI	• Direct positive effect • Strong positive effect mediated by ESE
	• Effect of EE effect on EI	• Strong positive mediation
	• Effect on ESE	• Strong positive direct effect
	• Effect on attitudes	• Positive direct effect
6.Effect of EE on ESE		• Positive effect mediated by experience, skills and knowledge gained from EE course with combined theoretical and practical tools
7. Effect of ESE	• Effect on knowledge and skills	• Negative direct effect on desire to take an EE
	• Effect on EI	• Strong positive direct effect
	• Effect of EE influence on EI	• Strong positive mediation
	• Effect on attitudes	• Direct positive effect
8. EE effect on gender		• Moderation females' EI through ESE
9. Gender effects	• Effect on knowledge and skills	• Moderation for Older females' moderated by prior EI and experience

	• Effect on EI	• Moderation for men • Negative moderation for women
	• Effect of EE influence on EI	• Moderation of EE effect on females' ESE, and thus their EI
	• Effect on ESE	• Negative moderation for females
	• Effect on attitudes	• Negative moderation for females
10. EE effect on attitudes		• Positive effect mediated by skills and knowledge, and SN
11. Attitudes influence	• Effect on knowledge and skills	• Positive direct effect on desire to receive EE
	• Effect on EI	• Direct effect
	• Effect of EE influence on EI	• Mediation of EE effect on students skills and knowledge, and its effect on their EI
	• Effect on ESE	• Positive moderation
12. FMEE effect	• Effect on knowledge and skills	• Positive moderation • Negative moderation of the desire to receive an EE
	• Effect on EI	• Positive moderation through attitudes, skills and knowledge and ESE
	• Effect of EE effect on EI	• Strong positive moderation through SN, ESE, skills and knowledge, attitudes
	• Effect on ESE	• Positive moderation effect through skills and knowledge
	• Effect on attitudes	• Positive moderation through SN, and skills and knowledge
13. EI before the EE course effects	• Effect on knowledge and skills	• Positive direct effect
	• Effect of EE influence on EI	• Strong positive moderation through ESE and SN

	• Effect on ESE	• Positive moderation effect through skills and knowledge, and SN
	• Effect on attitudes	• Positive moderation through skills and knowledge
14. Additional Factors	**Environment and SN within the group at the University**	• Positive mediation of EE effect on EI
	Personal traits	• Moderation of ESE effect on students' EI
	Presentation of learning material	• Positive moderation of EE effect on students' EI
	Practical experience of educator	• Strong positive moderation of EE effect on ESE

Table 10 Code Tree Case B

Figure 6 – Research model case B

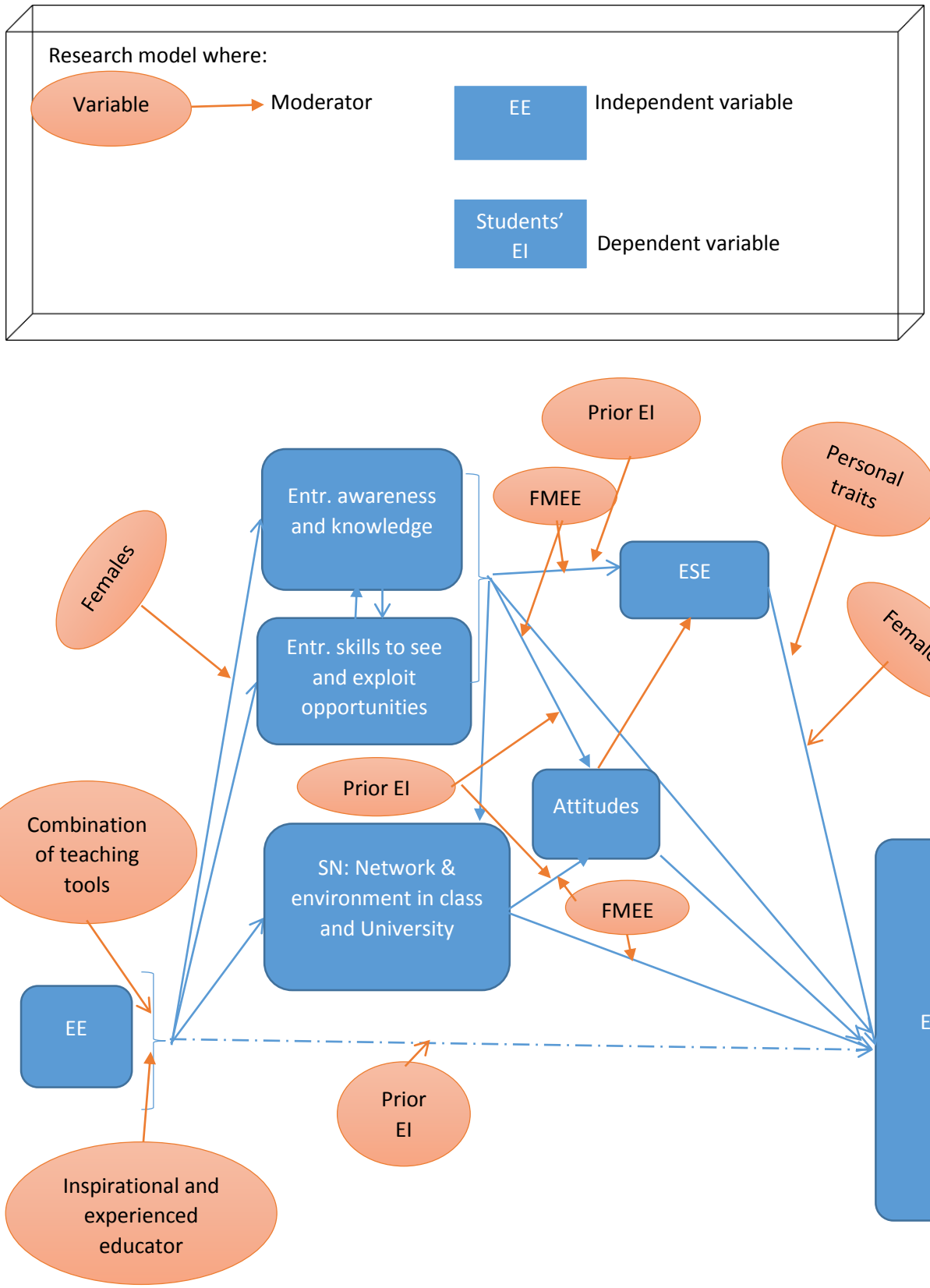

Figure 6 – Research model Case B

4.3 Case C

4.3.1 Case presentation

Marina Markova - Associate professor, Corporate Relations Coordinator of the Lomonosov Moscow State Business School at the Lomonosov Moscow State University.

She received the PhD degree in entrepreneurship in the field of the aviation technology, worked under realization of different international research projects, was marketing consultant for national aerobic purchases. Most of Marina's work and educational experience was connected with business within the field of aviation.

Further, we refer to Marina Markova as to "the respondent" and "the professor C".

Nowadays, Marina Markova is a professor at the Business School within Career Management, Business Practice, Marketing and Professional Development for bachelor and master degree students. Most of the graduates of the Business School become entrepreneurs or managers in big international companies.

Moscow is the capital of Russia and the largest city of Russia and the entire European continent. The town is a major economic, political, cultural and scientific center in Russia. In 2013, Forbes named Moscow the ninth most expensive city in the world. Among the primary industries in Moscow, experts emphasize chemical, textile, food, metallurgy, furniture, energy production, software development and machinery industries (dvms, 2015).

The Lomonosov Moscow State University is one of the most prestigious Russian Universities. It is a research university with a strong reputation and contacts nationally and worldwide. Thus, the graduates of the University are the most attractive candidates at the labor market in Russia.

The Lomonosov Moscow State Business School (Lomonosov MSU BS) is the leader in Russian management education, and one of the oldest business schools in Russia that offers bachelor, master and PhD programs, designed to meet the most sophisticated needs of modern Russian and foreign students. Eduniversal ranking named Lomonosov MSU BS as one of the "Best Business Schools in Eastern Europe" in 2011. The school has strong connections with Russian business world and offers tailor-made corporate programs.

The Lomonosov MSU BS offers the variety of compulsory and voluntarily courses within entrepreneurship. The interview was focused mainly on professor's experience within the

module of the "Business Practice", which is a compulsory course that students attend from the first to the third year of the bachelor degree studies. Within the course, the guest lecturers – successful entrepreneurs prepare students to the practice, while students undertake practical experience by working within different big international companies and start-ups during the two remaining years (MSUBS, 2003).

There is nearly equal amount of female and male participants in the course.

4.3.2 Case analysis

Entrepreneurship education and its objectives

The professor C means that the general objective of the Business Practice course is to prepare a quality specialist able to undertake a management role either within the big companies or within start-ups.

According to the professor C:

"*EE's main objectives are to teach students how to search and apply the required information; and to present success stories and entrepreneurial tools. It is better if students can create a basic marketing plan, than they can only discuss what marketing is."*

Among other objectives, the professor emphasizes:

"*to present the field of entrepreneurship as correct as possible";* make students to *"understand how to build their own business as effective as possible; to study how to analyze the situation, market and to establish successful companies… these knowledge would have an applied nature".*

EE effects

Among EE effects, the respondent C names:

- Increased awareness and knowledge of entrepreneurship as a career choice and as a process; of entrepreneurship risks and tools in order to take a proper decision; of where and how to find relevant information in order to take a right decision, and to formulate clear vision and goals;
- Intentions to start their own company;
- Actual involvement into business startups and/or business management.

Not to forget, EE allows students to challenge themselves and to understand if they want to be involved within this field of activity.

"… some of our students leave our school after some time, because their fathers made them to take this education … Such students have to attend classes, but while studying they decide to leave the school anyway."

In addition, the respondent C explains that EE effect depends on the variety factors, which could influence EE outcomes.

The respondent C emphasizes prior EI, motivation and background as the most powerful factors influencing EE effect on students' EI. She explains that EE is a tool to maintain and enhance students' motivation towards entrepreneurship through presentation of the ways towards the realization of an entrepreneurship behavior and projects, and the possible outcomes of this behavior. However, students have to be already interested in the entrepreneurship as a possible career choice. Otherwise, such factors as families' business, financial and other resources constrains would make them choose employment as a career.

"I think that those courses could not be the only factor influencing students' EI to start their own business. Students should be intern-motivated as well. Those students who are interested in entrepreneurship are more influenced by EE"

"For example, someone has a dream of opening his own business, but he has no knowledge about the way of doing it and how successful it could be. Therefore, the guest lecturer – a successful entrepreneur delivers this knowledge and the idea that everything is possible."

"A lot of students … don't want to be entrepreneurs, but want to be managers in some company. In addition, it is very frequent, that students prefer to be employed in their family companies. In our university a lot of parents of our students are entrepreneurs and owners of businesses. Therefore, I would say that EE has a stronger influence on students who have already got prior entrepreneurship motivation, thoughts and intentions."

"Well, in general, more students become entrepreneurs within the bachelor degree. It is because master students are either students who are already employed in big companies and have realized that they lack some knowledge, or people who are seeking employment opportunities. I mean they have already decided that they prefer a manager's position in a big corporation. Only a few master students are interested in opening their own business."

"We can say that students, taking the bachelor studies, have more potential to become entrepreneurs. Maybe, it is because they graduate from our school of entrepreneurship, while the graduates from other education institutions who enroll to the master at our Business School, can have different motivation and goals for education. Therefore, there are less potential entrepreneurs among them."

Skills and knowledge

Increasing students' awareness of entrepreneurship as a career choice and a field of science, their ability to choose and apply the relevant entrepreneurship tool is the main purpose of EE. In addition, students' skills to find required information are one of the main tools towards the increase of EI and their realization.

"For example, someone has a dream to open his own business, but he has no knowledge about the way of doing it and how successful it could be. Therefore, the guest lecturer – a successful entrepreneur delivers this knowledge and the thought that everything is possible."

It is important to notice here, that the respondent explains that the EE does not have to contain a big volume of theoretical knowledge.

"I think it has negative effect, because nowadays we understand that the goal of education is not to teach students about the theoretical knowledge; but to teach them how to find information in relevant sources."

"Better if students can create a basic marketing plan, than they can only discuss what marketing is."

Skills and knowledge, which students receive during the EE, differ depending on the type of the course: compulsory theoretical or practical course.

The Business School at the MSU organizes its EE on the practical experience of students and network with real entrepreneurs to motivate students and to enhance their EI though the raise of their awareness of entrepreneurship tools and ESE.

"Well, I think that received skills and knowledge increase students' ESE through the opportunity to meet and discuss different issues with "an example" from the real life."

The respondent C explains that during the Business Practice course students receive knowledge based on their experience during their practical work at a company. Therefore, the knowledge students get is "*specifics of business within different industries", "problems", "possibilities for start-ups"; "management decisions", "management and organization work"; " perspectives"* for future development of the start-ups.

Not less important, however, is the factor that practical based courses are essential to confirm the knowledge students receive during the compulsory theoretical courses. Otherwise, the knowledge remains useless.

"However, undoubtedly, if during the practice, students do not get to confirm the usefulness of these theoretical models, the knowledge would remain only theoretical and not useful."

Knowledge that students get at compulsory courses is theoretical and aims to empower students with some ground knowledge of the basic models and algorithms they can use towards the realization of their EI. Therefore, based on the interview with the respondent C, we can summarize that knowledge received during the compulsory EE have a minor effect on students' EI through the increase of awareness of entrepreneurship process and its tools. However, there is no motivational effect on students' EI.

"Knowledge within the frame of the main compulsory courses is more theoretical. … I mean students receive an introduction to the models they can use in future. Thus, the knowledge, students receive during the theoretical courses, is the knowledge of algorisms of entrepreneurship, law, CSR."

Both compulsory and voluntarily practical EE courses/elements are aimed to confirm the knowledge students receive during the theoretical courses and develop their abilities as managers.

"… within the compulsory courses … it can be development of their abilities to take management decisions and solve management problems through discussing the cases of different companies with the professor. Skills for the voluntarily courses are, undoubtedly, practical…business plan, skills of marketing analysis…"

In addition, the EE develops students' analytical skills and attention to the details, which are important personal traits, in order to realize an entrepreneurial behavior, according to the respondent C.

"I think that their attention to the details, objectivity and analytical skills to be able to understand all the factors that influence a person in order to take a decision."

Not to forget, the respondent emphasizes a significant influence of including the successful and unsuccessful entrepreneurial cases into the EE course context in order to improve students' knowledge and ability to take proper decisions, where only successful cases moderate EE effect on students' EI.

"We should talk about both fortunate and unfortunate stories with our students. On every new theoretical material, students should receive successful and unsuccessful cases they can learn from. No-success stories enable students to be more objective and to take better decisions. They would be more careful to formulate clear goals and purposes for their enterprises if they understand risks and negative effects during the entrepreneurial process. Therefore, unsuccessful stories have an education effect, while successful stories have both teaching and motivational effect on students. So, unsuccessful stories do not influence EE effect on students' EI directly. However, it might influence students' ESE, because they will be able to take a proper decision by knowing the risks and potential results of the decision. The more he doesn't know and tries to avoid, the more he is unconfident. Therefore, the more a student knows, the higher his ESE is."

Teaching tools

Active vs theoretical elements

As an example of active elements, the respondent C mentions:

- Case studies;
- Guest lecturers;
- Master classes;
- Practice work;
- Competitions.

"I think that practice-oriented courses are much more efficient, than compulsory courses, which are based on the past knowledge, theories and cases, and, thus, have a smaller effect on students."

As a result of this part of the interview with the professor C, three main effects of active elements were found:

- Including active elements into the teaching process enables to improve student's skills and knowledge application towards more successful realization of entrepreneurial behavior and exploiting opportunities.
- Active elements within EE increase students' motivation and ESE, which could further develop students' EI.
- Active elements are important in order to develop students' network and work experience to create qualified specialists and entrepreneurs.

The practical experience is the strongest factor influencing EE effect on students' EI through the increase of their knowledge and ESE.

"Undoubtedly, it is a practical experience. The earlier students start working within the company and get their own experience to receive an opportunity to apply and confirm their knowledge, the bigger effect there would be."

Compulsory theoretical elements

The definition of compulsory theoretical EE courses used during the interview is the courses that students have to attend and pass in order to get their master's degree.

The professor C emphasized that compulsory courses have a very small effect on students' EI through the increase of their awareness and knowledge. However, the effect would appear only if the knowledge is confirmed during the practice and a personal experience of a student. The reason is the different objective of these components. They do not strive to increase students' EI.

Inspirational teaching

The respondent C explains that the contact with inspirational professors, entrepreneurs and other guest lecturers is the essential part of the EE in the Business School. It allows motivating students and increasing their EI through enhancing their ESE.

"…it has a great influence. I think, generally, happy professor - happy students. If the professor is engaged in the field of his teaching, it is noticeable. In addition, the charisma plays an important role."

However, the respondent supposes that some students can be skeptical about successful stories and educators engagement. Therefore, the practical experience of the professor and his ability to present the information are essential factors for any EE course.

"I think it has an influence, because the educator can influence their attitudes by his charisma behavior, successful stories, so it can undoubtedly change students' attitudes towards entrepreneurship. But however, it could also have a negative effect. It depends on the case situation. For example, some students can be skeptical about stories about successful projects."

"There are hygiene factors in the organization, which have to be presented in order to receive a result from the business activity of an organization. I think that the practical experience of the educator is that hygiene factor that has to be presented at universities. Educator without any experience does not cause motivation and enthusiasm among students. It just has to be there."

Summary:

The respondent C explains that the compulsory theoretical EE courses are essential to empower students with the basic understanding of entrepreneurship and its tools. However, too big volume of information can reduce students' EI. Thus, the professors at the MSU understood that the main objective of EE is to teach students how to search for the relevant information and how to apply it in order to realize an EB.

Therefore, the active element within an EE course is essential in order to fulfill EE goals and to increase students' EI. EE influences students' EI through the active elements that confirm the theoretical knowledge, received during the courses; improve students' skills and motivate them. In order to enhance students' EI, the contacts with successful entrepreneurs are important, therefore charismatic, inspirational and experienced educator is an essential supporting element to the education process.

Attitudes

The professor C means that EE is an essential tool towards improvement of entrepreneurial attitudes of students. The entrepreneurship awareness reduces students' fear of failure through the empowerment of students with knowledge and ability to apply entrepreneurial and management tools.

"I think that the more a person knows the higher is the probability to decrease his fear of failure and to improve his ability to evaluate different career path development. Therefore, anyway, knowledge and awareness are much better tools, than no-knowledge and no-awareness. Knowledge and awareness positively improve students' attitudes towards entrepreneurship."

The respondent explains that person's positive entrepreneurial attitude affects his wish to receive an EE and moderates his ESE, and, thus, mediates EE effect on students' EI.

"Yes, certainly, students will strive purposefully to receive more skills and knowledge if they have positive attitudes. Undoubtedly, I also think that students' attitudes towards entrepreneurship have a direct effect on their ESE. If he has a positive attitude, he will be more positive about his ESE and otherwise."

It is quite interesting that despite the fact that the respondent considers that attitude has no direct effect on students' EI it mediates EE effect on students' EI. The probable reason for it could be the role of EE, which improves the strength of the variable through the moderators and mediators such as SN, skills and knowledge.

"However, it has insignificant effect on students' EI in general because if students' father or other family member has a company, and everyone decided that he has to become an entrepreneur, he would become an entrepreneur."

"So, I would say that students' attitude towards entrepreneurship mediates positively education effect on students' EI because of the information, knowledge and awareness they receive during the course."

ESE

The answers of the respondent C clearly indicate a significant EE effect on students' ESE that is the main tool towards enhancing students' EI.

"Certainly, it has a positive influence."

The professor C means that active elements are essential in order to increase students' ESE through the personal experience and motivation from successful entrepreneurs' stories.

"I think it has a significant influence because there are guest lecturers who are talking about their successful projects, ways they have gone to succeed. It increases students' believe that practically everything is possible. Practically, all our students are very self-confident. Well sometimes, they are too confident. They think that they can do everything. If people, who can convince and confirm students' self-believes by their examples and success, are invited and come to the lectures, I think, there would be practically nothing that could prevent students' self-confident, ESE and EI."

It is important to notice that the respondent states that prior motivation, EI and interest to entrepreneurship are essential in order to enable EE to influence students' ESE.

EE increases students' EI by improving their ESE through:

- Increasing knowledge and skills;
- Motivational speech and confirmation of opportunities in real life from guest speakers;
- Practical experience.

Gender

Based on the previous discussion that students, who are studying at the Business School, have quite strong previous EI and motivation, there are no difference between EE influence on males' and females' EI.

"There is equal number of entrepreneurial males and females in our school. We had situations, where boys and girls are realizing their projects, and their behavior and engagement are equal. I think that EE influence on students' EI is the same for both genders. I did not notice gender differences and any influence on EE effects."

Afterwards, the respondent clarifies that females' ESE are generally lower than males', and EE is a tool in order to increase students' ESE, and, thus, their EI. However, this gender effect is quite small and has insignificant influence on EE effects.

"All our students are either adequately confident or inadequately self-confident. But, however, if we separate ESE on boys' and girls' ESE, I would say that boys are a little bit more confident, than girls. There is a proportion of 60% to 40%, where 60% of boys are confident, and only 40% of girls have high SE. The numbers were not verified; it is only my subjective vision of it."

"Education, yes, certainly moderates female' ESE. If girls are not self-confident, but they possess some personal traits and access to resources, then, certainly, EE increases their ESE."

Therefore, we can conclude that the reason of the weak difference between EE influence on female and male students' EI from the educator perspective is the complex EE system, which includes different moderators and equalize effects of EE on both genders' EI. For example, an inspirational educator and the focus of the MSU' EE on the practical experience of students eliminates the difference.

Prior EI

The professor C applies the definition of the prior EI as student's entrepreneurship motivation, interest, intentions, knowledge and experience before taking the EE course. She thinks that prior EI is the important moderator of EE effect on ESE and, as a result on EI, due to the students' already established interest and capacity to learn and perform a certain behavior.

"…undoubtedly, it is easier to understand new material for people who have already received some introduction in entrepreneurship. It is easier to discuss most topics with them; and they are more confident."

"Therefore, I would say that EE had a stronger influence on students who have already got prior entrepreneurship motivation, thoughts and intentions."

"Well, if the person from the very beginning is sure that he is going to work within his father's company, he, certainly, could be engaged with EE education, but, anyway, he chooses to become employee at his father's company after the graduation."

FMEE

The Business School at the MSU is one of the most prestige universities in Russia. The respondent notices that many students at the school are from the entrepreneurial families. She also means that the FMEE factor affects the EE influence on students' EI through ESE. FMEE

forms before-EE ESE through knowledge, skills, practical experience, network and contact with successful entrepreneurs.

"I think it has a significant influence. Through the opportunity to observe a successful example, student's ESE raises."

It is important to notice that the relationship within the family is a very important factor influencing FMEE effect on students' prior ESE and EI. Thus, positive relations within the family open for student an opportunity to observe a successful example, and increase his EI. However, it could also decrease his EI by ensuring future employment at his family's company.

"I think it is a great life example. Many students say that their fathers have their own businesses. Thus, certainly, if there is a great relationship in the family, mother and father are role models, thus, it has an inspirational effect on students."

"*It is very frequent, that students prefer to be employed in the companies of their families. In our university, many parents of our students are entrepreneurs and owners of businesses. Therefore, it is the other alternative for entrepreneurship."*

Not to forget, however, the FMEE that pressure their child to become an entrepreneur and receive an EE prevent an effect of EE on student's EI.

"…some of our students leave our school after some time, because their fathers make them take this education: "You have to study here", - they say. Such students have to attend classes, but in the process of studying they decide to leave the school anyway. Therefore, parents' influence has its place and effects, but in reality, I think, sometimes, it could play a negative role."

Other factors

The professors C names four additional factors that could influence students' EI.

Background and level of education

As antecedents to the prior EI, focus of the student's prior-EE education and background influence his career intentions and the ability to effectively receive and to analyze a study material during EE. As a result, this factor moderates EE influence on students' EI.

"*We can say that students, taking the bachelor degree studies, are more potential to become entrepreneurs. Maybe, it is because they graduate from our school of entrepreneurship, while*

the graduates from other education institutions who enroll to the master's degree at our Business School, could have different motivation and goal for education. Therefore, there are less potential entrepreneurs among them."

"Well, in general, more students become entrepreneurs within the bachelor degree. It is because master students are either students who are already employed in big companies and have realized that they lack some knowledge, or people who are seeking employment opportunities. I mean they have already decided that they prefer a manager's position in a big corporation. Only a few master students are interested in starting their own business."

Personal qualities

The professor C explains that such personal qualities as risk tolerance, motivation, hard working significantly infuence students' ESE, and thus EE effect on students' EI.

"There are such people, who are entrepreneurs by nature. They are ready to take a risk despite lack of financial resources. The other example is when parents have made an effort to develop entrepreneurial skills and qualities in their child … Well, such entrepreneurial people stand out from the crowd."

"Well, I can say that personal qualities are a very important factor here. Thus, if students possess entrepreneurial qualities and prior motivation towards entrepreneurship, EE effect is very positive, because students are much more confident when they are able to do everything."

"There is a great example of our graduate student Ekaterina Troitskaya (Boeing), they have organized an enterprise, somehow, by finding start-up capital without asking for any help from their parents; and now it is a millionaire company."

Resources, financial security and place of taking EE

The respondent C means that once EI are strong, the availability of the resources has less effect on EE effect on EI and on realization of EI.

"I have noticed no effect, because businesspersons are always engaged into finding different possibilities. For example, talking about restricted finances, there are different grants, funds, techno parks, business incubators available…well, thus, I think that there is absolutely no such

effect. I think those who want to realize their behavior will seek and collect relevant information."

However, the financial security and availability of the resources influence students' ESE and, thus, EE effect on EI. Available resources decrease risk opportunities and pressure from the essential first level demands of students such as money for the living. It is highly relevant to the students, who move to Moscow from regions in order to receive EE. However, their unstable situation and needs push them towards employment opportunities.

"For example, a lot of students who are seeking jobs, because they are in need to make money to be able to pay the rent. May be the person was dreaming to become an entrepreneur during his childhood, but, right now, he has to set different goals for himself to be able to survive. Therefore, I think that in the near future they won't become entrepreneurs."

"We have noticed that influence during this year, when we have got a lot of students from different regions. However, it is not the common trend. We can explain this effect … These students need to find a job and have lower EI because they need money to pay a rent and survive in Moscow."

SN within the university and study group

The respondent explains that SN within the group and the university has a significant moderation effect on students' EI especially if we are talking about the negative effects. Thus, negative information or an undisciplined student can de-motivate the whole group, thus, decreasing EE effect on their EI. It is also interesting, that the professor C did not notice any positive moderation effect of the motivated students on other students' EI. However, she explains that the negative attitude and motivation can be the reasons of it.

"Yes, certainly, SN within the university and group influences EE effect, because there is a "word of mouth" rule, and if there is any negative information, it influences everyone's attitude. It has a very significant effect."

Accordingly, the professor names the factor *"de-motivated and undisciplined students in the group"* as the factor preventing *"EE effect on students in general and on their EI. For example, when students think that to be a good student and study well is not cool, generally speaking. Certainly, it doesn't influence every student, because some of them can be independent form the opinions of others, but, anyway, it will influence some of the students. However, motivated*

students do not influence an EE effect of their classmates' EI, because if there is no inner motivation within a student, he will not become an entrepreneur and his EI won't increase."

4.3.1 Summary

To summarize the interview with the respondent C, a complex model has been developed to visualize all the findings about relationships between variables.

The model shows that EE, which includes a proper combination of teaching elements, has a positive direct effect on students' EI. This effect is significantly moderated by the existence of students' prior EI, personal qualities, prior education, FMEE, availability of resources for living and availability of the practice-based EE courses.

The respondent C states that prior EI and ESE are the main factors influencing EE effect on students' EI. Therefore, the main goal of the EE is to increase students' awareness in entrepreneurship and its tools, and to confirm this knowledge by personal experience during the practical courses.

The Business School at the MSU actively uses motivational guest speakers and practice opportunities to enhance EE effect on students' EI and the quality of the EE education.

Table 11 Code Tree, Case C

Category/ Main. By influence of EE effect on EI	Subgroup	Case C
1. General EE effect on students' EI		• Direct positive effect • Positive effect of EE is mediated by ESE, skills and knowledge, SN and attitudes
2. Including of the active elements into the EE program design	• Effect on knowledge and skills	• Strong positive moderation
	• Effect on EI	• Positive moderation through ESE, skills and knowledge
	• Effect on ESE	• Strong positive moderation through skills and knowledge
	• Effect on attitudes	• Positive moderation effect through knowledge and skills
3. The compulsory introductory programs influence	• Effect on knowledge and skills	• Strong positive moderation of EE effect on knowledge • Weak effect on skills
	• Effect on EI	• No effect
	• Effect on ESE	• Weak positive moderation through knowledge
	• Effect on attitudes	• positive moderation through knowledge
4. Including of the inspirational teaching element into the EE program design	• Effect on knowledge and skills	• Strong positive moderation of EE effect
	• Effect on EI	• Strong positive moderation of EE effect on students' EI moderated by strong prior EI, FMEE and personal traits
	• Effect on ESE	• No effect
	• Effect on attitudes	• Mixed direct

5. Skills and knowledge effect	• Effect on EI	• Strong direct positive effect • Strong positive effect mediated by ESE
	• Effect of EE effect on EI	• Strong positive mediation
	• Effect on ESE	• Strong positive direct effect
	• Effect on attitudes	• Positive direct effect
6.Effect of EE on ESE		• Strong positive effect mediated by skills and knowledge gained from EE course with combined theoretical and practical tools
7. Effect of ESE	• Effect on knowledge and skills	• Positive direct
	• Effect on EI	• Strong positive direct effect
	• Effect of EE influence on EI	• Strong positive mediation
	• Effect on attitudes	• No effect
8. EE effect on gender		• Weak moderation of females' EI through ESE
9. Gender effects	• Effect on knowledge and skills	• No
	• Effect on EI	• No
	• Effect of EE influence on EI	• Weak moderation of EE effect on females' ESE, and thus their EI

	• Effect on ESE	• Small negative moderation of ESE for females
	• Effect on attitudes	• No
10. EE effect on attitudes		• Positive effect mediated by skills and knowledge, and SN
11. Attitudes influence	• Effect on knowledge and skills	• Positive direct effect
	• Effect on EI	• No effect
	• Effect of EE influence on EI	• Mediation of EE effect through skills and knowledge
	• Effect on ESE	• Positive direct effect
12. FMEE effect	• Effect on knowledge and skills	• Positive moderation
	• Effect on EI	• Positive moderation through SN, skills and knowledge, attitudes • Mixed moderation effect if there is an opportunity to receive a job at parent's company
	• Effect on EE effect on EI	• Positive moderation effect through skills and knowledge effect on ESE and attitudes • Positive moderation effect through SN effect on attitudes • Mixed moderation effect if there is an opportunity to receive a job at parent's company • Negative moderation if parents force student to receive an EE
	• Effect on ESE	• Positive moderation effect through skills and knowledge

	• Effect on attitudes	• Positive moderation through SN, and skills and knowledge
13. EI before the EE course effects	• Effect on knowledge and skills	• Positive direct effect
	• Effect of EE influence on EI	• Strong positive moderation through skills and knowledge
	• Effect on ESE	• Positive moderation effect through skills and knowledge
	• Effect on attitudes	• Positive moderation through skills and knowledge
14. Additional Factors	**SN within the university and study group**	• Mediation of EE effect on students and their EI
	Background	• Positive moderation of EE effect on ESE through prior skills and knowledge • Positive moderation of prior EI
	Will of a student to receive an EE	• Positive moderation of EE effect on EI
	Financial situation of a student	• Positive moderation of EE effect on students' EI
	Region of origin of a student and pace, where he/she takes EE	• Negative moderation for students who moved from small regions to urban towns

Table 11 Code tree, Case C

Figure 7 – Research model case C

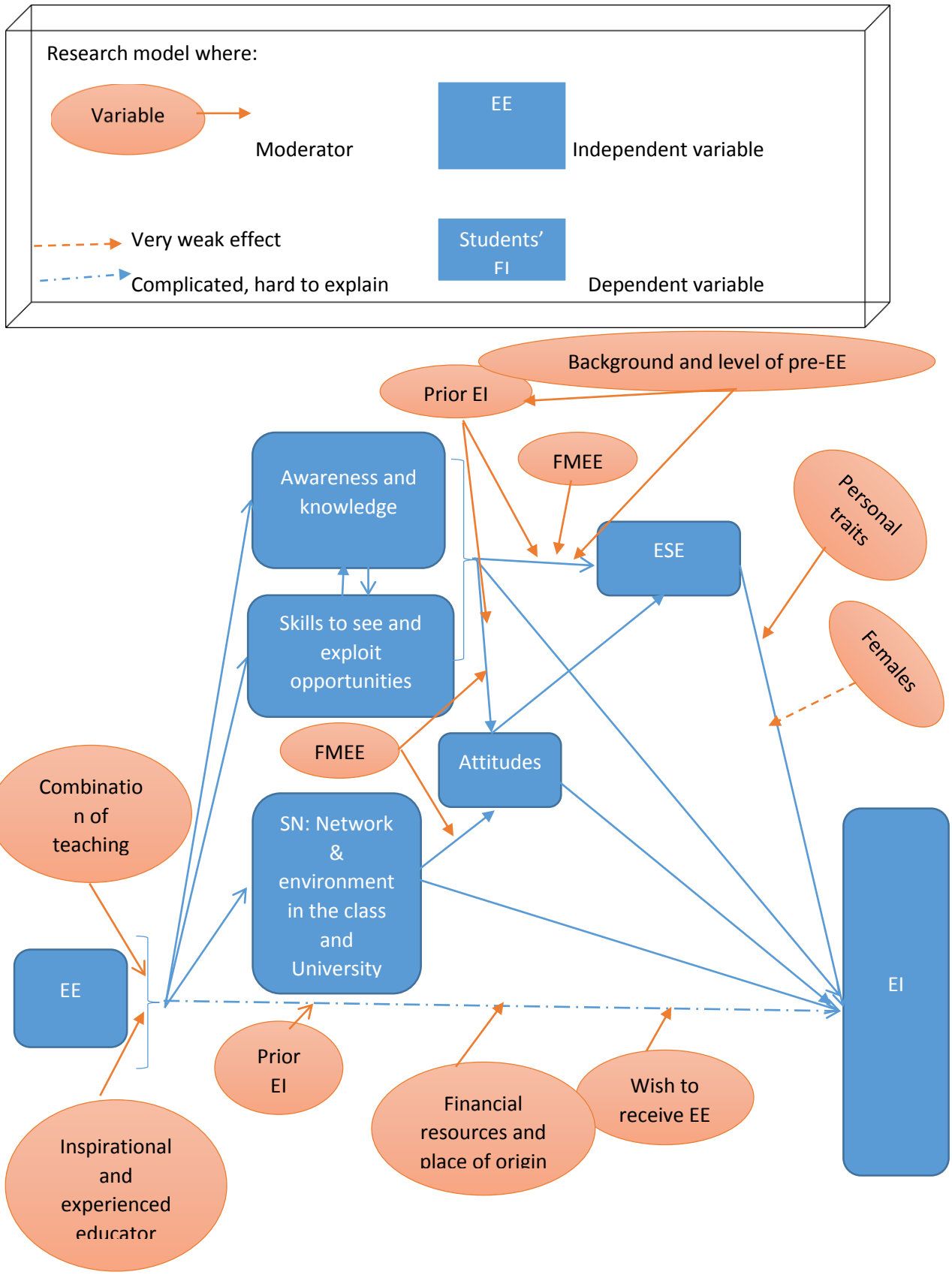

Figure 7 – Research model Case C

4.4 Case D

4.4.1 Case presentation

Kristina Maria Walker Pedersen is PhD research fellow within the International Management, who teaches the Entrepreneurship and Innovation course at the University of Agder during the last two years. She has master's degree in the International Business and Politics from the Copenhagen Business School. During the master's degree study, she actively worked with social entrepreneurship and started a social entrepreneurship organization.

Further, we are going to refer to Kristina Maria Walker Pedersen as to "the respondent" and "the educator D".

The Vets-Agder is a leading sector in the technology, the number one in exports and the fastest growing region in Norway.

Kristiansand is a city and administrative, business and cultural capital of the Southern Norway. Kristiansand is a busy international shipping port that historically is important for the region development and is now attracting big national and international organizations.

Grimstad is a city with the high concentration of technology research, innovation and production in closer cooperation with business partners.

University of Agder is the largest educational institution in the region divided into two campuses in Kristiansand and Grimstad. The university offers a wide range of educational and research programs in close cooperation with industries and support centers.

The School of Business and Law offers bachelor, master and PhD educational programs, and gives future professionals and executives a solid background for working in business, management and law. The school cooperates extensively with both public and private sectors, and offers a wide range of exchange opportunities for UIA students and staff at partner-universities nationally and abroad (uia.no, 2015).

The interview was focused on educator's experience within the module of Entrepreneurship and Innovation, which is the compulsory theoretical module at the University of Agder. The course is taught for the second year bachelor students.

4.4.2 Case analysis

Entrepreneurship education and its objectives

The respondent D explains that one of the reasons, which prevent people's EI and entrepreneurship behavior in Norway, is a traditional system of thinking, when people study and, thereafter, become employees at existent firms.

The other reason is the lack of information about entrepreneurship as an equal opportunity for career choice.

"I mean a lot of people ... have very traditional ways of thinking, that they first take an education, then you get a job, and that it is the way you can go. Whereas I think, taking a course like this ... opens your horizon and gives you the understanding that there are other opportunities."

An improvement of students' EI could be achieved through the development of students' awareness of entrepreneurship as a career opportunity and their understanding of the entrepreneurial process. Thus, EE is an effective tool towards developing and enhancing students' EI by delivering the information about the entrepreneurship.

"... Our main ambition is to show that there is a kind of different way to go ... that you can start your own, and it also gives a good understanding of what a business is like. So whether or not they decide to start their own business now ... we still break down the company, break down the small start-ups and show you what are the different components, what you have to think about."

However, it is important to notice that the respondent D explains that cultural specific would significantly moderate population's EI and EE effect on it. Thus, for example, in the countries, where attitudes towards entrepreneurship or SN towards female entrepreneurs are negative, EE would have very limited effect both in general and especially on females.

"For example, females, who are taking the course, she might have high SE, and she might want to start a business and she might do it, but then, she might have a kid, and because of the social structure, which expects that she should probably, be home at the maternity leave, while her husband is not on the maternity leave, it might hinder her ability to start a business."

"It depends on the culture … For example, if we take a perspective in Africa, where I have worked a lot; there are traditional expectations to people."

In the whole, the respondent D summarizes that the purpose of the EE course is *"to give a more overall theoretical understanding of what entrepreneurship and innovation are; … to demonstrate some practical examples of other people who have started entrepreneurial activities; and … for the students - to understand the importance of entrepreneurship and innovation, and some of the key elements of starting a business such as writing a business plan and so on."*

EE effects

Among EE effects, the respondent D names: improved awareness and knowledge about entrepreneurship as a career choice and as a process; *"good understanding of what business is like"* by breaking *"it down in some manageable … tasks"*; knowledge of basic marketing and other elements that *"make the business go"*; awakened students' interest in entrepreneurship and EI; learning, enhancing and adapting of new entrepreneurial personal traits.

The professor D explains that she supposes that EE should have a direct effect on students' EI. However, this effect is stronger only under the influence of moderation factors such as prior EI, culture that supports EB, FMEE and entrepreneurial personal traits, which are discussed further in the analysis.

"I would say that for some it might have a direct effect, but for others it might just affect kind off underlying structure. It depends on individual; but it might have a direct effect on some."

"It depends on both personal qualities and experience. It depends on the experiences of individual, if he already had some thoughts, if he has some predisposition towards entrepreneurial activity … I mean there personal social network and their personal traits will affect how EE influences their intentions."

Moreover, EE has a positive indirect influence of EE on students' EI through a complex set of mediators: skills and knowledge, ESE, attitudes and SN. They are discussed further throughout this case analysis.

"So I did had an experience in a sense that they took this idea further, and that they built on it, and they use the work that they have done during this course to enter this competition, and, I

think, for them, it sparks their natural curiosity towards the topic… I think that … haven't they took this course, they would not participate in Venture Cup, and they would not have thought about this idea."

Not to forget, as well, the respondent D explains that the effects of EE are "*hard to map out"* during the one-semester EE course due to its close connection to the individual characteristics of each student. In addition, EE effects depend on the size of the group.

"If you have a course for several hundred students, than it probably won't change the vast majority's opinion. But, you know, for those few people that perhaps either happened to think about it or we were able to spark this natural curiosity, I think for those few, it could have a very-very big difference."

In the whole, the respondent D emphasizes that there are a number of moderators, which combination influences each of the EE's and its mediators' effects. They are prior EI, social network, culture, personal traits and FMEE. These variables moderate EE effect on students' EI with already existing strong interest to the field and as well as desire to participate in learning activities. They are presented more specifically further in this case analysis.

"Social capital, background, social network, previous experience and culture are very important … and personal characteristics. Those factors would always … essentially have an effect. Because the person will always be embedded in that. Their intentions will always be embedded in these factors, as you can't separate a human being from them."

"I would say that to start a business, there are some characteristics and some personality traits that a person already has. They are often quite creative and often very risk taking; and I think, taking a course might then spark some of these ideas, and it can spark this enthusiasm. So I think if you have some of these natural characteristics, then I think taking a course like that can inspire you. That is our hope at least, to inspire you to think about it"

"And I would say, even though, you don't decide to pursue your own… entrepreneurial path, you still gain an understanding of business, basic marketing and elements that kind of make the business go around ... And then I would say, for the particular few that have inner characteristics and traits, so … for example, some students might have been thinking about starting by their own … it might awaken their interest in it."

We would like to point out that, during the whole analysis of the case D, we take it as the assumption, based on the respondent D answer, that these moderators influence every effect within EE-EI relations to avoid reiteration in every section.

However, it is also important to notice, that the respondent D means that EE are able to develop student's entrepreneurial personal traits by delivering the knowledge about the requirements of entrepreneurship process and by giving students a number of opportunities to apply and to confirm this knowledge in practice.

"... some people believe ... you either are born entrepreneur or not. I personally believe ... that ... people are able to adapt and learn quite a lot of these personality traits as well, if you gain an understanding of what it means to be an entrepreneur."

Skills and knowledge

The main purpose of EE is to increase students' awareness of entrepreneurship as a career choice and the field of science by giving them an access to the certain entrepreneurial skills and knowledge. These skills and knowledge variable is the most significant mediator of EE effect on students' EI.

Among the most important skills and knowledge, which should be developed by EE, the respondent D names: knowledge about the entrepreneurship process, its tools, stages, risks, requirements, supporting mechanisms and opportunities; abilities to find out, to access and to apply the information, manage the process, to realize the idea, to create a business plan, to develop a network, to take decisions and actions.

The respondent D explains that one of the main effects of skills and knowledge is the growth of participants' ESE by improving their understanding of the entrepreneurship process, requirements and tools to satisfy these requirements. As a result, it might lead to a growth of students' EI.

"I mean the more skills you have and the more knowledge you have, then more it increases your SE. Well, that is an assumption at least."

"Knowledge is a powerful tool ... When you have a course that maps out the different stages of the entrepreneurial process ... That you can break it down into small tasks; and I think that

when you can see that it is not that huge mountain you have to climb, that you can use small steps, it could increase your believe that you can do it yourself."

"*These are practical skills; they are learnt by actually taking an idea, and then breaking it down, and then going through all these processes. I think that is a very good exercise where they gain concrete skills in business plan writing, for example."*

"If the student doesn't have many financial resources, then our ambition … is also to show what financial opportunities they have, how they can pursue these opportunities, give them information about grants you can get to … showing the different options of getting the access to financial resources."

Moreover, skills and knowledge have a direct positive effect on students' attitudes through the improvement of students' awareness of the high value of entrepreneurship activity.

I addition, the educator D explains that she has noticed that skills and knowledge differ within the contexts of EE courses. While the theoretical elements of EE develop the common knowledge and understanding of entrepreneurship process; the active elements within EE allow application and confirmation of this received knowledge. It helps students to develop the concrete entrepreneurial practical skills and improves their ESE. Thus, practical exercises are essential in order to improve students' skills, knowledge, ESE and, as a result, their EI.

"Whereas a theoretical course, the concrete skills might not be as apparent, because when you have a theoretical course … it does not require them to be as exposed, to actually do things themselves. That is also why we try to get them to think about their own business ideas; and we make them have some practical exercises, as well; because I think, this is very important in order to gain more concrete skills"

"If it is too theoretical, and if we have … no practical requirements, then, I think that it is easy to … just listen and just read something in the book, and then, it is forgotten again. Whereas, I think, the more practical exercises you have, than more concrete skills you gain."

Teaching tools

Active elements vs theoretical course

There is some evidence in the interview D that the combination of the active and the theoretical elements within the EE module is the most effective moderator of EE effect on students' EI. The reason is that the theoretical elements, such as the theory of entrepreneurship and other science fields, which are included in entrepreneurship process, such as marketing, economy, organization and so on; are essential to build students understanding of the entrepreneurship process.

On the other hand, improved awareness is not enough in order to increase students' EI. Thus, the active elements such as business plan creation, Venture Cup, group work, guest lecturers – real entrepreneurs and case studies; allow to confirm and to apply the received knowledge in order to enhance students' entrepreneurial skills and motivation. As a result, practical confirmation of knowledge increases students' ESE and might improve their EI.

Moreover, the respondent D emphasizes that, during EE, skills and knowledge overlap. Therefore, the combination of both theoretical and active elements is essential.

"Knowledge and skills overlap. For example they overlap in business plan writing. For example when we teach about business plan writing, you still have theoretical elements in it, but you still break it down… Teaching entrepreneurship in itself can become very practical versus for example a theoretical course of microeconomics. I mean some of these elements in entrepreneurship are practical."

"I think that combination is good."

"… for the practical teaching to be effective, you need to have some theoretical understanding. So the ideal scenario is that you have some theoretical teaching, which … maps up the topic, and then you take this and you have some practical examples, for example write a business plan and then so on. Then that is a kind of the ideal scenario where we can combine the two; … but, you know, actually sitting down and, for example, breaking down a business plan, working with elements. I think, that is very efficient."

As a result of this part of the interview with the respondent D, three main effects from using the active EE tools have been formulated:

- Including active elements into the EE module allows answering the questions, which student collects during EE courses. As a result students' ESE improves and positively affects their EI;
- Including active elements into the EE module allows applying the received knowledge, thus, developing and confirming students' entrepreneurial skills, knowledge and abilities to realize an EB. As a result, students' ESE improves and positively affects their EI;
- Active elements within EE course increase students' inspiration, involvement and interest in EE and entrepreneurship as a process. That could be further exploit for increasing of students' EI and enhancing their entrepreneurial behavior.

"So I would say that combination is probably very good, cause you do need some theoretical understanding … And I think that something like this with practical elements is very nice teaching when you have a theoretical module and then you show it with real life cases, so you can … see what we have learned in theory and then see a practical example of that."

Compulsory vs voluntarily

The type of EE is a significant moderator of the EE effect on students' EI and ESE due to its interconnection with the level of student's previous EI.

The respondent names elective EE courses – "*a filtering mechanism"* that "*filters up students that already have natural interest in it. People that already have these personality traits … or they had already thought about the EE before";* while the compulsory EE course includes much bigger groups of students, some of which are not interested in self-employment opportunities.

"Well, I think, that the biggest difference is when you have a voluntarily course."

"The compulsory course, you have … you have many hundreds of students that don't necessarily have an interest in the topic or they will not necessarily know … too much about it."

Moreover, the compulsory courses have a strong negative moderation influence on the EE effects on students' EI and other mediators.

"Compulsory elements per se have a lower effect on skills. It's about this element of being compulsory or voluntarily. Theoretical course can have a strong effect on skills… but it has a

limited effect on skills if it is a compulsory course, contra had it been an elective theoretical course, but I still would not say that it has no effect."

"Had it been a course that they chose themselves, and had it been a voluntarily course, then, may be, you would find students that, perhaps, are seeking this opportunities or having more natural interest in it. I think, you know, it might have a bigger effect on students that choose it as elective."

"I think that this component, of it being a voluntarily course or compulsory course, that might have an effect."

Inspirational teaching

The respondent D thinks that inspirational teaching, such as success stories, motivational and entertaining teaching, is a significant moderator of EE effect on students' interest and on their EI. She explains that educator is the provider of knowledge. Therefore, his or her ability to choose a relevant to real life information and to motivate students is essential requirements in order to enhance EE effects.

"I think it has an enormous effect. I think if the professors … are in themselves … motivational, and if they make it interesting, and if they make the teaching fun, and if they … make it lively, that has an enormous effect … I think, when you have people like that, that really makes all the difference."

"I think some of the key things were how the information is given … If it is an interesting course, than often that will have a higher effect. I mean, that will have a better effect on students."

Moreover, the educator D explains that both successful and unsuccessful stories should be included in the learning content, because they enhance students' knowledge. However, effects of these stories are highly dependent on the educators' ability to present it by focusing on their learning outcomes.

"… being an inspirational lecturer is a strong factor."

"It depends on a lecturer, if he is inspiring it can have a positive effect …So, for example, if it just a negative story where they talk about how problematic it was, but if the conversation of

the lecture has a focus on what happened, what went wrong and what can we learn, it might have a positive effect. So it depends on how it is told."

In addition, the respondent D notices that the variable of inspirational teaching and involving students into entrepreneurship either as a field of science or the process, moderates EE influence on students' EI regardless of the type of the course.

"…the lecturer, the level of motivation from the lecturer if they are very motivated and passionate lecturer, I think, it has a huge influence; whether or not that is a mandatory course, I would say that has influence."

The interviewee D means that the practical experience of the educator is a significant moderator of EE effect on students' EI. The practical experience in entrepreneurship and business project enhances a lecturer's knowledge, skills and inspiration. At the same time, it makes his lectures more relevant to the real life context. It includes a great potential for increasing of the students' interest and the EE effect on their EI.

"I think it has a big influence because if the professor himself has been involved in starting up, has been involved in failing … it is again this element of that practice is important. If they have practical experience in doing these things themselves, they know the challenges that you can face as an entrepreneur. I think it has a massive difference, than if you just read it in the book."

"Practice is always good, whether it is entrepreneurship or whether it is everything else … especially within a business context if you have a business experience before becoming a lecturer, it is … very important."

Not to be forgotten, as well, the educator D adds that invitation of practical experienced guest lecturers - entrepreneurs significantly moderates EE effect on students' EI through enhancing their interest and inspiration by an experienced person they can relate to.

"I think some of the most efficient ways of teaching is when you have some of … practitioners who are startup entrepreneurs who come and talk businesses to students, especially if they are motivational speakers; and they often influence the interest of students."

Additional elements

The structure of the EE

The structure of the EE course is an important moderator of EE effect on students' ESE and EI, accordingly to the respondent D. She means that EE courses should be intensive in order to provide both essential entrepreneurship knowledge and opportunities to apply this knowledge in practice. It makes students more confident in their entrepreneurship abilities. The more intense and effective is the structure of the course, the better are the opportunities to enhance students' ESE.

"I think the way the teaching is structured has an influence ... if you make a course very intensive and then students have opportunity to really go and really work with it. I think that can have a very positive influence as well."

Summary:

The respondent D emphasizes the importance of combining all teaching elements to increase EE effect on students' EI. Thus, the theoretical elements are essential in order to increase students' awareness and to prepare high quality specialists, while the practical approach and active elements have a significant influence on students' ESE and inspiration, thus forming and enhancing their EI.

"So the ideal scenario is that you have some theoretical teaching, which ... maps up the topic, and then you take this and you have some practical examples, for example write a business plan and ... so on ... I would say the practical experience where you actually have to come up with your own idea and work on it, is very important."

The interview also emphasizes a significant moderation of EE effect by the educator himself. An educational process involves two-way communication from the professor to students' and backwards. Therefore, the professors' ability to engage students by presentation of the relevant to real life knowledge is required. The respondent D explains that practical experienced inspirational educator and guest lecturers significantly improve presentation of the EE material, which enhances students' engagement and ESE. As a result, it increases their EI.

Attitudes

The respondent D supposes that attitudes have a strong direct positive effect on people's EI. Moreover, students' entrepreneurial attitudes mediate effect of the EE on students' EI.

More specifically, EE influences positively students' attitudes by delivering the information of entrepreneurship process and its requirements. In addition, SN within the university and class mediates EE effects on the variable.

As a result, students gain more positive, serious and respectful attitudes of entrepreneurship as a career choice, and their EI change.

"… hopefully, by understanding how entrepreneur thinks, getting a bit more information of entrepreneurial start-ups, will change attitudes in the sense that they can see, firstly, that it is a double way of life that someone can pursue, but also, of course, that they gain respect to entrepreneur, that they see, you know…that… it does have a lot of elements in it … it doesn't just happen."

"I think that it changes their way of seeing small start-up businesses. It, hopefully, gives them better perspective and understanding to what the start-up is, and entrepreneurial process they have to go through in order to achieve their goals … I think, their attitudes, hopefully, change … it becomes more complex … and whether or not they would want to start something of their own, then, at least, they gain a new understanding of that."

ESE

The respondent D notices that it is hard to measure the EE effect on students' ESE. However, she confirms that received during EE knowledge and skills are the most significant mediator of EE effect on students' ESE. Hence, EE lays a foundation for students' believe in their own abilities to perform as entrepreneurs by improving their knowledge and understanding of the entrepreneurship process and its requirements. In addition, an inspirational factor moderates EE effect on students' ESE.

"… as lecturers, of cause, we want to say that yes, it does have effect that we hope, you know, that it does affect their ESE, but… you never know how it does effect individual students. I think for a few students, it does affect them. Our goal is to make inspiring and our goal is also to, kind of, to strengthen students' ESE."

Not to be forgotten, as well, the respondent emphasizes that skills and knowledge, gained through the practical experience and practical EE, influence EE effect on students' ESE more significantly. The reason is that practical experience allows confirming received knowledge and students' abilities to apply them.

"I mean the more skills you have and the more knowledge you have, then more it increases your SE … Knowledge is a powerful tool."

"Knowledge is one thing; and I also think that practical teaching … I mean, once you've done something … that would have a natural influence on whether you want to do it again, … learning by doing, and practice … are always good things. So I think that it does have an influence on your ESE, but there are also other elements that influence ESE."

The other important moderator of EE effect on students' ESE is a structure of the EE course. The more intense and effective is the structure of the course, the better are presented the opportunities for student to enhance his ESE through practical application of received knowledge by gaining a practical understanding of the entrepreneurial behavior and process.

"I think the way the teaching is structured has an influence. You know if you make a course very intensive and then students have opportunity to really go and to really work with it. I think that can have a very positive influence as well."

The time point after the education until the other EE course or until a real entrepreneurship behavior has a negative moderation effect on after the course students' ESE. The reason lies in the lack of practical experience that could decrease students' ESE and inspiration.

"So I would say that for some it probably would have an effect, but … Effect is always very difficult to measure and it's a difficult thing to talk about. Because … some people might get very inspired by the course, then they might forget it … for the others, it might … spark a longer interest, and then … lead them on a path of this world. …it could be very difficult to say how it changes a student's ESE, but I think it lays some kind of foundation … for some."

Gender

Accordingly to the interview with the respondent D, the factor of gender, in general, has no influence on EE effect on students' EI. Similarly it has no effect on students' ESE and attitudes.

"No. I mean that a lot of researches are done in the different gender perspectives, and so on, but I personally don't think that there is this difference."

"Based on my experience, I'd say there is no difference. I had a very positive experience."

However, we would like to notice that, after some consideration, the professor C adds that gender influence can be initiated by the culture of a student that reflects national social norms and expectations.

"I don't think it necessarily has an effect on SE but I do think that there are social structures that effect SE. For example, female, who is taking the course, she might have high SE, and she might want to start a business and she might do it, but then she might have a kid., and because of social structures, which say that she should probably be home at the maternity leave, while her husband is not on the maternity leave, it might hinder her ability to start a business."

"… my point is that … it is social structure that might impact them from a gender perspective … if you look at the statistics, you can see how many females do really start businesses, compare wage differences, it is always females who are more influenced through the social structures."

"It depends on culture … For example if we take a perspective in Africa, where I have worked a lot, and there are traditional expectations of people."

The respondent D has not seen gender effect on EE influence on students' EI during her educators practice in Norway. The reason is that Norwegian people value and strive for equality.

"I had students from different cultures, let's say from Middle East, Asia and so on, for them I'd say it has a little bit effect, but it is very culture dependent.; but for Norwegian students, I would say, it is very equal effect … In general, I would say that Norwegians, especially a younger generation of Norwegians are very focused on equality, and females are just as entrepreneurial as males."

"I would say that in general, gender perceptions are always influenced by the culture; but my experience with Norwegian students within Norwegian culture, there are no gender differences."

Not to be forgotten, as well, the respondent D warns that evaluation of the gender effect of international students is very complex, because they are biased, namely they are influenced by

both their national culture and the culture of the university and country, where they are taking EE.

"When I have international students, they have been a positive example, because I am teaching international students in Norwegian setting … You can never compare international students with their peers in their respective cultures, because often they don't necessarily have the same characteristics. They are also different from the typical students in their home countries. International students are being influenced by their home countries' culture and the Norwegian culture, so I would say it is hard to generalize."

Not to be forgotten, as well, the attendance to the lectures, thus, the desire and the demand to receive EE are higher among women at the University of Agder. Moreover, in general the results of female students are better.

"Actually, I think more females show up in class, they have higher attendance."

"My experience is actually that females are … doing better, but it is not only in EE. It is actually in all teaching that females are doing better."

Prior EI

The educator D applies the definition of the prior EI as student's entrepreneurship interest, intentions, knowledge and experience before EE course. During the interview, she means that prior EI are the important significant moderator of EE effect on EI and all mediators of this relationship, due to the students' already established interest and capacity to learn and to perform a certain behavior.

"I think that for these few, that have already thought of it, as another way of life or have already been thinking a little bit about starting their own, … I think it could have a very big influence, cause … we do break it into a small bites."

"...prior interest in the topic...I think if you have a natural interest, then the education will have a greater effect."

More specifically, the respondent explains that the prior EI moderates skills and knowledge effect on students' ESE and EI, thought the development of essential personal traits and

understanding of the components within entrepreneurship process. It also improves EE effect on students' attitudes. All together these effects enhance EE influence on students' after-EE EI.

However, the respondent D means that prior EI are not a requirement in order to enhance students' EI. EE purpose is to present entrepreneurship process as an equal career choice and to inspire students. It also might lead to enhanced interest in entrepreneurship and to adaptation of the required personal characteristics by students without strong previous EI.

"I think for some people that do have, either have thought about it before or have a natural creativity, for these people, I think it can have a very big influence. But on the other hand, I also think, a lot of these traits are something that you can learn, and by breaking down the entrepreneurial process, I think, we can spark the new curiosity for people who haven't thought about that. So, it is dual side of the answer."

"For some people I think, prior preferences, prior believes and so on can have an influence, but, on the other hand, I also think, it can spark a whole new interest in some people who have not thought about it. But I do think, that if you underline personal characteristics that the literature speaks of, which, for example, are risk tolerance and creativity and so on, I think, it would be easier for you to want, kind of, to pursue that way of life."

The respondent D supposes that prior EI can be connected to the age and to the prior background of students. In other words, the older is a person, than richer is his or her background. The combination of the personal entrepreneurship or business experience with prior EI leads to a higher interest to the entrepreneurship as a field of a science and, moderates EE effect on students' EI. However, the higher is students' prior EI, then more active elements are required to include into the EE course in order to satisfy students' expectations.

"I mean, if you are older, you often will have more life experience. So let's say that there is a forty year old student that has been working for many years and then decides to go back to the university … let's say that it's an elective course they have really chosen to do this and they are really interested in learning about entrepreneurship. I think the effect for them will be much higher."

"There is a big difference from the way they view things, than a young student … in how they view real word and view entrepreneurship … But I think the combination of prior life experience and age matters, and not so much age of itself."

FMEE

Entrepreneurial experienced family members' variable moderates EE effect on students' EI and all mediators of this relationship. The respondent explains that FMEE increases students' natural interest to entrepreneurship by helping them to relate to the knowledge, which they receive during EE. It also provides an opportunity to apply them for practice. FMEE is an antecedent for student's prior EI that, as we have seen earlier, has a great moderation effect on EE influence on students' EI.

"They influence students on all levels. It gives them more knowledge, skills, more practical experience, and probably more SE … again, it depends on whether it was a positive or negative experience … I mean if they have a positive experience and their family had started a business, It would have a strong effect on their SE, cause they would see how the processes really work."

"I think that the more personal information feels, the more that information will be relevant and will be absorbed."

However, the educator D explains that the FMEE positive moderation effect of the basic EE course on students' inspiration about EE and his EI could be argued. The reason lies in already established awareness and knowledge of entrepreneurship of students with FMEE, which are harder to increase through the theoretical course. On the other hand, the person receives more scientific and deep understanding of the personal experience and observations.

"I think this does make you more open to receiving this kind of knowledge, but on the other hand … especially when it is quite basic courses, then … They might already be quite familiar with it. It might be not as new for them."

Additional factors

Personal traits

Personal traits that influence students' EI, according to the interview, are creativity, risk aversion, and a talent to spot and to catch an opportunity. These qualities moderate students' ESE, making them more active during the EE.

The respondent D believes that students are able to adapt these entrepreneurial qualities during the EE. In the whole, the combination of the entrepreneurial personal traits moderator with other variables moderates EE effect on students' EI and all mediators.

"I think that having a creative mindset and having a natural talent to spot an opportunity is quite important. It is something that can be learned, but I think that some people have it … I think risk aversion is very-very central. I mean, are you willing to invest capital, do you believe in something else; and it also leads to ESE and self-esteem; do you believe in your idea, do you have face that you can do a good job."

SN and social network

The respondent D emphasizes the significant mediation effect of the network and of the social, university and the group environment on EE influence on their EI. EE is a tool delivering the motivation and entrepreneurial environment that potentially can influence SN and enhance EE effects.

"… having a good social network is also very important … I mean you have some people that impact you often. If you have family or friends to support you … That makes it easier… to kind of go with these opportunities."

The respondent D explains that during her educators practice she had an example of EE positive influence on students' EI. It is important to mention here that the motivated individuals within the group had the most significant moderation of this effect.

In the whole, SN both moderates ESE effect on students' EI and mediates EE influence on their EI.

"They have been working within class and they participated in Venture Cup, and I met with them, and we went through the business plan for their Idea… Again, there is a passion involved with them… That seemed to have very big impact, but again, it was also very much a dynamics of the group. There are also motivated individuals … some passionate individuals that drive the whole group forward."

"Especially, if you have people who are inspiring, and people who drive up level of ambition; … that really pressures the group forward and raises the level of ambition that might have a positive kind of spin-off effect for all the group members. That makes the experience more fun and makes it more rewarding. So I think … in general … motivational people and this human factor are always very-very important."

Overall, because of mediation influence of the inspirational factor from the professor and the classmates, the size of the group is important in order to achieve more students.

"… the smaller the group is, the better."

Culture and social structure

Culture is also one of the strong moderators of all EE effects including EE influence on students' EI. The respondent D explains that the reason for it is a social structure that strongly moderates SN, attitudes and believes of people.

One of the strongest effects of the variable is a driver of the gender mediation effect. Thus, in the countries with equality rights, the moderation power of the gender is low, while in other countries it is higher due to the social structures and expectations towards males' and females' behavior.

"You may have a culture, where previous background and mindset are negative towards entrepreneurship. For example if you live in a culture which is extremely skeptics against women entrepreneurs, or you have a negative mindset…those three factors can have negative effect on people's EI."

Background

Background of a student is another moderator of EE effects due to the pre-EE received knowledge and skills that could improve student understanding and performance during EE process and practice.

"It is not necessarily a high factor but I would say it does have some effect. You need to have some basic understanding of economics to write a business plan but it also depends on what kind of education … I mean, you need to have some basic education, high school included; but you don't necessarily need a higher education in order to be a successful entrepreneur."

The respondent emphasizes that combination of the prior EI and background, FMEE and social network, and culture influences all EE effects because these factors are "embedded" in social environment of every person.

"Social capital, background, social network, previous experience and culture are very important personal characteristics. Those factors would always have an effect. They will

essentially have an effect. Because the person will always be embedded in that. Their intentions will always be embedded into these factors you can't separate a human being from them."

At the same time the same moderators would prevent EE effects if they are negative.

"That again back to the … factors. If you have a culture, previous background and mindset which are negative towards entrepreneurship… For example if you live in a culture which is extremely skeptics against women entrepreneurs, or you have a negative mindset…those three factors can have a negative effect."

4.4.3 Summary

To summarize the interview with the respondent D, a complex model has been developed to visualize all the findings about relationships between variables.

The model shows that EE has both direct and indirect effects on students' EI. On the whole, EE is a tool to create an entrepreneurial environment through improvement of students' awareness, skills and knowledge, and SN which moderates students' ESE and attitudes, which mediates EE effect on their EI.

At the same time, it is rather difficult to separate EE effect on students' EI due to the complex system of variables and relationships between them.

The interview has emphasized that EE, which includes a proper combination of teaching elements, inspirational teaching, group size, method of teaching and the structure of the EE course, positively moderates EE effects.

Furthermore, a combination of such moderators as students' prior EI, social network, culture, personal traits and FMEE have strong influence on each of the EE's effects.

Table 12 Code tree, Case D

Category/ Main. By influence of EE effect on EI	Subgroup	Case D
1. General EE effect on students' EI		Complex phenomenon • Direct positive moderated by culture, personal traits, background, FMEE, social network and prior EI • Positive effect of EE is mediated by knowledge and skills, ESE, SN and attitudes; all these factors are moderated by prior EI, FMEE, social network, background, culture, personal traits and practical experience before and during the EE
2. Including of the active elements into the EE program design	• Effect on knowledge and skills	• Strong positive moderation of EE
	• Effect on EI	• Strong positive moderation of EE effect through ESE influence on EI
	• Effect on ESE	• Strong positive moderation of EE effect through skills and knowledge
	• Effect on attitudes	• Positive moderation of EE effect through knowledge and influence on SN
3. The compulsory introductory programs influence	• Effect on knowledge and skills	• Positive moderation EE effect on knowledge • Weak effect on skills
	• Effect on EI	• Weak positive moderation through knowledge and skills
	• Effect on ESE	• Positive moderation dependent from moderators
	• Effect on attitudes	• Small positive moderation of EE effect through knowledge • Dependent on moderators
4. Including of the inspirational teaching element into the EE program design	• Effect on knowledge and skills	• Positive moderation
	• Effect on EI	• Strong positive moderation of EE effect
	• Effect on ESE	• Somehow Positive moderation of EE effect
	• Effect on attitudes	• Strong positive moderation of EE effect
5. Skills and knowledge effect	• Effect on EI	• Strong positive effect mediated by ESE and combination of all other factors

	• Effect on EE effect on EI	• Strong positive mediation of EE effect on EI through the direct positive influence on ESE
	• Effect on ESE	• Strong positive direct effect moderated by active elements, personal traits, FMEE, social network, background, family relationships, SN and inspirational teaching
	• Effect on attitudes	• Positive direct effect
6.Effect of EE on ESE		• Positive effect mediated by skills and knowledge, moderated by the type of the EE program and personal traits
7. Effect of ESE	• Effect on knowledge and skills	• No direct effect • Dependent on moderators • Positive moderation
	• Effect on EI	• Strong positive direct effect moderated by SN, prior EI, prior background and personal traits
	• Effect of EE influence on EI	• Strong positive mediation moderated by all moderators
	• Effect on attitudes	• No effect
8. EE effect on gender		• Depends on culture • No effect in Norway
9. Gender effects	• Effect on knowledge and skills	• No effect in Norway • Yes for students within the countries with masculine culture
	• Effect on EI	• No effect in Norway • Yes for students within the countries with masculine culture
	• Effect of EE influence on EI	• No effect in Norway • Yes for students within the countries with masculine culture
	• Effect on ESE	• No effect in Norway • Yes for students within the countries with masculine culture
	• Effect on attitudes	• No effect in Norway • Yes for students within the countries with masculine culture
10. EE effect on attitudes		• Positive effect mediated by knowledge and SN/environment

11. Attitudes influence	• Effect on knowledge and skills	• Strong Positive direct effect on desire to receive EE
	• Effect on EI	• Strong direct
	• Effect of EE influence on EI	• Mediation
	• Effect on ESE	• Hard to explain their relations • Effect might be
12. FMEE effect	• Effect on knowledge and skills	• Strong positive direct effect
	• Effect on EI	• Strong positive moderation of all mediators
	• Effect on EE effect on EI	• Positive moderation
	• Effect on ESE	• Positive moderation through experience, skills and knowledge
	• Effect on attitudes	• Positive moderation
13. EI before the EE course effects	• Effect on knowledge and skills	• Positive moderation
	• Effect on EE influence on EI	• Strong positive moderation of all mediators
	• Effect on ESE	• Strong positive moderation through skills and knowledge
	• Effect on attitudes	• Positive moderation through skills and knowledge
14. Additional Factors	**SN**	• Mediation of EE effect on EI, moderation of ESE effect on EI
	Background	• Strong positive moderation of all mediators effects
	Personal traits	• Positive moderation of EE effect on students EI
	Group size	• Negative moderation of EE effect on EI
	Culture and social expectations in the country	• Positive moderation of EE effect on students' EI in the countries with equality rights

Table 12 Code tree, Case D

Figure 8 – Research model Case D

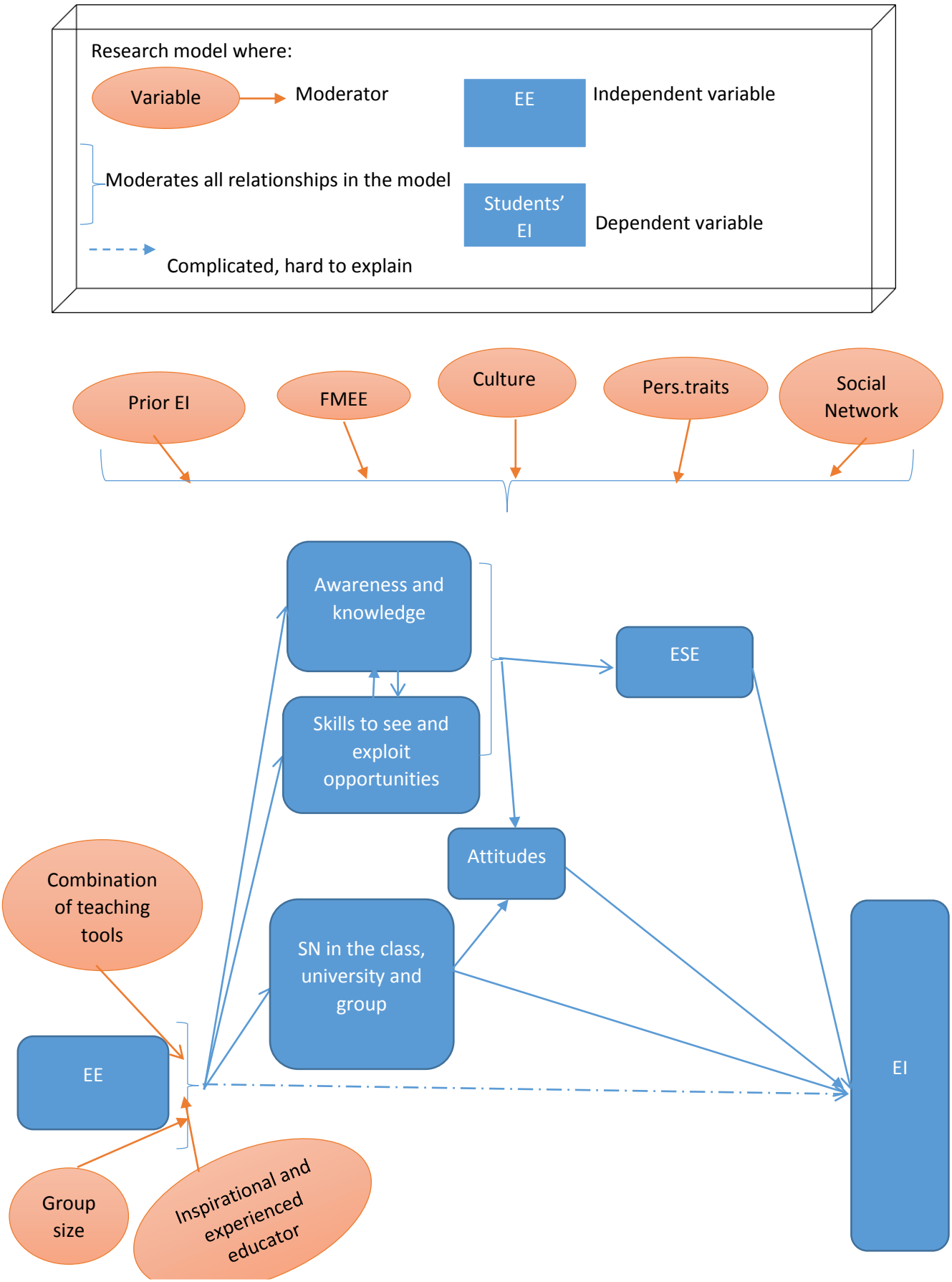

Figure 8 – Research model Case D

4.5 Case E

4.5.1 Case presentation

Øivind Strand is associate professor in the Innovation and Entrepreneurship at the Department of International Business at the University College in Ålesund. He has a technical background with PhD in Fluid Mechanics and an experience with startup companies that have brought him to a career of educator at the University College in Ålesund where he has been working during the last nine years.

Further, we refer to Øivind Strand as to "the respondent E" and "the professor E".

Aalesund (Ålesund) is a town, municipality in Møre and Romsdal region and the administrative center of Ålesund Region in Norway. Ålesund is a seaport and the principal shipping town of the Sunnmøre district. The town specializes in fishing, furniture industry and tourism.

The University College in Ålesund is a provider of expertise and qualified specialists to the region, which offers many study programs in a close cooperation with the region industry (hials.no, 2015).

The respondent E teaches a bachelor EE course in the Innovation and Entrepreneurship at the University College in Ålesund. The course is both mandatory and elective depending on students' specialization.

In addition, the University College in Ålesund offers six entrepreneurial courses.

"We do one in Innovation Management, one on Product Development for non-engineers, and one on Business Plan writing and Venture Cup, one in Innovation Process and Intellectual Property Rights, and then we have final projects where students set up their own companies. So, I guide to that; and then we have a master course in Innovation and Intellectual Property rights, but it is the sixth course."

The interview was mainly focused on respondent's experience during his teaching of the Innovation and Entrepreneurship EE course.

4.5.2. Case analysis

Entrepreneurship education and its objectives

The lack of valid studies about EI prevents potential improvement of EE stimulating effect on students' EI. The professor E explains that the complexity of EI variable due to its interconnection with internal and external factors is the reason that complicates research attempts within the topic.

"… there is a lack of selective well-controlled studies on EI. I did the literature review some years ago, and found three or four, five studies, which were (quasi) experimental … It was not much."

"There are lots of things to do, but it is quite difficult to actually do it."

The main objectives for EE are: to make students aware of entrepreneurship as a process and career choice; to build "*a realistic picture of entrepreneurship"*; to enable students to handle risk and satisfy requirements during the entrepreneurship process by teaching them about entrepreneurship tools; to spark their interest and EI in entrepreneurship as a career choice; and to "*help the building business networks with local industry"*.

EE effects

Among the EE affects the respondent E names:

"Awareness of entrepreneurship as a career choice; awareness of risks, rewards and local opportunities; a general understanding of business."

During the interview, among additional EE effects, the respondent E mentions: improvement of students' knowledge and skills; increase of their ESE, motivation and interest; mixed effect on students' EI; and improvement of students' abilities to recognize entrepreneurial opportunities.

The respondent E notices that "*EE will always affect students, of course*", but the effects depend on many factors. Thus, the ESE is the main mediator of EE influence on students' EI moderated by the gender factor. EE increases students' knowledge, skills and interest through the theoretical awareness and practice, thus, improving their ESE. As a result, ESE significantly improves EE effect on students' EI. Not to be forgotten, as well, the professor E notices that

practical experience, which students' receive during EE, has a significantly positive influence on females' ESE.

"It's related to some kind of self-efficacy, that they have, if we, through education, can give them experience that raise their confidence and enable them to handle it, if we can do that, then we can raise their intentions."

"The ESE is important. It seems to be … differences between girls and boys. It seems that girls … don't have as many role models as male entrepreneurs. Your culture doesn't suspect young girls to be entrepreneurs; so, at least from the entrepreneurship activities, when they build companies together, it looks like some of the girls will have … emotionally engagement in the project; and if we had measured their intentions before and after, I think we could see that it's possible to raise the intentions by that type of learning activities."

The professor E emphasizes that EE has a controversial effect on students' EI depending on different factors. For example, long theoretical EE courses reduce EI for the students with the strong the prior-EE EI. Thus, the prior EI and students' background are significant moderators of EE effect on students' EI.

"I think that EE will always affect students, of course, but it will depend on the study … for instance if we teach engineers … then they see technical possibilities, they see that … there is a possibility to start a company later in life, then you … can raise the intentions for engineering students. That is quite easy to do."

"There is also well documented in the literature … There are studies, that end up with one hour inspiration speech that was enough to alter the intentions; but if you have people that start studying the Innovation and Entrepreneurship, then they are preselected, they are biased, and they would like to get deeper into it; and for some of them they find out that … intentions will go down … For some intentions will go down, for some the intentions will go up."

It is also important to notice, that the time factor moderates EE effect on students' EI. Thus, while during the EE course students could be engaged in the entrepreneurship and projects. However, their EI might reduce after the course under influence of some external or other educational factors.

"You can't say that intentions will go up or go down, they will also change over time."

"I remember we also had one girl, she was working so much with her final project, and she said: "I never go to do anything with entrepreneurship. It is so exhausting!" And six month later, she starts her own new company. So this intention part is quite volatile. It shifts with time, from time to time."

"We have also experienced some of our most successful entrepreneurship students, who were successful as students within entrepreneurship; some of them were generally good students; so they don't start their own company. They go to the master degree at first, before they start companies."

On the whole, the respondent concludes that EE has controversial effects on students' EI. EE reduces students' EI in general. The theoretical focus of EE programs, which aims to improve students' awareness of entrepreneurship as a process, has to contain the information about the risks that EB and process contain. The knowledge about the risks without practical experience within the field mediates negatively students' ESE and EE effect on their EI.

"It should make people aware of the risk. So, that they have a realistic picture of it."

"I think a lot of students who came from upper secondary school, they have somewhat simplified picture of what it is to be an entrepreneur, and for them intentions ... will go down. They will get more realistic picture of the risk involved in the process. So they will be more reluctant to start."

However, the improvement of students' ESE through practical experience and engagement in different entrepreneurial projects are able to moderate EE effect on their EI positively.

"It's related to some kind of self-efficacy, that they have, if we, through education, can give them experience that raise their confidence and enable them to handle it ... then we can raise the intentions. ... The ESE is important."

"We know that when they finish the three year bachelor program, about ... 20 to 30% of the students have had worked with projects with commercial potential, and then we, of course, take them to the local business incubator, and ... but I think, approximately, one out of ten, ten to twenty percent will start straight ahead, while others will collect experience for years and then they will start later."

The professor E gives an example of the positive effect of their EE program, which contains both theoretical and practical elements on students' EI.

"... of course, we had ... a very good student group, who ended up with forming ... their own company. Now, they have hired ten of the previous students from our university college."

Skills and knowledge

Increasing students' awareness of entrepreneurship as a career choice and as the field of science is the main purpose of EE. Therefore, EE has the most significant influence on students' skills and knowledge and their effect on students' ESE.

Among the skills and knowledge, which students should receive during EE, the professor E names: *"The ability to build business networks, and to develop their projects along the three main dimensions; Technology (develop solutions to needs in the market), Market (identifying lead users and target groups), and Business (develop an efficient business model); Knowledge to local industry, the importance of networks, risk and reward of entrepreneurship"*; knowledge of entrepreneurial tools and supportive mechanisms; skills to find out and catch opportunities; skills to develop own entrepreneurial idea and start-up, to communicate and to build relationships within a team and with investors, customers and so on.

An access to entrepreneurial skills and knowledge enables educators to improve students' awareness of entrepreneurship as a field of science and as the career choice, and to improve students' abilities to find out and to catch opportunities. As a result, it increases students' SE and ESE.

At the same time, the access to the information about entrepreneurial challenges, risks and requirements is an essential part of EE context that aims to create a real picture of entrepreneurship process. It "*gives a realistic picture, prepares the students for failures which most experience, teachers the students to learn from failures."*

However, the awareness of these challenges reduces students' EI through a significant reduction of the ESE mediator.

The respondent E notices that practical learning is very important in order to engage students, to improve their skills and ESE, and to direct these effects towards the growth of participants' EI.

Teaching tools

Active elements vs theoretical elements

The definition of compulsory theoretical EE courses has been used during the interview as the theory-content EE courses that students have to attend and to pass in order to get their degree.

The professor E emphasizes that theoretical courses have no effect on students' EI. However, during the interview, he notices that the effects of any EE course depend on its content, and that the theoretical EE course might increase students' attitude and interest in entrepreneurship through the awareness of opportunities and examples of successful entrepreneurial stories.

In addition, the professor E means that educators should present both successful and unsuccessful entrepreneurial stories to make students aware of the risks. However, the unsuccessful stories and information about risks and challenges during the process might negatively influence students' ESE and, as a result, their EI.

Thus, we can conclude that the theoretical EE courses have small controversial effect on students' EI depending on its content.

Not to be forgotten, as well, during the interview it becomes clear that compulsory theoretical elements are an essential element of education in order to provide the basic awareness of entrepreneurship process and its tools; that further have to be enhanced by the practical experience in order to improve EE effect on students' EI. The respondent E means that active elements within EE course are an essential component that moderates EE effects on the most variables such as SN, attitudes, ESE and EI.

"*It will depend on a content of the course … in general … I think it hardly has any effect.*"

"I think it is important to tell about failures, because it is what dominates. We have a hundred entrepreneurs and 95 of them fail; and it would be unfair just to talk about the five percent, who don't fail. So, I think we should do both. We should give a realistic picture."

"I think a lot of students who came from upper secondary school, they have somewhat simplified picture of what it is to be an entrepreneur, and for them intentions … will go down. They will get more realistic pictures of the risk involved in the process. So they will be more reluctant to start. But when they finally start … I hope they will do it better."

"But intentions are linked with doing part, when people are actually doing something; they are meeting customers and getting feedback."

As an example of active elements, the respondent E mentions: motivational guest lecturer, solution of real cases and group work, business plan creation, start-up of student companies.

As a result, of this part of the interview with the professor E, three main effects of active elements were found:

- Including active elements into the teaching process enables to improve student's skills and their knowledge about tools against the risk factors during the entrepreneurial process within the specific of the industry and the region;
- Improve students' ESE and, as a result, it improves their EI;
- Teach students how to develop relationship within the group and with the interest partners.

"We can say that they all have to set their own student company. Most of them spend most of the fifth and sixth semester working with that … And then, they have to go through all of the fazes… so, I think if we limit to talk about these students specializing in entrepreneurship, then I think, that … they create a company under the same conditions without any risks. I think that is the main learning education outcome which would be positive."

"You know that if you had an EE that aligned to the local industry, that does positive effect on EI; and, of course, if your EE has elements that students can get experience, where they get feedback from customers, which strengthen their ESE – that is an important factor."

"I think if we, through EE, can strengthen their ESE or general SE… then, I think that it has a positive influence in a long run. Yeah, I am sure about that."

Inspirational teaching

The respondent E explains that the inspirational teaching factor has been recognized by the scientific literature as a supportive element to the education process. Moreover, EE and its practical elements imply cooperation with lecturer as a guide and provider of the knowledge. Therefore, the inspirational teaching, such as motivational and entertaining teaching, moderates EE effect on students' EI. It is important to notice that the prior EI and interest factors moderate significantly the inspirational teaching effects on students' EI.

"There are studies that end up with one hour inspiration speech that was enough to alter the intentions."

"… you will find it in the literature that … inspiration is important, important especially if, for instance, you teach engineering students, who have not thought of that possibility, then a guest lecturer, or entrepreneur, or somebody who use emotions can change the intentions quite fast, I think."

"…. of course it will depend since … there are strong elements of personal chemistry between the group and the mentor; … and it is possible to say that, if you have a lecture with students …who are very much inspired, then it is easier for him to change the heart and mind of all the class, of course."

The respondent E emphasizes that the inspirational professor has to have knowledge of local industry in order to motivate students by building the relevant picture of entrepreneurship conditions and tools in the region.

"It is important that she or he has knowledge of local industry, entrepreneurs should always be included in the courses if the lecturer lacks that experience."

Summary:

The respondent E emphasizes the importance of every teaching element aiming to present the real picture of entrepreneurship as a process and as a career choice, while the combination of all elements enables educators to manage the EE effects. Thus, the compulsory theoretical elements are essential in order to increase students' awareness and prepare high quality specialists. However, he emphasized that only practical experience might enhance the positive EE effect on students' EI through significant mediation of the ESE factor.

Therefore, the combination of different teaching methods is the key to the improvement of EE influence on students' EI.

Attitudes

EE might influence students' entrepreneurial attitudes through information about the entrepreneurship process and its unsuccessful stories. In addition, EE discusses entrepreneurship opportunities and tools in the context of the region and industries, and

improves students' awareness of entrepreneurship meanings for the region's well-being. However, the EE effect is unclear due to the complexity of the EE components and variables influencing it. Therefore, the educator was unable to specify the effects.

"For some, having a simplified view of what entrepreneurship is and then spend three years working with it, of cause, … strengthen attitudes;… some say – this is not for me."

It is important to explain here, that the educator E explains that EE are able to improve students' attitudes and, thus EI, through the practical experience with the positive and potential projects. Thus, we can summarize that the professor E expects that improvement of students' ESE during the EE moderates their entrepreneurial attitudes.

"We know that, when they finish the three year bachelor program, about … 20 to 30% of the students have had worked with a projects with commercial potential; and then we … take them to the local business incubator ... but I think … one out of ten , 10% to 20% will … start straight ahead, while others will collect experience for years and then they will start later … but we don't have a complete picture of that."

However, the respondent E notices that the knowledge of support programs and an active guidance of the educator are important in order to maintain the positive influence of EE on students' entrepreneurial attitudes. Otherwise, the hard work requirements during the entrepreneurial process and practice might reduce students' entrepreneurial attitudes.

"I remember we also had one girl, she was working so much with her final project, and she said: "I'm never going to do anything with entrepreneurship. It is so exhausting!" … So this intention part is quite volatile."

ESE

The respondent E emphasizes the high mediation effect of ESE factor on the EE effect on students' EI. During the interview, he explains that in order to increase students' ESE, EE is required to include active elements such as practical work with a project and cases. It does not only improve students' entrepreneurial skills and knowledge, but also increases their entrepreneurial personal qualities such as communication and creativity, and enhances their motivation through the opportunities to test ideas and to receive the feedback from the investors and customers.

"I think that education can give them a possibility to actually do things … You find out that customers like your products, investors thinks that it is the great idea. By giving them realistic feedback, you can raise their ESE."

"But I think if we, through EE, can strengthen their ESE or general SE, then, I think, that it has a positive influence in a long run. Yeah, I am sure about that."

It is important to notice, that the respondent E means that the practical entrepreneurial experience is a key component that should be used to increase students' ESE and their EI, and to increase the number of successful enterprises.

"What I have seen is if a student has a technical background, he is 40 years old, of course, an entrepreneurship course …can give a point that entrepreneurship is a career possibility. If a person is 20 years, without any experience then we should give them the advice not to start now, but to gain more experience; so, it's not possible to say anything general about that, I think."

Gender

The educator E explains that females' ESE and, thus, their prior-the-EE EI are lower, than males', due to the male history of entrepreneurship as the field of science and as a career. It has resulted into a small amount of female role models within entrepreneurship and has shifted women's focus towards more secure professions.

"… Social expectations to women are other, but in literature, you will find out that EE enhances the intentions of girls more than of boys."

However, the respondent E explains that EE are able to influence significantly female students' EI by improving their awareness of opportunities, entrepreneurial tools and support systems, and success stories, and by increasing their ESE through the practical experience.

The moderation effect of gender is quite hard to measure due to the close interconnection with other variables and mixed gender classes taking the EE course. EE contains practical group-work and, therefore, SN, EI, motivation and ESE of the whole group and its leaders moderate significantly EE effects on all students despite the gender differences.

"That is very individual… Very individual, so I can't see any clear picture on that, but, of course, if you have a group of only girls that… have another focus than a mixed group or a group with the boys … but… when it comes to entrepreneurial intentions I can't say any general thing on that."

"… it is not possible to draw any single conclusion. It depends on the group, on the actual group where they work."

"The ESE is important. It seems to be…different between girls and boys. It seems that perhaps, girls are a bit easier to influence … they don't have as many role models as male entrepreneurs; your culture doesn't suspect young girls to be entrepreneurs; so at least from the entrepreneurship activities, when they build companies together, it looks like some of the girls … are emotionally engaged in the project; and if we had measured their intentions before and after, I think we could see that it's possible to raise the intentions by that type of learning activities. That's my impression at least."

"… it's a complex picture, there is some picture in our culture about the entrepreneur who is a lonely hero; and this lonely hero was only … a man. There were very few female role models. But we see ... especially in a group of young girls, they can create groups that work very well and with both regards to what they actually produce and how that works socially; but it is quite different, social aspects of the group is more important for the female students."

Prior EI

The professor E applies the definition of the prior EI as student's entrepreneurship interest, intentions, knowledge and experience before the EE course. He explains that prior EI are an important moderator of EE and its components effect on EI, due to the students' already established interest and capacity to learn and to perform a certain behavior, while the negative prior-the-EE entrepreneurial experience reduces their motivation towards entrepreneurship and EE.

"*We only see positive point of that, not the negative point."*

"Those who had negative experiences from the secondary school... they will never apply for more education in that region."

"Yes, a lot of students have had student companies … in upper secondary school, before they were recruited to our program … that has an effect … I think we see the positive side of it … Cause, it is the same as if you like music and you're learning, you would like to learn more; and, if you don't like music, you don't choose to learn more about that."

FMEE

The respondent E does not give a clear picture on the FMEE influence on EE effects due to the complexity of EE elements and variety of group's content during the practical group-work.

"It is a difficult question."

However, the professor E supposes that student's family members could play the role of role model. Thus, FMEE are probably able to increase EE effect on students' EI through the support, prior interest, SN and experience within entrepreneurship.

"Yes, role model and modes in business network. The FMEE factor gives a more realistic picture of entrepreneurship, emphasizes more on doing and interacting with customers, than theoretical analysis."

In addition, the professor E explains that the entrepreneurial family member might increase students' interest and prior- EI in entrepreneurship and can influence their choice of education.

"Of course, we have had examples of that; yes … we have had previous students that have recommended to their brothers and sisters to go to the same education."

"… if you have had successful entrepreneurs in your closest family that will have a strong influence."

Additional factors

During the interview, the professor E emphasizes four variables, which are able to increase efficiently the EE effects.

Personal traits

Personal traits are the significant moderator of EE effect through the ESE mediation effect of EE influence on person's EI. His or her confidence, risk tolerance and ability to create trust and efficient relationship moderates person's ESE, EI and probabilities for success.

"I think that at least our experiences help, at least, those students who are successful entrepreneurs, they are very clever with people. They can build organizations; they can build trust … I think that it is important … the customers must feel that they can trust them; that they know what are they talking about; and that there is a general feeling of trust."

The respondent E adds that despite the EE ability to develop and to improve those abilities by practical experience and group work, people who already have developed these personal traits might avoid EE in order to start their companies straight ahead.

"That is the success story. But we … know… they had also very strong personal qualities. So, there is always a possibility that they would have started without taking EE."

SN and environment in the class, group and at the university

EE positive effect on students EI depends on environment in the class and at the university. We have already found out, that the professor E supposes that ESE are the most significant mediator of EE effect on students' EI; and that the most efficient way to increase students' ESE is the practical experience and the group work. Therefore, the atmosphere within the group and availability of motivated students within these groups are significant moderators of SN and ESE effects on students' EI, especially for female students.

"… general atmosphere … in the group of students. We have some key individuals who makes it very enthusiastic group, and people are very inspired; and then, next year, we have students who are not so interested, they can kind of destroy everything."

Specialization and background

Students' previous experience and EI are significant moderators of EE effects on EI and its mediators such as SN, attitudes and ESE. Students' specialization and background moderate prior EI and its effect on other variables, which influence EE effect on EI, through personal traits, knowledge, skills, experiences and networks, which students develop before EE.

"Because an engineer will always develop some technical devices, they have knowledge of technical devices; and business student … lacks them. He has to put something more of his knowledge into it."

Relevance of the EE context to the regional context

Relevance of EE to the real life context is an essential component in order to motivate and to engage students.

"The participation in local business networks is essential for the student to get an authentic feedback on their projects."

Moreover, the regional context forms people attitudes, SN and personal traits, which are important mediators and moderators of EE effects.

"…cause EI are mixed thing, and EE is a mixed thing, and … context is a mixed thing... So it is very difficult to say something general."

"… then you have a regional context and we are happy to live in a geographical area with a strong entrepreneurship culture, so it is excepted to take risks, and it is excepted to fail ... So, that is important."

"The regional context is very important since EE should help the student to build networks with regional industry so that they get feedback from industry and not only from academia."

The connection of EE with the regional context moderates the effects of both theoretical EE courses through explanation of the specific of the regional business; and practical EE courses through enhancing students' abilities and their start-ups' success through the awareness of opportunities, regional support mechanisms, demands and so on.

"… if it's adapted to the regional context then it could have a great impact, I think."

"You know that, if you had an EE that aligned to the local industry, it does positive effect; and, of course, if your EE has elements where students can experience, where they get feedback from customers, it strengthen their ESE – that is the important factor."

Accordingly, among the preventing factors of EE effect on students' EI, the professor E names *"too much emphasize on theoretical business planning without actually meeting the customers and the vendors".*

4.5.3 Summary

To summarize the interview with the respondent, a complex model has been developed to visualize all the findings about relationships between variables.

The model shows a complex system of relationships influencing EE effect on students' EI.

On the whole, the respondent concludes that EE has controversial effects on students' EI. EE reduces students' EI in general. The theoretical focus of EE programs, which aim to improve students' awareness of entrepreneurship as a process, has to contain the information about the risk that EB and process contain. The knowledge about the risks without practical experience within the field reduces students' EI.

In order to improve EE effect on students' EI, the EE structure has to include the active elements such as practice, group work, inspirational and supportive educator, two ways contact with investors, customers and other potential partners. Practical experience, which students receive during the EE course, enables them to adjust context of an EE course to the regional context and demands, thus, engaging students into the process and enabling them to adapt required skills and personal trains. In addition, motivated students and students with strong prior EI, attitudes and FMEE moderate significantly EI of all members of the group. As a result, it enhances students' ESE and increases students' EI.

It is important to notice that professor E expects a small positive effect of EE on students' EI *"one out of ten"*. The reason lies in a complex EE system and infinite amount of variables influencing students' EI, some of which could not be controlled by education in a short run.

Table 13 Code Tree, Case E

Category/ Main. By influence of EE effect on EI	Subgroup	Case E
1. General EE effect on students' EI		Complex phenomenon • Positive effect of EE is mediated by ESE, attitudes and SN; moderated by prior EI and background, • Negative effect of EE is mediated by knowledge of risks and its negative influence on students' ESE
2. Including of the active elements into the EE program design	• Effect on knowledge and skills	• Strong positive moderation
	• Effect on EI	• Strong positive moderation through skills and knowledge, ESE, SN and attitudes
	• Effect on ESE	• Strong positive moderation through knowledge and skills
	• Effect on attitudes	• Positive moderation through knowledge
3. The compulsory introductory programs influence	• Effect on knowledge and skills	• Positive moderation • No effect on skills
	• Effect on EI	• Mixed weak positive and negative moderation effects through knowledge • Effects depend on the context of the concrete group, personal traits, prior EI family and regional factors
	• Effect on ESE	• Very weak mixed moderation effect through knowledge
	• Effect on attitudes	• Small mixed moderation effect through knowledge
4. Including of the inspirational teaching element into the EE program design	• Effect on knowledge and skills	• Positive moderation effect
	• Effect on EI	• Strong positive moderation
	• Effect on ESE	• Somehow Positive moderation effect through knowledge
	• Effect on attitudes	• Positive moderation
5. Skills and knowledge effect	• Effect on EI	Mixed positive and negative effects • Strong direct • Strong effect mediated by ESE

	• Effect on EE effect on EI	Mixed mediation effects • Strong positive mediation • Strong effect mediated by ESE • Negative mediation through ESE due to the awareness of risks
	• Effect on ESE	• Mixed direct effects
	• Effect on attitudes	• Mixed direct effects
6.Effect of EE on ESE		• Direct positive • Positive effect mediated by skills/practice experience
7. Effect of ESE	• Effect on knowledge and skills	• No
	• Effect on EI	• Strong positive direct
	• Effect of EE influence on EI	• Strong positive mediation
	• Effect on attitudes	• Positive moderation
8. EE effect on gender		• Moderation of females' ESE through knowledge and contact with inspirational role models and group members
9. Gender effects	• Effect on knowledge and skills	• No
	• Effect on EI	• Negative for women before the EE
	• Effect of EE influence on EI	• Positive moderation for women due to raise of their ESE
	• Effect on ESE	• Negative moderation for women due to the lack of examples of female entrepreneurs • Small negative moderation on women during and after the EE due to the age factor and lack of entrepreneurship science from the female perspective
	• Effect on attitudes	• Negative moderation of pre-EE attitudes for women due to the lack of women-entrepreneurs based examples and studies
10. EE effect on attitudes		• Positive effect mediated by knowledge and SN/environment • Negative effect mediated by knowledge and practice due to the awareness of the hard work required during the process
11. Attitudes influence	• Effect on knowledge and skills	• Positive direct effect on desire to receive EE
	• Effect on EI	• Direct positive effect moderated by ESE

	• Effect on EE influence on EI	• Mediation moderated by ESE
	• Effect on ESE	• No effect
12. FMEE effect	• Effect on knowledge and skills	• Positive moderation
	• Effect on EI	• Positive moderation through skills and knowledge
	• Effect of EE effect on EI	• Unable to explain
	• Effect on ESE	• Positive moderation though skills and knowledge
	• Effect on attitudes	• Positive moderation through skills and knowledge
13. EI before the EE course effects	• Effect on knowledge and skills	• Positive moderation
	• Effect of EE influence on EI	• Positive moderation of skills and knowledge mediation on ESE
	• Effect on ESE	• Positive moderation
	• Effect on attitudes	• Positive moderation
14. Additional Factors	**SN, Environment in the group;** **Motivated group members**	• Positive mediation of EE effect on EI • Positive moderation of EE effect on EI
	Specialization and background	• Positive moderation of EE effect on EI through ESE mediation of EI
	Personal traits	• Positive moderation of EE effect on EI
	Combination of EE, EI and all previous factors all together	• Positive moderation of EE and all mediators effects on EI
	Regional and economical relevance of EE content	• Positive moderation of EE effect on EI

Table 13 Code tree, Case E

Figure 9 – Research model Case E

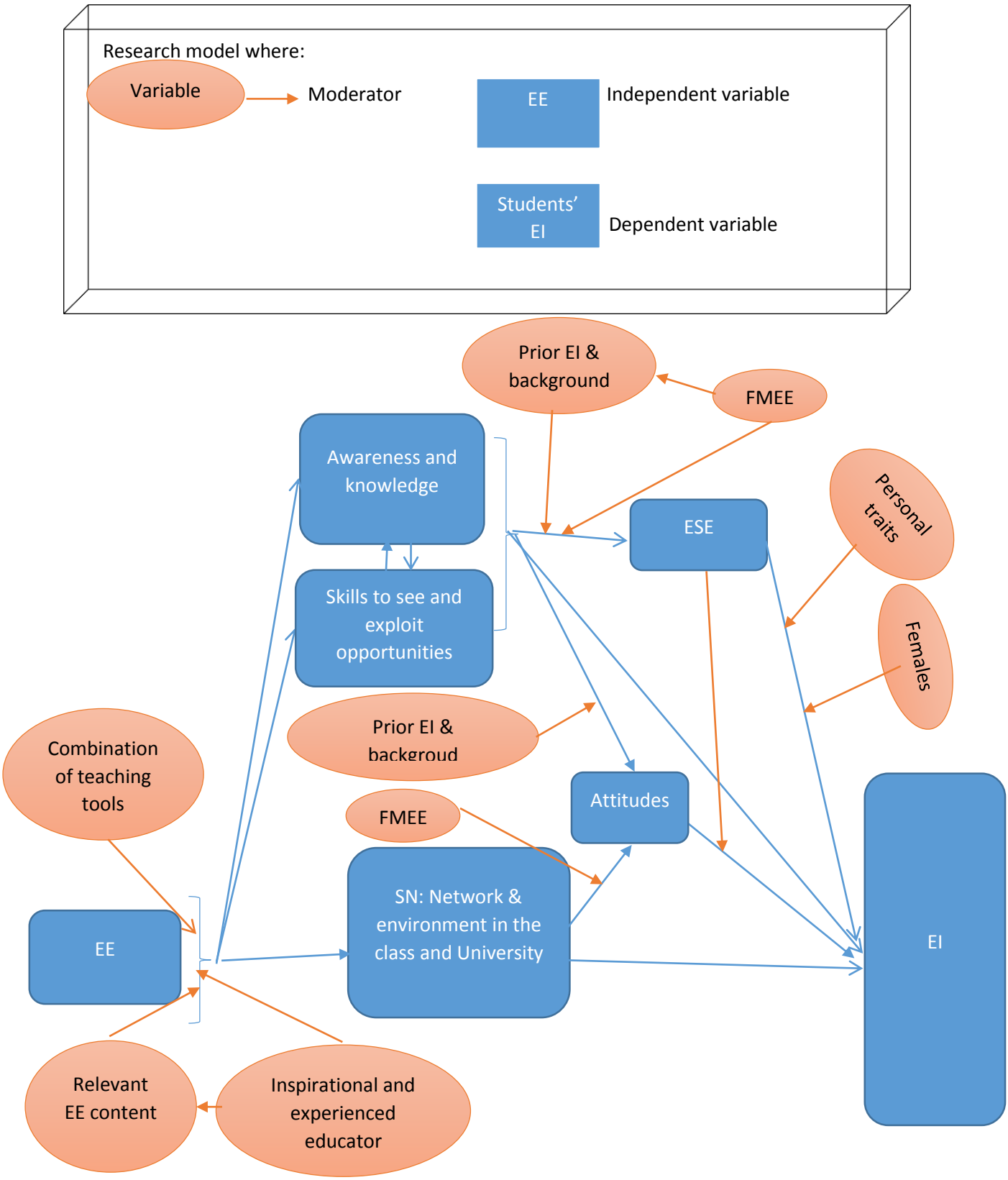

Figure 9 – Research model Case E

Chapter 5 Cross-case analysis

5.1 Entrepreneurship and its objectives

The interviewed professors emphasize that entrepreneurship plays an important role for a national economic and social development of the countries.

Professor B explains: *"It is an important element for a healthy government, because it creates self-employment opportunities, organization of labor force, solution for social problems."*

According to the educator D, culture and social structure within a country might prevent people's EI and, hence, entrepreneurship development. The other preventing factor is a fast-established traditional system of thinking towards employment as the only right career opportunity. According to the respondents, this traditional thinking prevails in both Russia and Norway, and it interferes with the development of population's EI. It is especially relevant to Norway, where the good conditions of employment and quality of life are guaranteed. As a result, it moderates the traditional thinking of population and their preferences towards an employment career path.

Consequently, the professor A stresses out: "*The main challenge in Norway is to figure out how to encourage people to start businesses and become self-employed despite the fact that they actually prefer employment."*

On the whole, the interviews provide evidence that the preventing factors have led to the lack of information about entrepreneurship as one of the potential equal to employment alternative career choice. It hinders a potential improvement of people's EI, and is the reason of the low index of self-employment both in Norway and Russia.

Nevertheless, all respondents suggest that EE should be used as an effective tool for improvement of students' awareness of entrepreneurship as a process and a career choice in order to increase their EI.

For example, among the EE purposes, professor D distinguishes: *"... our main ambition is to show that there is a kind of different way to go … that you can start your own."*

It requires the development of students' ability to find and to analyze relevant information within the common information flow and within situations with a lack of information. This

ability is essential in order to enable students to recognize opportunities and to choose the right tools for catching them.

Professor A explains: *"I define entrepreneurship as a science of opportunities; and defining an opportunity, finding an opportunity and exploiting that opportunity are things this field is concerned with."*

Similarly, professor C says: "*EE's main objectives are to teach students how to search and to apply the required information; and to present success stories and entrepreneurial tools."*

Moreover, each respondent means those students should receive an applied type of knowledge, where "applied" means practice relevant. They explain that EE should:

- Develop students' understanding of the requirements and stages of entrepreneurship process within the context of the industries and the geographical region of the country. It provides "*a realistic picture of entrepreneurship"* (Professor E).

For example, professor B means that *"…a person should get an understanding of the algorithm of actions that should be realized in order to start up a new company. The right algorithm of the actions is a key to the effect we are talking about."*

- Develop students' knowledge of a productive organizational process and risk management within the context of entrepreneurship. The lack of information about entrepreneurship as a process and different levels of risk tolerance for every student prevents their EI. Thus, EE should deliver information about business organization - and risk management processes to increase students' risk tolerance by enhancing their ESE.

Professor B explains: "*... we try to improve students' ability to evaluate and manage the risk. Certainly, people, who do not know about entrepreneurship and risk management, do not possess better information about entrepreneurial processes; can be afraid to take that risk. Therefore, my goal as a professor is to break some myths, which prevent people from starting a new business … and to teach them how to manage risks efficiently."*

- Increase students' attitudes, interest and EI within entrepreneurship as a career choice.

Professor D says: *"I mean a lot of people … have very traditional ways of thinking, that they first take an education, then they get a job, and that it is the way they can go. Whereas I think, taking a course like this… opens your horizons and gives you an understanding that there are other opportunities."*

Contrary to expectations, some factors limit EE effect on students. Hence, Russian professor C warns that some of EEP are often a part of the general management and business education, which aims to prepare qualified specialists who are "*able to undertake management role either within the companies or start-ups."*

Furthermore, the lack of valid studies about EI and factors influencing it prevents EE stimulating effects. Moreover, the complexity of each student's EI, due to the variability of internal and external factors affecting it, and the variety of EE components complicate research within the field.

For example, professor E emphasizes*: "… there is a lack of selective properly controlled studies on EI. I did the literature review some years ago, and found three or four, five studies, which were (quasi) experimental … It was not much."*

5.2 EE effects

During the interviews, all respondents emphasize that EE impact on students' EI is the complex phenomenon, which includes both intern and extern mediators and moderators, some of which EE are unable to control. It makes it hard to define the certain causes and effects within EE-EI relationship.

However, the cross-case analysis detects a number of EE effects, which have been noticed by each professor. On the whole, the professors agree that EE has a positive effect on students' EI mediated by a number of variables, which are skills and knowledge, ESE, SN and attitudes. These effects are discussed more specifically in this Chapter.

As the fundamental EE effects, the respondents name the following:

- Strongly increased awareness and knowledge of entrepreneurship as a career choice and as a process; its stages and components. It enables students to work effectively with information, to take right decisions and to formulate clear vision, goals and actions;

- Improved students' ESE as a result of increased skills and knowledge, and practical experience during the EE. Enhanced ESE mediates EE effect on students' EI;
- Access to entrepreneurial environment with positive entrepreneurial SN within the university and work-groups. It allows to influence students' attitudes and to mediate EE effect on students' EI;
- Improved and adapted essential entrepreneurial personal traits such as confidence, risk tolerance, analytical skills, and ability to build trustworthy relationships within the group and with clients, investors and other parties. Improved entrepreneurial personal traits moderates EE effect on students' EI;
- Access to possibility for self-discovery: students get the opportunity to analyze and to experience entrepreneurship and themselves as entrepreneurs. It helps them to decide if they are able and willing to become entrepreneurs;
- Increased students' entrepreneurial interest and intentions.

Among these effects, such variables as skills and knowledge, ESE and SN within the university have the strongest mediation of EE influence on students' EI.

Moreover, in opposition to all these positive effects, the respondent E argues that he expects that EE, in general, would be able to decrease students' EI due to the heavy theoretical density of educational material and its focus on risks, challenges and requirements within entrepreneurship. However, he explains that he did not have such experience during his educator's practice.

Moreover, other respondents state positive direct effect on students' EI. Likewise, they explain that, in order to create and to explain EE direct effect on students' EI, some moderators should be included into research. Thus, the combination of teaching tools such as conjunction of theoretical and practical elements, smaller size of the groups, balanced volume and length of EE courses, inspirational and relevant to the regional context EE content, and educators' ability to present study material are significant moderators of EE effects.

In addition, all respondents point out the significant moderation effect of prior EI, FMEE, personal traits, background and specialization as factors forming students' pre-EE interest and knowledge, which allow to engage students into the educational and practical process, and to establish more active communication between the students and the educator during EE.

However, they emphasize that these variables could not be recognized as the requirements to students, because they can be adapted and improved during the educational process.

Consequently, based on the above arguments, and looking away from moderation and mediation factors, the discussion supports the **Proposition 1: Entrepreneurship education has a positive effect on EI.**

5.3 Skills and knowledge

The analysis of the five cases shows that all professors, from both Norway and Russia, define the main purpose of EE as an improvement of students' awareness of entrepreneurship as a process and a career choice. They explain that it could be achieved through the creation of an access to the certain entrepreneurial skills and knowledge.

Among skills and knowledge, which should be developed during the EE, the respondents name the following:

- Knowledge about the entrepreneurship process, its tools, stages, risks, requirements, supporting mechanisms and opportunities;

- Abilities to access and to apply information, which is relevant to the region and industry context;

- Abilities to create a business plan, to realize an idea, to manage the process, to develop a network, to take decisions and actions; to work in a team and to build trustworthy relationships within and outside the teams.

The professors agree that EE has a direct positive effect on students' skills and knowledge. However, due to the complicated EE system, this effect depends on the combination of the EE components, which strongly moderates it. Thus, the educators notice that students' skills and knowledge depend on the type of the course, which, in its turn, depends on EEP purpose. The purpose of EEP affects EE tools, which aim to manipulate students' EI. The effects of different EE components are discussed further in the Sub-chapter 5.4.

Based on that, we would like to formulate a new proposition for future research:

Proposition 3e: The extent to which relevant skills and knowledge are acquired in an EE mediates EE effect on students' EI.

Furthermore, the interviews have shown that students' entrepreneurial skills and knowledge received during EE are the main tool and mediator of EE effect on students' ESE and attitudes and, as a result, their EI. The mediation effect of the variable is caused by students' understanding of an entrepreneurship process, its requirements and tools, which allows improving the EI antecedence.

All respondents identify that EE has a positive effect on students' ESE mediated by skills and knowledge. Entrepreneurial skills and knowledge, that students receive during an EE improves students' understanding of entrepreneurship process and expectations to entrepreneurs. It also allows students to evaluate their preparedness to realization of EB, their weaknesses and strengths, and to work purposefully towards their improvement. Hence, all respondents agree that skills and knowledge are the effective tool towards ESE enhance. Consequently, the cases support the propositions:

Proposition 3a: The extent to which relevant skills and knowledge are acquired in an EE mediates the effect of EE on ESE;

Proposition 3b: The extents to which relevant skills and knowledge are acquired in an EE positively influence ESE.

Not to be forgotten, some of the professors emphasize that the volume of information and length of the course are able to moderate students' ESE. It is discussed in the Sup-chapter 5.4.

5.4 Type of education

Active vs. theoretical elements

All professors explain that such theoretical elements as theoretical material, history of entrepreneurship, reading book, journals and articles, have a positive effect on students' knowledge. Moreover, all respondents state that theoretical knowledge is the essential element of EE in order to build a foundation for students' awareness of entrepreneurship as a process, its stages and tools, which improves students' performance during the practical EEP. For example, the respondent A explains that sometimes they invite educators, whom students consider as boring, but who possess essential and modern knowledge, which could improve students' awareness of the most modern key components of entrepreneurship process. As a result, through the positive moderation of EE effect on skills and knowledge, theoretical elements affect students' attitudes and ESE.

On the other hand, the study shows that theoretical knowledge has weak effect on students' skills, which, in general, follows to unconvincing effect of theory-centered EE on students' EI. Moreover, two of five respondents expect that theoretical EE courses should have a mixed weak impact on students' EI and ESE:

- Positive weak effect through the mediation of knowledge about entrepreneurship;
- Negative effect on ESE and EI due to students' awareness of the amount of risks and challenges within the entrepreneurship process and their lack of practical experience.

Consequently, the fact that theoretical courses have inconclusive effect on students' skills might prevail over the positive effect of their improved entrepreneurial awareness. Hence, it could be the cause of its powerless effect on students' EI.

Aside from the theoretical nature of all courses represented in the research, all professors confirm the importance of practical confirmation of knowledge by working with active elements within the EEP in order to enhance EE effect on students' EI.

Among the most often discussed active element of an EE course, the respondents name the following:

- Business plan creation;
- Discussions of real cases with professor and experienced entrepreneurs;
- Group work, case solutions and projects.

More specifically, there were named among other active elements: simulation, gaming, practical work at the companies, competitions, launching of student companies and attendance to conferences.

One thought that clearly stand out from all the interviews is that active elements within EE strongly increase its effect on students' skills and knowledge, ESE and EI by confirmation of knowledge and development of essential practical skills through a personal entrepreneurial experience of students during the course. Therefore, the **Proposition 2a:** The extent to which EEP includes active elements positively moderates the effect of EE on EI, is confirmed.

To summarize the above points, we should notice the total agreement between all respondents in accordance with the complementary nature of the theoretical and practical EE elements. The professors mean that the right combination of teaching tools is a strong moderator of EE effects.

Respondent A: "*I believe that we should combine different pedagogic approaches."*

Respondent B: "*I think that it is better to have two parallel and interconnected processes ... I think that fundamental theoretical understanding and life practice should be synchronized accordingly. A person who is coming to practice, from theoretical point of view, should not be disappointed that he missed his time and energy on the theory he won't need and apply in future. Thus, the practice is a logical sequel of the theory from the real life point of view."*

Respondent C: *"However, undoubtedly, if during the practice, students do not get to confirm the usefulness of these theoretical models, the knowledge would remain only theoretical and not useful."*

Respondent D: *"I think that combination is good ... for the practical teaching to be effective, you need to have some theoretical understanding. So the ideal scenario is that you have some theoretical teaching, which ... maps up the topic, and then you ... have some practical examples, for example write a business plan and then so on."*

Respondent E: *"... intentions are linked with doing part, when people are actually doing something; they are meeting customers and getting feedback ... that does positive effect on EI."*

Consequently, we would like to formulate **the proposition 2d** for the future research: The extent to which EEP includes a combination of active and theoretical elements positively moderates the effect of EE on EI.

Compulsory vs. voluntarily EE courses

All respondents notice the difference between EE effects on students' EI depending on the type of the courses. They explain that it is a result of the strong moderation effect of prior-the-EE students' EI. The effect of prior EI is described in the Sub-chapter 5.7.2.

The effect of voluntarily courses can be easily described by the quote of the respondent D, where she defines elective EE courses as "*a filtering mechanism"* that "*filters up students that already have natural interest in it. People that already have these personality traits ... or they had already thought about the EE before".*

In addition, we would like to formulate **the proposition 2e** for the future research: The extent to which students' participation in the EEP is voluntarily positively moderates the effect of EE on EI.

Contrary, the compulsory EE courses include much bigger groups of students, some of which might not be interested in self-employment. Moreover, forcing students to undertake an EE course might reduce the potential EE effect on their EI. To support this argument, we present the quote of the respondent D, which explains:

"Compulsory elements per se have a lower effect on skills. It's about this element of being compulsory or voluntarily … Had it been a course that they chose themselves … then, may be, you would find students that, perhaps, are seeking this opportunity or having more natural interest in it. I think … it might have a bigger effect on students, who choose it as elective."

This part of analysis supports the **Proposition 2b:** The extent to which students' participation in the EEP is compulsory moderates negatively the effect of EE on EI.

Thus, we conclude that the improvement of students' EI through the compulsory EE courses is difficult and requires more moderators.

It is important to emphasize here that despite the positive moderation effect of the voluntarily courses, the respondent E warns that students, who enroll at the voluntarily EE courses, are biased by their prior EI. It makes it hard to increase their EI by theoretical courses and to observe the direct EE effect on their EI.

Inspirational teaching

An educator is a provider of knowledge, who represents entrepreneurship during the EE course. An inspired and motivational educator is a strong positive moderator of EE effect on students' EI.

The respondents agree that positive relationships within a study group, its atmosphere and students' inspiration within the course increase students' interest, understanding and engagement in EE and EEP. Thus, the inspirational teaching factor might improve students' ESE, attitudes and EI by moderation of students' motivation towards participation in EE.

Taking into consideration the conversation with all the professors, we would like to add some extra requirements, which should be satisfied in order to enhance the moderation effect of the inspirational teaching variable. The educator has to be able to provide knowledge and motivation by clear presentation of the study material and its relevance to the real life and to

the regional context. Moreover, three of five respondents insist that educator has to have a practical experience in order to be able to divide relevant and irrelevant information.

On the whole, the inspirational teaching variable consists of a charismatic, experienced, motivated and inspired educator who is able to build and to present a clear picture of entrepreneurship with the regional and industrial context. Respectively, the **Proposition 2c:** The extent to which participation in the EEP includes inspirational elements positively moderates the effect of EE on EI, is confirmed.

Not to be forgotten as well, the respondents names SN, students' specialization and background, personal traits and prior EI as the main moderators of EE effect on students' EI, which are also able to enhance the effect of the inspirational teaching on students' EI. Thus, professor E explains:

"…. of course it will depend since … there are strong elements of personal chemistry between the group and the mentor; … and it is possible to say that, if you have a lecture with students …who are very inspired, then it is easier for him to change the heart and mind of all the class, of course."

According to the findings, we would like to present a number of propositions, which could clarify an effect of inspirational teaching of EE impact on students' EI:

Proposition 2f: The extent to which participation in the EEP includes inspirational elements positively moderates the effect of EE on mediation effect of skills and knowledge on students' ESE.

Proposition 2g: The extent to which participation in the EEP includes inspirational elements positively moderates the effect of EE on mediation effect of students' ESE on their EI.

Proposition 2h: The extent to which participation in the EEP includes inspirational elements positively moderates the effect of EE on mediation effect of SN within the study group on students' attitudes.

Proposition 2i: The extent to which participation in the EEP includes inspirational elements positively moderates the effect of EE on mediation effect of students' attitudes on their EI.

Proposition 2j: The extent to which a student possesses prior EI moderates inspirational elements positively moderation effect of EE influence on student's EI.

Proposition 2k: The extent to which a student possesses such personal trait as creativity, risk tolerance, ability to build trustworthy relationships, take decisions and organize, moderates inspirational elements' effect of EE influence on student's EI.

Additional elements

The interviews emphisize four main additional EE elements that moderate EE effects

Success and non-success stories

All professors accentuate that relevance and actuality of EE content are the key to the improvement of students' interest, EI and its antecedence. Therefore, discussion of successful and unsuccessful cases from the real life practice is the essential element of EE.

The respondent A explains that deliberation of unsuccessful stories with students could prevent EE effect on students' motivation and EI. However, it is an essential component in order to increase students' awareness of entrepreneurship requirements. Moreover, it allows preventing students from failures and accidents, which could be caused by the failures.

Respondent A: *"If focus only on EI, you probably should not … tell people how difficult that is. You, probably, should … only focus on success stories rather than failures. That is not being honest to our students. And even though, increasing their EI that would be incorrect, because that would probably lead to many failures.... And that is something we don't want to encourage, because we know that failure can be very difficult, and it can lead to heart attack, and suicide, and other terrible things."*

Moreover, the professors' ability to find the viral components within the story and to present it in the learning context is essential in order to release the teaching power of the unsuccessful stories.

The respondent D explains: *"It depends on a lecturer; if he is inspiring it can have a positive effect … It depends on … how the information is told. So, for example, … if the conversation of the lecture has a focus on what happened, what went wrong and what can we learn, it might have a positive effect."*

Contrary to the unsuccessful stories, examples of successful entrepreneurial practice improve both students' entrepreneurial knowledge and motivation towards EB.

Finally, according to the analysis, we would like to formulate the propositions for the next research:

Proposition 2l: The extent to which the EEP includes successful stories elements positively moderates the effect of EE on EI**.**

Proposition 2m: The extent to which the EEP includes successful stories elements positively moderates the effect of EE on students' knowledge.

Proposition 2n: The extent to which participation in the EEP includes unsuccessful stories elements positively moderates the effect of EE on students' knowledge.

Proposition 2o: The extent to which participation in the EEP includes inspirational teaching elements positively moderates the effect of unsuccessful stories elements of EE influence on students' ESE.

Educators' practical experience and ability to present the material

Three of five respondents insist on the essence of the educator with a practical experience. They explain that it should empower EE effects and adjust EEP conent to the relevant regional context and students' demand. Contrary, other two respondents explain that good theoretical knowledge and understanding of entreprneurship process in general and within regional context, and ability to present education material should compensate the lack of practical experience. In addition, guest lecturers, who are succesful entrepreneurs, might moderate EE influence on students.

Respondent A: *"I am not a good entrepreneur. I'm just a good researcher in entrepreneurship. But I sometimes use examples from my own experience in the classroom."*

Respondent B: *"When a person has gone through all the stages of entrepreneurship projects within different industries, he knows what is working and what is wrong. Therefore, it … has a positive effect if the teacher is experienced. But if a professor is only a theoretical person, the course is managed in order to focus students on getting the module passed and on moving on to the other."*

Respondent C: *"There is a hygiene factor in the organization, which has to be presented in order to receive a result from the business activity of an organization. I think that the practical experience of the educator is that hygiene factor that has to be presented at universities. Educator without any experience does not cause motivation and enthusiasm among students."*

Respondent D: *"I think one of the most efficient ways of teaching is when you have some … practitioners who are start-up entrepreneurs, who come and talk about business to students, especially if they are motivational speakers; and they often influence the interest of students."*

Respondent E: *"It is important that she/or he has knowledge of local industry, entrepreneurs should always be included in the courses if the lecturer lacks that experience."*

Consequently, propositions for the future research are formulated:

Proposition 2p: The extent to which the EEP includes practical experienced educator positively moderates the effect of EE on students' EI.

Proposition 2q: The extent to which the EEP includes regional context study matherial and theoretically strong motivating educator positively moderates the effect of EE on students' knowledge.

Proposition 2r: The SN mediation effect of EE influence on students' EI depends on the universities' SN and the support towards entrepreneurship.

Proposition 2s: The extent to which the EEP includes inspirational guest-lecturers, experienced successful entrepreneurs, positively moderates the effect of EE on students' knowledge.

Volume and length of EE

All the respondents emphasize that knowledge that students receive during the education should be confirmed during their practical experience. Thus, complementarity and combination of both practical and theoretical elements are essential in order to construct the effective EE course.

However, three of five professors explain that in order to moderate EE effect, the balance need to be found. The heavy volume of information that further is not confirmed by practice might bore and de-motivate students. As a result, it might decrease their ESE and EI. Furthermore, the professor A warns that professors might include more theoretical study material into longer EEP, which might negatively moderate students' EI.

Respondent B: *"I think that length, as a time loading of the course, should be balanced, because each subject if it is too long and deep gives too much information. As a result, a person gets tired. Moreover, the big volume of information disperses a real life and the practical use of knowledge. Therefore, a module should be strictly planned according to a balanced amount of information and time."*

Respondent C: *"I think it has a negative effect, because nowadays we understand that the goal of education is not to teach students about the theoretical knowledge; but to teach them how to find information in relevant sources."*

We would like to offer **Proposition 2t:** The extent to which the EEP includes heavy theoretical study material negatively moderates EE effect on students' EI.

Proposition 2u: The length of the EEP increases the theoretical volume of the study material within the EE course.

Proposition 2v: The extent to which the EEP includes active elements, which aim to confirm theoretical study material received during the EEP moderates positively the EE effect on students' EI.

Size of the groups

All the professors emphasize the importance of group work within EE, which mediates EE effects on students' attitudes and EI.

Two of five professors expound that size of the group is a moderator of EE effect due to the width of EE influence. Smaller groups make EE more concentrated and improve communication with the professor and within the group, thus, enhancing moderation effects of the inspirational teaching element and mediation power of SN.

In contrast, the bigger groups of compulsory theoretical EE might include a number of de-motivated or undisciplined students, it decreases EE effects.

Respondent D: *"... the smaller the group is, the better ... if you have a course for several hundred students, then it probably won't change the vast majority's opinion. But ... for those few people that perhaps either happened to think about it, or we were able to spark his natural curiosity ... it could have a very-very big difference."*

Respondent E: *"We have some key individuals, who make a very enthusiastic group, and people are very inspired; and then, next year, we have students, who are not so interested, they can, kind of, destroy everything … It depends on the group, on the actual group when they work."*

Respectfully, we formulate:

Proposition 2w: The extent to which the EEP includes a small number of students positively moderates EE effect on students' EI.

Proposition 2x: The extent to which the EEP divides students into small groups positively moderates EE effect on students' ESE.

Proposition 2y: The extent to which the EEP includes de-motivated and undisciplined students negatively moderates EE effect on students' EI.

Summary

This part of cross-case analysis showed the main EE effects and its moderators, and discussed the main EE components, which might enhance the EE effect on students' EI.

As a result of this part of cross-case analysis, the propositions 1, 2a, 2b, 2c, 3a and 3b were confirmed, whereas new propositions for the future research were suggested.

5.5 Attitudes

During the interview, we have discussed the attitudes as a form of students' positive or negative thoughts about entrepreneurship as an activity and career choice. As a result, we have received contraversial results. Thus, all the interviewed educators explaine that attitudes is a complex variable, which is difficult to observe and to manage, especially within the short-time EE courses.

Moreover, one of the respondents (the professor A) states that attitudes can be influenced only in a long run under the influence of the intentions antecedence, which are PBC and SN. For further explanation, we provide a quote from the interview with the professor A:

"If we use the theory of planned behavior, the antecedence of EI is attitudes, subjective norms and PBC. I believe that the easiest things for us to change are SN, because we can change people's friends, close relations and we can probably also change their opinion about entrepreneurship. The thing we can also probably change is PBC, we believe that we enable

people to start businesses … we believe that we enhance their skills and thoughts about the businesses. I am not sure about attitudes. I can say that they are more stable and difficult to change than a PBC. But it is possible to change it through ages, yes."

However, only three (A, B and E) of the five professors agree that ESE improves students' entrepreneurial attitudes.

On the whole, excluding the time factor, all professors state positive effect of EE on students' entreprneurial attitudes mediated by entreprneurial skills and knowledge, and SN. Namely, all respondents emphasize that skills and knowledge, which students receive during EE, strongly increase their awareness of the hard work that entrepreneurs do in order to reduce risks and to achieve certain results. It improves students' perception of entrepreneurship from the «easy-money» career choice towards the respectful one.

In addition, EE courses create an entreprneurial environment, where students meet successful entrepreneurs, motivated and experienced class-mates, which create SN and engagement within the class. Furthermore, EE builds an environment that motivates students to cooperate, to share their knowledge and experience, and to compete. All these activities include a great potential towards attitudes positive mediation of EE effect on students' interest and EI.

The professor B expalins: *"I noticed from my teaching experience, that all students, who have positive attitudes towards entrepreneurship, understand that entrepreneurship is a tool towards personal development, material/money source, freedom to form their day and plan, they have higher EI than others."*

Consequently, the respondets conclude that students' attitudes mediate EE effect on students' EI due to the increased interest and engagement towards the process.

The **Proposition 5:** Entrepreneurial attitudes mediate the effect of EE on EI, is confirmed.

Moreover, we would like to offer new propositions for the future research:

The **Proposition 5b:** The extent to which relevant entrepreneurial skills and knowledge are acquired in the EEP mediates the effect of EE on students' entrepreneurial attitudes.

5.6 ESE

Earlier (the Sub-capter 5.3), we found out that educators observe the strong positive direct influence of students' entrepreurial skills and knowledge on their ESE. On the whole, received in EE entreprenerial skills, knowledge and experience improve students' self-confidence in their ability to realise EB, thus increasing students' EI. It supports the **Proposition 3d:** ESE positively influences EI.

Moreover, all the professors confirm that due to the strong positive direct effect of students' ESE on their EI, the variable substantially mediates EE effect on students' EI. Moreover, it is one of the key mediators in the EE-EI relationship. Consequently, the **Proposition 3c:** ESE mediates the effect of the EE on EI, is confirmed.

Not to be forgotten, as well, the professors agree that EE improves people's entrepreneurial performance and increases the probability for their start-ups success through the improvement of their ESE.

The respondent B: *"ESE is a force that allows students, who lack some knowledge and skills, to have positive attitudes and realize their EI. However, it leads to the high risk of making mistakes during the process, because that person is not always able to properly assess the risks due to the lack of skills and knowledge."*

5.7 Moderator factors

5.7.1 Gender

All the respondents state that gender is a moderator of person's ESE. However, the professor D explains that gender variable is a provider of the cultural and social structures moderation power on population, which addresses social behavioral expectations towards men and women:

"I don't think it has … an effect on SE but I do think that there are social structures that effect SE. For example, female, who is taking the course, she might have high SE, and she might want to start a business and she might do it, but then she might have a kid., and because of social structures, which say that she should probably be home at the maternity leave."

On the whole, four of five respondents confirm that females have lower pre-EE ESE and attitudes. Thus, it follows to lower pre-EE EI. The reason for females' low indexes is the male-based history and theory of entrepreneurship, which has resulted into the lack of female-

entrepreneurs role models. Therefore, this finding supports the **Proposition 4a:** Sex of the participant will moderate the effect of ESE on EI.

However, the professors explain that EE is a great tool towards enhancing females' ESE and EI through the awareness and practice during the course. The inspirational goal of the educator, the mixed-sex team-work during the practice, and combination of different mediators and moderators allow the improving of both female and male students' EI. Hence, the **Proposition 4b:** Sex of the participant will moderate the effect of EE on ESE, is confirmed.

Gender differences within educators' perspective

It should be noticed that the cross-case analysis emphasizes the gender differences within the educators' perspective of the EE effects on students.

Gender moderation effect on people EI

On the whole, the female professors confirm only a very weak effects of gender moderator. Contrary, all the male respondents are sure that the gender moderation effect exists.

More spesificly, the male respondents agree that females have lower pre-EE EI, which can be enhanced by EE; while female respondents argue that the gender moderator has no effect on females' EI neither in Russia nor in Norway. The professor D adds that she expects the gender moderation effect on variables in other countries with masuline culture, where society expects women to stay at home and to be occupied with the household and children care.

Consequently, we consider the findings about gender moderation factor biased due to the high subjetivity of the respondents' answers.

Gender moderation effect on attitudes

Only male respondents state negative moderation effect of the gender variable on females' attitudes. Contrary, the female respondents do not recognize any influence of this moderator on females' etrepreneurial attitudes.

Respondent C: *"There is an equal number of entrepreneurial males and females in our school. We have had situations, where boys and girls are realizing their projects, and their behavior and engagement are equal. I think that EE influence on students' EI is the same for both genders. I did not notice gender differences and any influence on EE effects."*

"All our students are either adequately confident or inadequately self-confident. But, however, if we separate boys' and girls' ESE, I would say that boys are a little bit more confident, than girls. There is a proportion for girls 60% to 40%, where 60% among boys are confident, and only 40% of girls have high SE. It is untested scientific evidence; it is only my subjective vision of it."

"Education, yes, certainly, moderates females' ESE. If a girl is not self-confident, but she possesses some personal traits and has access to resources, then, certainly, EE increases her ESE."

Respondent D: *"No. I mean that a lot of research is done in the different gender perspectives, and so on, but I personally don't think that there is this difference."*

ESE effect on attitudes

Female respondents have answered that they did not notice any influence of the ESE factor on students' attitudes, whereas two of three male professors noticed a positive increase of entrepreneurial attitudes among students with improved ESE.

ESE effect on desire towards EE

In addition, female professors consider that high ESE has a positive effect on people's desire to take an EE in order to explore the field and to achieve additionally required entrepeneurial skills and knowledge.

Respectively, the professor D explains: *"If he has high self-efficacy, it does not necessarily mean that the person would be arrogant and would think that he knows everything. On the one hand, he may not be motivated towards theoretical courses, but on the other hand he would still be interested to receive more skills."*

Furthermore, despite the male professors' disagreement with the fact that ESE has a positive effect on people's desire to enroll to EE, the professor B explains that entrepreneurship-experienced females are interested in EE in order to enhance their chances for success. We consider that it could be relevant to the answers of female professors.

Contrary to the female respondents, the male professors did not observe ESE effect on people's desire to take the EE. The professors expalin that this effect is the result of person's self-confidence and unwillinges to «waste» their time on education. According to the professor B:

"If a person is self-confident, he values the factor of time. Education is an essential element that requires long time. Therefore, an entrepreneur will not always desire to take education if he is already self-confident. They do not need that additional resource of EE … Very often we observe people who are self-confident and try to find the required information by themselves using their own intuition during the entrepreneurial process."

Type of EE

Based on the fact that female respondents consider that ESE moderates people's interest towards EE, it is not surprising that cross-case analysis indicates that female educators expect strong positive effect of compulsory theoretical EE on students' entrepreneurship knowledge, and weak positive effect on skills. Contrary, the male respondents argue that the compulsory theoretical programs have normal positive effect on students' knowledge and lack an effect on their skills.

FMEE moderation

Despite the common agreement about the positive moderation effect of the factor of EE influence on students' EI (the Sub-chapter 5.7.3), the study shows some controversial opinions among the educators. Thus, the female professors notice a negative effect of the FMEE.

The Norwegian female respondent states the complexity of the factor due to its close connection to the prior EI and the opprtunity to separate EE effect on students' EI.

Respondent D: *"I think this does make you more open to receiving this kind of knowledge, but on the other hand … especially when it is quite basic courses, then … They might already be quite familiar with it. It might be not as new for them…"*

The Russian professor adds that despite the common positive moderation, FMEE could retard EE effects if the relationships within the family are negative or the student is forced to take the education.

Respondent C: *"…some of our students leave the school after some time, because their fathers make them take this education … Therefore, parents' influence has its place and effects, but in reality, I think, sometimes, it could play a negative role … I think it is a great life example. Many students say that their fathers have their own businesses. Thus, certainly, if there are good relations in the family, mother and father are role models, thus, it has an inspirational effect on students."*

Not to be forgotten, as well both female professors state the importance of the positive relationships within the family in order to initiate the moderation effect of the FMEE.

5.7.2 Prior EI

The interviewed professors apply the definition of the prior-EI as students' entrepreneurship interest, intentions, knowledge and experience before taking the EE course.

All respondents emphasize the srong moderation role of students' prior EI on EE effect on their after-EE EI. More specifically, the professors explain that prior EI form people's desire to take EE. It also creates a foundation for a better understanding of the learning matherial due to the already established interest, knowledge and expereince within the field of studies.

Furthermore, four of five respondents noice that prior EI positively moderate some mediators effects within EE-EI relationship. Thus, prior-EI improve students attitudes through entreprneeurial awareness, skills and knowledge.

All the professors explain that prior EI are able to improve students' pre-EE ESE through th entreprneurial awareness, skills and knowledge, which students have received before EE. It increases students' interest, ability to relate and to acively participate in educational process, and to understand the study matherial. As a result, it improves their ESE and EE effect on their EI.

Three of five respondents explain that prior EI, formed by students' background, are able to form and to enhance their personal traits, which, further, moderate EE effect on students' ESE and EI. Moreover, all respondents have noticed a positive moderation effect of students with high prior-EI on students' attitudes and its mediation of EE influence on students' EI.

Based on the number of positive moderation effects of students' prior-EI, we decline the **Proposition 7:** EE effect on EI is negatively moderated by prior EI.

It is important to notice that despite the eduactors' confidence in the strong moderation power of the prior EI variable, they do not consider this factor as a requirement for students. Moreover, all the professors are sure that students are able to adapt the required skills, knowledge, personal traits and interest during the EE under the influence of other variables.

Respondent A: "*We noticed that past behavior predicts future behavior … So having a prior interest in subject… means that we have more motivated students, more interested to learning*

about that subject area and, probably, also having a capacity to start a business, at least helping other entrepreneurs."

Respondent B: "*Yes, certainly … students with prior introduction to entrepreneurship know the real application of the knowledge and are more active during the lectures."*

Respondent C: "*I would say that EE had a stronger influence on students who have already got prior entrepreneurship motivation, thoughts and intentions."*

Respondent D: *"I think that for these few, that have already thought of it, as another way of life or have already been thinking a little bit about starting their own, … I think it could have a very big influence … I think if you have a natural interest, then the education will have a greater effect."*

Respondent E: *"I would expect, but it would depend on the background of the actual students … Those who had negative experiences from the secondary school, they will never apply for more education."*

Not to be forgotten, as well, the cross-case analysis identifies a number of complications, which could be obtained by the prior EI.

- Two of five respondents explain that students' prior EI complicate educators' opportunity to observe EE effects on students' after-EE EI.

Respondent A: "*But we don't know whether this is an effect of education per se or this is an effect of their interest with this topic, to begin with … So we are not sure that it is possible to isolate the effect of EE."*

Respondent E: *"…cause EI are mixed things, and EE is a mixed thing, and … context is a mixed thing... So it is very difficult to say something general."*

- The respondents mention that students with high prior-EI have higher expectations to EE courses. Thus, their EI could be reduced during the theoretical EE, while the active elements might improve their EI, because students get access to the opportunity to test their knowledge in order to adapt required entrepreneurial skills. Consequently, we conclude that the higher student' EI are, the more active elements should be included in the EE course. It should be further explored by the future research.

Respondent E: *"...but if you have people that start studying the Innovation and Entrepreneurship, then they are preselected, they are biased, and they would like to get deeper into it; and for some of them they find out that ... For some intentions will go down."*

Respectfully to the analysis, we would like to propose some topics for the future research:

Proposition 7a: EE effect on EI is positively moderated by prior EI.

Proposition 7b: EE effect on students' entrepreneurial skills and knowledge mediation effect on students' ESE is positively moderated by his prior EI.

Proposition 7c: EE effect on students' entrepreneurial skills and knowledge mediation effect on students' attitudes is positively moderated by his prior EI.

Proposition 7d: The extent to which students possess prior EI moderates their expectations towards EEP.

Proposition 7e: The extent to which the EEP includes variability of active elements positively moderates EE effect on students' EI for students with high prior EI.

5.7.3 FMEE

Entrepreneurial experienced family memebrs (FMEE) variable is one of the moderators of EE effects on students' EI.

All the respondents agree that individuals' access to the observation of an entrepreneurial family member's experience and to the paticipation in entrepreneurship process impacts persons' interest and awareness in entrepreneurship as a process and a career choice. Moreover, it enhances EE effect on students'-with-FMEE EI, due to their already established fundamental understanding of the entreprenurship, and the ability to relate to and to apply new knowledge in practice. Therefore, it confirms the **Proposition 6b:** FMEE moderates the effect of EE on EI.

Furthermore, FMEE moderates EE effect on students' attitudes through the SN, which surround students at home and within the university, and through the skills and knowledge mediator. The reason lies in entreprneurial environment that mantains students' attitudes, skills and knowledge by giving the person an opportunity to observe, to feel and to experience the process, its challenges and results.

Moreover, the professors explain that students with FMEE help to improve SN within the university and the study group, which impacts their class-mates' attitudes through the cooperation and communicaton during the group work. Contrary, undisciplined and de-motivated students, or students with negative prior EI might reduce the EE effects. According to the professor B: *"I think it is much more interesting and helpful for me too, because it helps me to create a special climate in the class. In addition, other students, who do not know specifics of the business and entrepreneurial processes, become more interested in the course."*

FMEE aslo moderates students' ESE, which is the strongest mediator of EE effect on students' EI. Respondents explain that entrepreneurial siblings' experience allows student to relate to study material. Furthermore, family financial and network support, and students' ability to get a practical work/experience within his/her family's business imporve his or her ESE and natural interest to the entreprneurship as a process and a career choice. It makes the comment of one of the respondents about the moderation effect of relationships within the family relevant to the study. Good and stable relationships within the entrepreneurial families provide an opportunity for a student to observe a succesful entreprneurship experience and to participate in the process.

Respondent A: "*We know that children have a tendency to follow their parents' steps. If your father is an entrepreneur, you have a tendency to become an entrepreneur yourself. And also… if you have a family background in entrepreneurship, your family is, probably, more aliened to support you in your entrepreneur networks and, probably, more willing to help you with a capital and non-financial support ... If they were working in their parents' shops since they were little kids, obviously, they know the trade and they know the industry. And that is one of the most and most important success factors that we identified."*

Respondent B: *"It is better to see once, than to hear 100 times. It is a golden rule… I think that it is a very important factor, because a person gets to observe the life cycle of the family business. The person gets to see on the everyday basis how this member of his family is occupied within entrepreneurial activities ... If this family member is an entrepreneur and doesn't stop his entrepreneurial behavior and actions, it becomes a part of the family's everyday life … There is a big probability that if a student has entrepreneurial parents, he will also become an entrepreneur due to the succession of business. It's a classical situation."*

Respondent C: *I think it has a significant influence. Through the opportunity to observe a successful example, student's ESE raises … I think it is a great life example. Many students say*

that their fathers have their own businesses. Thus, certainly, if there is a great relationship in the family, mother and father are role models, thus, it has an inspirational effect on students."

Respondent D: "*I think this does make you more open to receiving this kind of knowledge … It's more natural for them if they are already exposed to this environment. So I think that, perhaps, their natural interest is higher, it will make the information … more useful for them because they have a personal case and example to relate to. I think, the more personal information feels, the more that information will be relevant and will be absorbed."*

Respondent E: *"Yes, role model and nodes in business networks. The FMEE factor gives a more realistic picture of entrepreneurship, emphasizes more on doing and interacting with customers, than theoretical analysis".*

On the whole, all the respondents confirm that FMEE moderates students' attitudes and ESE through family support, skills and knowledge received with their personal experience within their family business. Four of five resondents add that FMEE also moderates students' attitudes through SN, skills and knowledge received within the family and the EE course.

Consequently, the **Proposition 6a:** FMEE moderates positively the effect of EE on students' entrepreneurial attitudes, is supported.

Not to be forgotten, as well, we would like to emphasize some complication effects of the variable:

- EE have no effect on FMEE factor. Hence, FMEE might improve EE effects on students' EI, but could not be manipulated by an educator;
- The moderator complicates educators' ability to observe EE effect on students with self-employed family members due to the external of his/her control influencing factors;
- Student with a self-employed family member could have higher expectations towards EE course.
- The moderator should not be a requirement to potential students of EE courses.

Consequently, respectively to the analysis, we propose:

Proposition 6c: FMEE moderates the effect of EE on students' ESE.

5.8 Additional factors

The cross-case analysis identifies additional variables, which might affect EE-EI relationship.

SN

All the respondents emphasize that entrepreneurial atmosphere at the university and at the study group mediates EE effect on students' attitudes and EI. Moreover, this atmosphere requires university's support and its focus on entrepreneurship as an equal career opportunity for graduates.

The professors mean that EE provides an access to entrepreneurial skills and knowledge, motivated class-mates, entrepreneurial guest lecturers and network. Inspirational stories, communication with entrepreneurs and motivated coevals enhance SN within EEP, which mediate EE impact on students' attitudes and EI. Furthermore, positive entrepreneurial SN engages students into the learning process and entrepreneurial activities through the opportunity to relate to and to share experiences with the new friends and mates, with whom students develop their relationship during EEP.

Respondent A: *"If we use the theory of planned behavior, the antecedence of EI is attitudes, subjective norms and PBC. I believe that the easiest things for us to change are subjective norms, because we can change people's friends, close relations and we can probably also change their opinion about entrepreneurship."*

Respondent B: *"However, taking under the consideration the SN within the study group and SN at the university it would have a significant influence, of course, because there are some group leaders who form … atmosphere within the group; and it significantly influences EE effects … I think it is much more interesting and helpful for me too, because it helps me to create a special climate in the class."*

Respondent C: *"Yes, certainly, SN within the university and group does influence EE effect, because there is a "word of mouth" rule, and if there is any negative information, it influences everyone's attitude. It has a very significant effect … I think de-motivated and undisciplined students in the group prevent EE effect on students in general and on their EI."*

Respondent D: *"… having a good social network is also very important… I mean you have some people that impact you. If you have family or friends to support you … that makes it easier*

… to go with these opportunities ... Especially, if you have people who are inspiring, and people who drive up level of ambitions … That makes the experience more fun and makes it more rewarding."

Respondent E: *"It depends on … the actual group where they work … the general atmosphere."*

Hence, the analysis concludes that positive entrepreneurial SN within university and study group have both direct and mediated by students' attitudes effect on students' EI.

Therefore, we would like to offer for future research:

Proposition 8a: SN within the university and study group mediates EE effect on students' EI.

Proposition 8b: SN within the university and study group mediates EE effect on students' attitudes.

It should be noticed that while the inspired students and the professor mantain and enhance students' entrepreneurial SN and attitudes; de-motivated students or students with negative prior EI might reduce the EE effects. According to the respondent E: *"We have some key individuals who make it a very enthusiastic group, and people are very inspired; and then, next year, we have students, who are not so interested, they can kind of destroy everything."*

Personal traits

Among the most important personal traits, the cross-case analysis defines: analitical, organizational and motivational skills, responsibility, creativity, self-cofidence, risk tolerance, abilities to work in the group and to build relationships.

Respondent A: *"Self-confidence, optimism, action orientation, high intelligence and type A personality."*

Respondent B: *"The system of liabilities and responsibilities is very important in entrepreneurship, because if you look at this system as one of the key elements, it teaches you and makes you moral as a person and a business partner who are going to realize their promises. Moreover, I think that it gives confidence, decency, and ability to be concentrated and self-organized."*

Respondent C: *"I think their attention to the details, objectivity and analytical skills to be able to understand all factors that influence a person in order to take a decision."*

Respondent D: *"I would say that to start a business, there are some characteristics and some personality traits that a person already has. They are often quite creative and often very risk taking; and I think, taking a course might then spark some of these ideas, and it can spark this enthusiasm. So I think if you have some of these natural characteristics, then I think taking a course like that can inspire you."*

Respondent E: "I think that … those students who are successful entrepreneurs, they are very clever with people. They can build organizations; they can build trust."

All the respondents agree that the variable moderates EE and ESE effects on students' EI. Hence, students with listed above personal traits are expected to be more active during the studies due to their ability to take decisions, to learn, to apply skills and knowledge received during EE.

Not to be forgotten, as well, EE gives students an opprotunity to analyse their entreprneurship competence, thus improving students' self-awareness.

Respondent C: *"…some of our students leave the school after some time."*

Respondent E: *"We have also experienced some of our most successful entrepreneurship students, who were successful as students within entrepreneurship; some of them were generally good students; so they didn't start their own company. They went to the master's degree at first, before they started companies."*

Not to be forgotten, as well, the professors explain that, despite the fact that this variable is a strong moderator, it could not be a requirement to students. During the interviews, all the respondents mention that students are able to adapt and to improve their entepreneurial personal traits during EE.

For example, the respondent D emphasizes: *"Some people believe … you either are born entrepreneur or not. I personally believe … that …people are able to adapt and to learn quite a lot of these personality traits as well, if you gain an understanding of what it means to be an entrepreneur."*

Consequently, we formulate two extra propositions:

Proposition 9a: The extent, to which a student possesses such personal traits as creativity, ability to build trustworthy relationships, take decisions and organize, and his risk tolerance, moderates EE effect on student's EI.

Proposition 9b: The extent, to which a student possesses such personal traits as creativity, ability to build trustworthy relationships, take decisions and organize, and his risk tolerance, moderates the mediation effect of ESE on student's EI.

Background and specialization

All the respondents point out that students' pre-EE background and spesialization are strong moderators of EE effects. Hence, the prior knowledge and awareness within the field allows to improve students' attitudes, ESE, and their mediation of EE effect on students' EI.

Moreover, the moderator improves students' personal traits through the entrepreneurial skills, knowledge and experiences reeived within former education and experience.

Respondent A: *"The background of students is important. Students with a background with entrepreneurship and business management, and students, who want to pursue the career as business owner or entrepreneur, are more interested in advice that we can give them as entrepreneurs... your background certainly influences what are you interested in and what you are not interested in … We noticed that past behavior predicts future behavior."*

Respondent C: "*It is easier to understand the new material for people who have already received some introduction in entrepreneurship. It is easier to discuss most topics with them; and they are more confident."*

Respondent E: *"It would depend on the background of the actual students … Because an engineer will always develop some technical devices, they have knowledge of technical devices; and business student … lacks them. He has to put something more of his knowledge into it; and general business is a general education."*

Respondent D: *"… you need to have some basic education, I mean high school included; but, I mean, you don't necessarily need a higher education in order to be a successful entrepreneur."*

Respectfully, we would like to formulate the following propositions for the future research:

Proposition 10a: The extent to which students' background and specialization are relevant to EEP moderates EE effect on EI.

Proposition 10b: Students' background and specialization, which are relevant to EEP, have the common moderation effects with the prior EI variable.

Not to be forgotten, as well, contrary to the positive effects of the moderator, the respondents mention that students with relevant background and specialization have higher expectations to EE courses. Thus, their EI could be reduced during the theoretical EE, while the active elements might improve their EI, because students get access to the opportunity to test their knowledge in order to adapt and to improve the required entrepreneurial skills.

5.9 Conclusion

5.9.1 Summary

The cross-case analysis answers positively on the research question:

Does entrepreneurship education influence students' entrepreneurial intentions?

To summarize the cross-case analysis and to visualize all the findings about the EE effects on students' EI, a combined code tree (Table 14 Cross-Case Code Tree), the Table 15 Findings and the Research model 2 has been developed.

The model shows that EE is a complex factor, which includes:

- a proper combination of teaching elements such as theoretical and practical components for compulsory or selective course type; a balanced volume and length of the EE course; and a size of a group.

- Inspirational teaching element moderated by the relevance of the regional context on EE, professor's practical experience and the ability to present the educational material. All the respondents agree that the inspirational teaching moderator is important. However, all the respondents emphasize that this factor has stronger influence if the professor is able to present the educational material clearly and relevant to the regional context. Moreover, three of five respondents insist that educators' practical experience is essential in order to enhance his or her influence on the students.

The cross-case analysis has identified the positive direct effect of EE on students' EI. Four of five respondents mean that there is the direct effect of EE. However, due to the complexity of the EE and the differences between the study groups and extern variables influencing students' EI, it is rather difficult to separate and to observe a certain direct effect of EE. Moreover, one respondent emphasizes the negative direct effect of basic theoretical EE courses. However, his answer is based on the literature findings, while he is talking about the positive EE effects, which he observed during his educator's experience.

On the whole, all the respondents agree that EE has a positive effect on students' EI mediated by the four variables:

- The strongest mediator of EE effect on students' EI is skills and knowledge, which enhance students' ESE. The strongest effect of these variables is caused by the main purpose of EE, which is to increase students' awareness of entrepreneurship as a process and a career choice.
- The next mediator is SN. EE creates an entreprneurial atmosphere and an access to new motivated entrepreneurial friends. It increases students' interest and social behavior towards entrepreneurship. Moreover, the university's support system of entrepreneuial SN is very imortant in order to enhance EE effects.
- The last but not the least mediator is attitudes. All the respondents notice the positive effect of EE on students' atttitudes mediated by SN, skills and knowledge, which students' receive during the EE. One of the respondents, however, notices, that attitudes is quite complex and stable variable, that requires time to be changed. Two of the respondents add that students' ESE moderates attitudes variable, while one professor mentions a reverse relationship. These results are not enough to propose any moderation effect between these mediators, but it could be checked during the future quantitative research.

As the table 14 shows, there are four main moderators of EE effect on students' EI, which are prior background, FMEE, personal traits and gender variables.

All the respondents confirm the significant moderation effect of prior EI, students' background and spesialization. The common power and areas of effects of these variables have enabled us to combine them into the one variable of Prior Background. Prior Background of student moderates:

- Students' attitudes through the skills and knowledge received before the EE course;
- Students' ESE through the skills and knowledge received before the EE course;
- EE direct effect on students' EI through their pre-EE interest and awereness of entrepreneurship.

Not to be forgotten, as well, prior background of a student increases his expectations from EE. Therefore, EE courses for students with high prior background should include more practical elements to enable students to confirm their knowledge, to experience and to reflect the real entrepreneurship process.

As a result of cross-case analysis all the propositions, except **the proposition 7,** were confirmed. Moreover, due to the differences in male and female professors' answers, we are not sure in **the propositions 4a and 4b**.

5.9.2 Cross-Case Code Tree

Category/ Main. By influence on EE effect on EI	Subgroup	Case A	Case B	Case C	Case D	Case E
1. General EE effect on students' EI		Complex phenomena, hard to separate EE effect from other factors • Direct positive effect • Positive effect of EE is mediated by skills and knowledge, ESE and SN • Positive effect of EE is mediated by attitudes in a long run	• Direct positive effect • Positive effect of EE is mediated by ESE, skills and knowledge, SN and attitudes	• Direct positive effect • Positive effect of EE is mediated by ESE, skills and knowledge, SN and attitudes	Complex phenomenon • Direct positive moderated by culture, personal traits, background, FMEE, social network and prior EI • Positive effect of EE is mediated by knowledge and skills, ESE, SN and attitudes; all these factors are moderated by prior EI, FMEE, social network, background, culture, personal traits and practical experience before and during the EE	Complex phenomenon • Positive effect of EE is mediated by ESE, attitudes and SN; moderated by prior EI and background, • Negative effect of EE is mediated by knowledge of risks and its negative influence n students' ESE
2. Including of the active elements into the EE	• Effect on knowledge and skills	• Strong positive moderation	• Positive moderation	• Strong positive moderation	• Strong positive moderation of EE	• Strong positive moderation

program design	• Effect on EI	• Strong positive moderation through ESE, skills and knowledge	• Strong positive moderation through ESE, skills and knowledge	• Positive moderation through ESE, skills and knowledge	• Strong positive moderation of EE effect through ESE influence on EI	• Strong positive moderation through skills and knowledge, ESE, SN and attitudes
	• Effect on ESE	• Strong positive moderation	• Strong positive moderation through skills and knowledge	• Strong positive moderation through skills and knowledge	• Strong positive moderation of EE effect through skills and knowledge	• Strong positive moderation through knowledge and skills
	• Effect on attitudes	• Positive moderation effect of EE through knowledge, PBC and SN in a long run	• Positive moderation effect through knowledge and skills, and SN	• Positive moderation effect through knowledge and skills	• Positive moderation of EE effect through knowledge and influence on SN	• Positive moderation through knowledge
3. The compulsory introductory programs influence	• Effect on knowledge and skills	• Positive moderation of EE effect on knowledge • No effect on skills	• Strong positive moderation of EE effect on knowledge • No effect on skills	• Strong positive moderation of EE effect on knowledge • Weak effect on skills	• Positive moderation EE effect on knowledge • Weak effect on skills	• Positive moderation • No effect on skills
	• Effect on EI	• No effect	• Weak positive moderation moderated by previous experience, prior EI	• No effect	• Weak positive moderation through knowledge and skills	• Mixed weak positive and negative moderation effects through knowledge

						• Effects depend on the context of the concrete group, personal traits, prior EI family and regional factors
	• Effect on ESE	• Positive moderation through knowledge	• Weak positive moderation through knowledge	• Weak positive moderation through knowledge	• Positive moderation dependent from moderators	• Very weak mixed moderation effect through knowledge
	• Effect on attitudes	• Small positive moderation effect through knowledge and SN in a long run	• Positive moderation through knowledge	• positive moderation through knowledge	• Small positive moderation of EE effect through knowledge • Dependent on moderators	• Small mixed moderation effect through knowledge
4. Including of the inspirational teaching element into the EE program design	• Effect on knowledge and skills	• Positive moderation of EE effect	• Strong positive moderation of EE effect	• Strong positive moderation of EE effect	• Positive moderation	• Positive moderation effect
	• Effect on EI	• Moderation of EE effect	• Strong positive moderation of EE effect	• Strong positive moderation of EE effect on students' EI moderated by strong prior EI, FMEE and personal traits	• Strong positive moderation of EE effect	• Strong positive moderation

	• Effect on ESE	• No effect	• Positive moderation	• No effect	• Somehow Positive moderation of EE effect	• Somehow Positive moderation effect through knowledge
	• Effect on attitudes	• Positive moderation of EE effect in a long run	• Positive moderation	• Mixed direct	• Strong positive moderation of EE effect	• Positive moderation
5. Skills and knowledge effect	• Effect on EI	• Direct positive effect • Strong positive effect mediated by ESE	• Direct positive effect • Strong positive effect mediated by ESE	• Strong direct positive effect • Strong positive effect mediated by ESE	• Strong positive effect mediated by ESE and combination of all other factors	Mixed positive and negative effects • Strong direct • Strong effect mediated by ESE
	• Effect on EE effect on EI	• Strong positive mediation	• Strong positive mediation	• Strong positive mediation	• Strong positive mediation of EE effect on EI through the direct positive influence on ESE	Mixed mediation effects • Strong positive mediation • Strong effect mediated by ESE • Negative mediation through ESE due to the awareness of risks

	• Effect on ESE	• Strong positive direct effect	• Strong positive direct effect	• Strong positive direct effect	• Strong positive direct effect moderated by active elements, personal traits, FMEE, social network, background, family relationships, SN and inspirational teaching	• Mixed direct effects
	• Effect on attitudes	• Positive direct effect in a long run mediated by SN	• Positive direct effect	• Positive direct effect	• Positive direct effect	• Mixed direct effects
6.Effect of EE on ESE		• Strong positive effect mediated by skills and knowledge gained from EE course with combined theoretical and practical tools	• Positive effect mediated by experience, skills and knowledge gained from EE course with combined theoretical and practical tools	• Strong positive effect mediated by skills and knowledge gained from EE course with combined theoretical and practical tools	• Positive effect mediated by skills and knowledge, moderated by the type of the EE program and personal traits	• Direct positive • Positive effect mediated by skills/practice experience
7. Effect of ESE	• Effect on knowledge and skills	• No	• Negative direct effect on desire to take an EE	• Positive direct	• No direct effect • Dependent on moderators • Positive moderation	• No
	• Effect on EI	• Strong positive direct effect	• Strong positive direct effect	• Strong positive direct effect	• Strong positive direct effect moderated by SN, prior EI, prior background and personal traits	• Strong positive direct

	• Effect on EE influence on EI	• Strong positive mediation	• Strong positive mediation	• Strong positive mediation	• Strong positive mediation moderated by all moderators	• Strong positive mediation
	• Effect on attitudes	• Direct positive effect combined with SN effect (in a long run)	• Direct positive effect	• No effect	• No effect	• Positive moderation
8. EE effect on gender		• Moderation of females' ESE	• Moderation females' EI through ESE	• Weak moderation of females' EI through ESE	• Depends on culture • No effect in Norway	• Moderation of females' ESE through knowledge and contact with inspirational role models and group members
9. Gender effects	• Effect on knowledge and skills	• No	• Moderation for Older females' moderated by prior EI and experience	• No	• No effect in Norway • Yes for students within the countries with masculine culture	• No
	• Effect on EI	• Negative effect on females	• Moderation for man • Negative moderation for women	• No	• No effect in Norway • Yes for students within the countries with masculine culture	• Negative for women before the EE
	• Effect on EE	• Strong positive moderation of EE	• Moderation of EE effect on females	• Weak moderation of EE effect on	• No effect in Norway	• Positive moderation for

	influence on EI	effect on females ESE, and thus their EI	ESE, and thus their EI	females ESE, and thus their EI	• Yes for students within the countries with masculine culture	women due to raise of their ESE
	• Effect on ESE	• Negative moderation of ESE for females	• Negative moderation for females	• Small negative moderation of ESE for females	• No effect in Norway • Yes for students within the countries with masculine culture	• Negative moderation for women due to the lack examples of female entrepreneurs • Small negative moderation on women during and after the EE due to the age factor and lack of entrepreneurship science from the female perspective
	• Effect on attitudes	• Negative moderation for females	• Negative moderation for females	• No	• No effect in Norway • Yes for students within the countries with masculine culture	• Negative moderation of pre-EE attitudes for women due to the lack of women-entrepreneurs based examples and studies
10. EE effect on attitudes		• Positive effect mediated by skills and knowledge, and SN in a long run	• Positive effect mediated by skills and knowledge, and SN	• Positive effect mediated by skills and knowledge, and SN	• Positive effect mediated by knowledge and SN/environment	• Positive effect mediated by knowledge and SN/environment

						• Negative effect mediated by knowledge and practice due to the awareness of the hard work required during the process
11. Attitudes influence	• Effect on knowledge and skills	Positive direct effect on desire to receive EE	• Positive direct effect on desire to receive EE	• Positive direct effect	• Strong Positive direct effect on desire to receive EE	• Positive direct effect on desire to receive EE
	• Effect on EI	• Positive direct effect	• Direct effect	• No effect	• Strong direct	• Direct positive effect moderated by ESE
	• Effect on EE influence on EI	• Positive mediation In a long run	• Mediation of EE effect on students skills and knowledge, and its effect on their EI	• Mediation of EE effect through skills and knowledge	• Mediation	• Mediation moderated by ESE
	• Effect on ESE	• No effect	• Positive moderation	• Positive direct effect	• Hard to explain their relations • Effect might be	• No effect
12. FMEE effect	• Effect on knowledge and skills	• Positive direct effect	• Positive moderation	• Positive moderation	• Strong positive direct effect	• Positive moderation

		• Positive moderation	• Negative moderation of the desire to receive an EE			
	• Effect on EI	• Strong positive moderation effect through ESE and attitudes •	• Positive moderation through attitudes, skills and knowledge and ESE	• Positive moderation through SN, skills and knowledge, attitudes • Mixed moderation effect if there is an opportunity to receive a job at parent's company	• Strong positive moderation of all mediators	• Positive moderation through skills and knowledge
	• Effect on EE effect on EI	• Strong positive moderation effect through skills and knowledge effect on ESE and attitudes • Strong positive moderation effect through SN effect on attitudes	• Strong positive moderation through SN, ESE, skills and knowledge, attitudes	• Positive moderation effect through skills and knowledge effect on ESE and attitudes • Positive moderation effect through SN effect on attitudes • Mixed moderation effect if there is an opportunity to receive a job at parent's company • Negative moderation if parents force	• Positive moderation	• Unable to explain

				student to receive an EE		
	• Effect on ESE	• Strong positive moderation effect through skills and knowledge	• Positive moderation effect through skills and knowledge	• Positive moderation effect through skills and knowledge	• Positive moderation through experience, skills and knowledge?	• Positive moderation though skills and knowledge
	• Effect on attitudes	• Strong positive moderation through SN, and skills and knowledge	• Positive moderation through SN, and skills and knowledge	• Positive moderation through SN, and skills and knowledge	• Positive moderation	• Positive moderation through skills and knowledge
13. EI before the EE course effects	• Effect on knowledge and skills	• Positive direct effect	• Positive direct effect	• Positive direct effect	• Positive moderation	• Positive moderation
	• Effect on EE influence on EI	• Strong positive moderation	• Strong positive moderation through ESE and SN	• Strong positive moderation through skills and knowledge	• Strong positive moderation of all mediators	• Positive moderation of skills and knowledge mediation on ESE
	• Effect on ESE	• Strong positive moderation effect through skills and knowledge	• Positive moderation effect through skills and knowledge, and SN	• Positive moderation effect through skills and knowledge	• Strong positive moderation through skills and knowledge	• Positive moderation

	• Effect on attitudes	• Positive moderation through skills and knowledge in a long run	• Positive moderation through skills and knowledge	• Positive moderation through skills and knowledge	• Positive moderation through skills and knowledge	• Positive moderation
14. Additional Factors		**SN effect on EE influence on EI** • Positive mediation between EE influence on network and environment, and its effect on EI	**Environment and SN within the group at the University** • Positive mediation of EE effect on EI	**SN within the university and study group** • Mediation of EE effect on students and their EI	**SN** • Mediation of EE effect on EI, moderation of ESE effect on EI	**SN, Environment in the group;** • Positive mediation of EE effect on EI **Motivated group members** • Positive moderation of EE effect on EI
		Background • Positive moderation of EE effect on ESE through prior skills and knowledge		**Background** • Positive moderation of EE effect on ESE through prior skills and knowledge • Positive moderation of prior EI	**Background** • Strong positive moderation of all mediators effects	**Specialization and background** • Positive moderation of EE effect on EI through ESE mediation of EI
		Personal traits	**Personal traits**	**Will of a student to receive an EE**	**Personal traits**	**Personal traits**

		• Positive moderation of EE effect on students EI	Moderation of ESE's effect on students' EI	• Positive moderation of EE effect on EI	• Positive moderation of EE effect on students EI	• Positive moderation of EE effect on EI
		Length of EE effect on EI • Positive moderation of EE effect on ESE	**Practical experience of educator** • Strong positive moderation of EE effect on ESE	**Financial situation of a student** • Positive moderation of EE effect on students' EI	**Group size** • Negative moderation of EE effect on EI	**Combination of EE, EI and all previous factors all together** • Positive moderation of EE and all mediators effects on EI
		Volume of EE effect on EI • Positive moderation of EE effect on ESE through optimal level of knowledge Negative indirect moderation of EE effect on ESE of too little or too much information	**Presentation of learning material** • Positive moderation of EE effect on students' EI	**Region of origin of a student and pace, where he/she takes EE** • Negative moderation for students who moved from small regions to urban towns	**Culture and social expectations in the country** • Positive moderation of EE effect on students' EI in the countries with equality rights	**Regional and economical relevance of EE content** • Positive moderation of EE effect on EI
		Unsuccessful stories and role models				

		• Positive moderation effect on knowledge • Negative moderation of ESE effect on EI, and, thus, EE effect on EI				
		Availability of satisfactory job or job opportunities effect on EE influence on EI • Negative strong moderation of EE effect on EI •				

Table 14 Cross-Case code tree

5.9.3 Research model 2

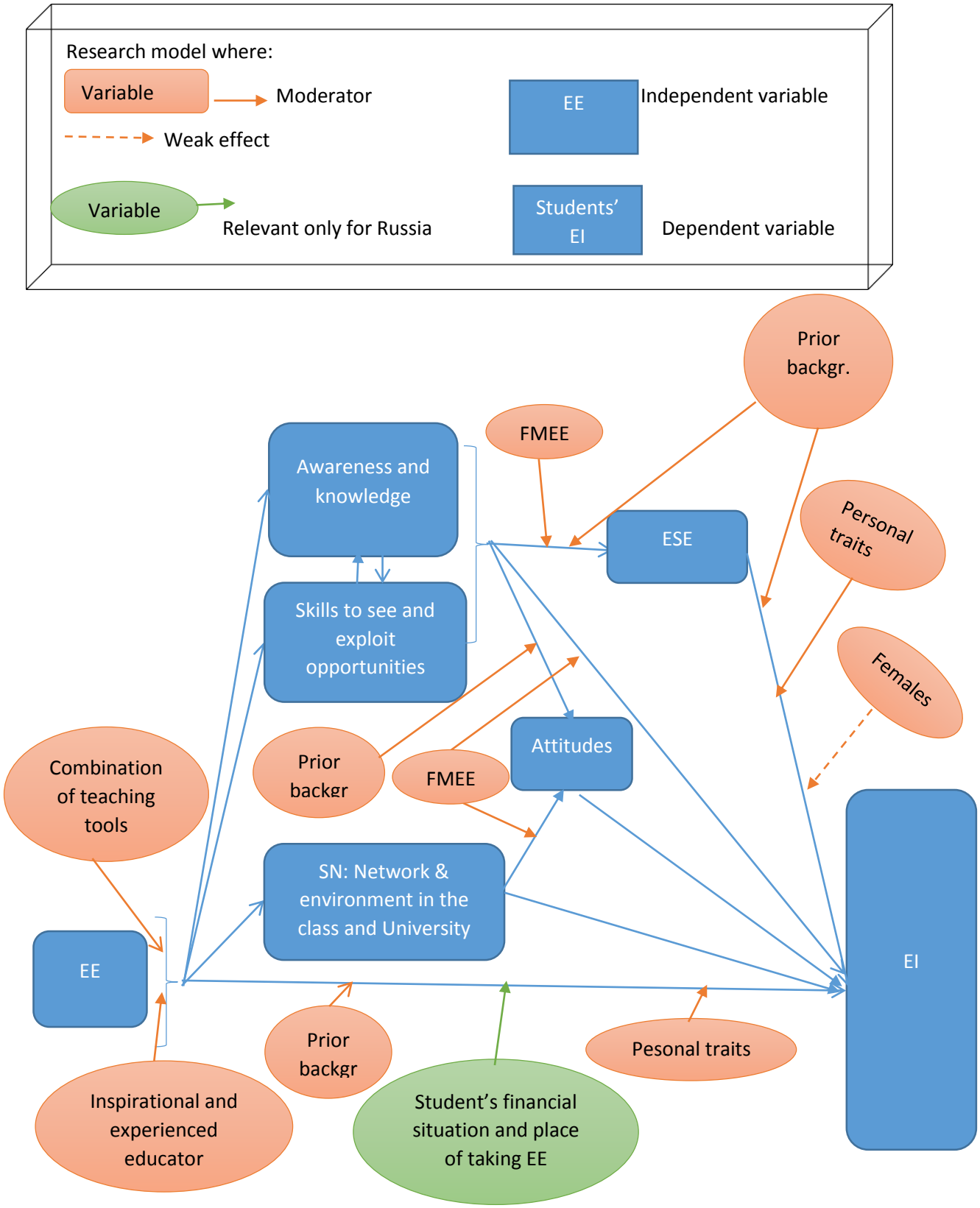

Figure 10 – Research model 2

5.9.4 Findings

			Warning: high possibility that these effects are results of respondents' subjectivity	
The most Frequent[1] Effects across cases	**Particular differences relevant only for Norwegian cases**	**Particular differences relevant only for Russian cases**	**Particular differences relevant only for female cases**	**Particular differences relevant only for male cases**
EE-EI is a complex relation				
EE has a direct positive effect on student's EI				
EE has a positive effect on student's EI mediated by skills and knowledge, SN, ESE and attitudes				
Active elements have a strong positive moderation effect on student' entrepreneurial skills and knowledge, which also moderates strongly their ESE and as a result moderates strongly their EI				
Active elements moderates positively students' attitudes through skills and knowledge, and SN				
The compulsory theoretical EE has a positive effect on students' entrepreneurial knowledge			The compulsory theoretical EE has a **strong** positive effect on students' entrepreneurial knowledge	The compulsory theoretical EE has a positive effect on students' entrepreneurial knowledge

[1] **The most frequent results are the results, which received confirmation of at least from the 3 of the 5 professors.**

The compulsory theoretical EE has no or very weak effect on students' skills			The compulsory theoretical EE has weak effect on students' skills	The compulsory theoretical EE has no effect on students' skills
The compulsory theoretical EE has a very weak moderation of students' attitudes, ESE and EI through its effect on knowledge	The compulsory theoretical EE has a **very weak** moderation of students' attitudes through its effect on knowledge	The compulsory theoretical EE has a **positive** moderation of students' attitudes through its effect on knowledge		
Inspirational teaching positively moderates students' skills and knowledge, and attitudes	Inspirational teaching positively moderates students' skills and knowledge	Inspirational teaching is a **strong** moderator of students' skills and knowledge		
Inspirational teaching is a strong moderator of EE effect on EI				
Inspirational teaching has very weak moderation effect on students' ESE (inconclusive result)				
Skills and knowledge has a strong direct positive effect on students' EI				
Skills and knowledge has a strong effect on students' EI mediated by ESE				
Skills and knowledge is a strong mediator of EE-EI relationship				
Skills and knowledge has a strong direct effect on students' ESE				

Skills and knowledge has a positive direct effect on students' entrepreneurial attitudes				
EE has a positive effect on students' ESE mediated by skills and knowledge and moderated by combined EE components				
ESE has a strong positive effect on students' EI				
ESE is a strong moderator of EE-EI relationship				
ESE has a positive effect on students' entrepreneurial attitudes				
EE has a positive moderation of females ESE			ESE has a positive effect on student's' desire to undertake EE	ESE limits people's desire to take EE
Gender has no effect on skills and knowledge				
Gender moderates EE effect on females' EI, through improvement of ESE			Gender factor has a **very weak** effect on EE-EI relations	Gender **moderates** EE effect on females' EI, through improvement of ESE
Gender moderates negatively females EI			Gender has **no or very weak** negative effect on females EI	Gender **moderates negatively** females EI
Gender moderates negatively females ESE through the social structure and expectations				

Gender moderates negatively females entrepreneurial attitudes			Gender **has no effect** on females entrepreneurial attitudes	Gender **moderates negatively** females entrepreneurial attitudes
EE has a positive effect on students' attitudes mediated by skills and knowledge, and SN				
Attitudes have a positive direct effect on students' EI				
Attitudes mediates EE effect on EI	Attitudes have **no effect** on students' ESE	Attitudes **has positive effect** on students' ESE		
Inconclusive results towards lack of attitudes effect on students' ESE				
FMEE positively moderates students' skills and knowledge				
FMEE positively moderates students' EI and EE effect on their EI through skills and knowledge effect on ESE, and skills and knowledge, and SN effect on attitudes			- FMEE could also have a negative effect on students' by pushing them to become EE; - The factor complicates educators' opportunity to moderate EE effects due to the factors outside the professors' control; - There are a requirement of positive experience and relationships within the families with FMEE in order to initiate its moderation power	

FMEE positively moderates ESE through skills and knowledge				
FMEE positively moderates attitudes through skills and knowledge, and SN				
Prior E moderates strongly students' ESE and EE effect on EI through skills and knowledge effects				
Prior E has a positive effect on students' skills and knowledge				
Prior E moderates students attitudes through skills and knowledge effect				
SN within the university and study-group have a positive mediation effect of EE effect on student' attitudes and EI				
Students' specialization, prior experience and background moderates EE effects on EI				
Students' personal traits moderates EE effects on EI				
Educators' entrepreneurial experience, ability to present relevant study material in motivational form moderates significantly EE effect on EI				

Table 15 Most common findings

5.10 Are there any cultural differences?

The Sub-chapter presents master's thesis contribution to the existent theory within the field by introducing a number of differences between the Norwegian and the Russian professors' perspectives on EE – EI relationships; and between the Research Model 1 (Figure 4), which was built based on the literature review findings presented in Chapter 2, and the Research Model 2 (Figure 10), which was constructed based on the master's thesis findings described in Chapters 4 and 5.

5.10.1 Russia versus Norway

Firstly, the cross-case analysis identifies differences between EE components moderation effects. Hence, the Russian professors consider that compulsory theoretical EE courses can positively influence students' attitudes through enhancing their knowledge, while the Norwegian professors have noticed only a weak effect.

Furthermore, the inspirational teaching component is expected to influence the Russian students stronger than the Norwegian students.

Not to be forgotten, as well, the study points out a difference between the Russian and Norwegian educators' perceptions about attitudes effect on students' ESE. While the Norwegian professors observe a slight effect, the Russian professors argue that EE is able to improve students' ESE due to the interest to the field and desire to realize an EB.

Respondent B: *"I noticed from my teaching experience, that all the students, who have positive attitude towards entrepreneurship, understand that entrepreneurship is a tool towards personal development, material/money source, freedom to form their day and plan, have higher EI than others."*

Respondent C: *"Yes, certainly, students will strive purposefully to get more skills and knowledge if they have positive attitudes. Undoubtedly, I also think that students' attitudes towards entrepreneurship have a direct effect on their ESE. If they have positive attitude, they will be more positive about their ESE and otherwise."*

Finally, despite the unanimous professors' consent of FMEE modeartion effect of EE influence on students' EI, the Russian professors added that the variable can retard the EE effect in case of negative family relationships or if a student is forced to take the course of studies.

Respondent C: *"…some of our students leave the school after some time, because their fathers make them to take this education: "You have to study here",- they say. Such students have to attend classes, but during the training they decide to quit school anyway. Therefore, parents' influence has its place and effect, but in reality, I think, sometimes, it could play a negative role."*

"I think it is a great life example. Many students say that their fathers have their own businesses. Thus, certainly, if there are good relationships in the family, the parents are the role models, thus, it has an inspirational effect on students."

Furthermore, an opportunity to experience the process and to get a job offer at his parent company may reduce students' own EI and desire to receive an EE.

Respondent B: *"Nowadays, we have many successful entrepreneurs and businessmen in Russia. They created their businesses from the start when they had almost nothing. However, some of them did not graduate from universities and did not study EE. However, they took part in the creation of cooperation after the famous historical events in 1988 and 1989. Therefore, I think that constant ability to observe how business is created and managed is more efficient than the study."*

All these differences are closely connected with the SN and attitudes. Consequently, we conclude that they could be caused by the culture and social norms within the countries. For example, it is common in Russia that students might prefer to over show their positive attitude to the field in order to improve relationships with professor to receive a better result at the exam; or that some students can be persuaded by their families to take the education and the career, which their siblings have chosen for them (based on the interview with the respondents B and C).

Additional variable

Student's financial situation and place of taking EE

Despite the fact that we decided to skip the extern factors such as financial situation of a student, labor market, financial and economic situation in the country from the analysis, the cross-case analysis identifies the relevance of the factor of student's financial situation and origin on EE effects in Russia.

However, firstly, we must explain the causes of the irrelevance of the external factors to the analysis. The main reason was the common disagreement of professors with the factors effect on EE-EI relationship. They explain the following:

- EE is unable to influence these factors in the short time period;

- The four of five respondents explained that EI and EB should be voluntarily; otherwise it leads to unsuccessful attempts and shifting from the entrepreneur to employee career as soon as the first opportunity comes along. Moreover, all respondents agree that students' received knowledge and skills, and enhanced personal traits variables make these extern factors insufficient. Thus, EE should teach students how to obtain essential resources and information.

Respondent A: *"No. People should start business because they want to, not because they have to… Entrepreneurs who are able to obtain resources have a lasting competitive advantage."*

Respondent B: *"The information about the shortage of opportunities in the labor market does not influence people's EI, because people do not feel it until they experience that shortage on themselves …As we say in Russia "A wish has 100 possibilities, while the reluctance has 100 reasons". When the person has high ESE, he doesn't try to find reasons not to do something; but he tries to find opportunities to convince himself, team, investors and others to participate in the project."*

Respondent C: *"There are such people, who are entrepreneurs by nature. They are ready to take a risk despite lack of financial resources… I have noticed no effect, because businesspersons are always engaged into finding different possibilities … I think that there is absolutely no such effect."*

Respondent D: *"Financial resources can be an important factor, but it goes together with knowledge. If you have knowledge of finding other ways of getting financial resources, then I think that kind of an outlay that."*

Nevertheless, we need to provide the response of the professor C, who explains that financial situation of a student is a rather important factor influencing students' EI in Moscow (the biggest city in Russia) due to the: different from Norway Russian students' support system; students' demand to survive and to pay the rent in Moscow. However, she notices that this factor is relevant only to the settlers from provinces, who decided to take EE in Moscow and have to work in order to survive: *"… We have got many students from the regions. However, it*

is not the common trend. We can explain this effect … These students need to find a job and have lower EI because they need money to pay a rent and to survive in Moscow."

5.10.2 Research model 1 versus research model 2

Respectively to the differences between the Research Model 1 (Figure 4), which was built based on the literature review findings presented in Chapter 2, and to the Research model 2 (Figure 10), which was built based on the master's thesis findings, the Table 16 Comparison of Research models 1 and 2 was filled in. The big X means that this variable misses from the model, while big V means the appearance of the variable in the model. Moreover, to help the reader to separate between the common relationships in the Research models, we colored it with the green color, while the red color highlights the differences between them. In addition, the yellow color emphasizes the findings relevant to only one country of the research.

More specifically, the study has found two additional mediators: Skills and knowledge, which were neglected by the literature review; and variety of moderators which manipulate EE effect on students' EI. All variables are discussed in more details in Chapter 6 Discussion.

Type of relationships between variables	Research model 1	Research model 2
EE has a direct effect on students' EI	V	V
EE has a direct effect on attitudes	V	X
EE has a direct effect on students ESE	V	X
EE has a direct effect on SN within study-group and university	X	V
Attitudes mediates EE effect on students' EI	V	V
ESE mediates EE effect on students' EI	V	V
ESE mediates skills and knowledge effect on students' EI	V	V
EE has a direct effect on skills and knowledge	V	V
Skills and Knowledge have direct effect on students' EI	X	V

Skills and knowledge have a direct effect on students' entrepreneurial attitudes	X	V
Skills and knowledge mediates EE effect on students' ESE	V	V
Students' after EE EI have a direct effect on their ESE	V	X
SN within study-group and university mediates EE effect on students' EI	X	V
SN within study-group and university mediates EE effect on students' entrepreneurial attitudes	X	V
FMEE moderates EE effect on students' attitudes	V	V
FMEE moderates EE effect on students' attitudes through moderation of skills and knowledge	X	V
FMEE moderates EE effect on students' EI	V	V
Gender moderates ESE effect on students' EI	V	V
Gender moderates after-EE effect on students' ESE	V	V
Gender negatively moderates females' ESE	X	V
Combined variable: Prior background moderation effect:	X	V
Background and Specialization moderates positively EE effect on students' EI	X	V
Background and Specialization moderates positively ESE's mediation effect of EE effect on students' EI	X	V
Background and Specialization moderates positively skills and knowledge mediation effect of ESE	X	V
Prior EI moderates negatively EE effect on EI	V	X
Prior EI moderates positively EE direct effect on students EI	X	V

Prior EI moderates positively ESE's mediation effect of EE effect on students' EI	X	V
Prior EI moderates positively skills and knowledge mediation effect of ESE	X	V
Prior EI, background and specialization moderates skills and knowledge effect on attitudes	X	V
Personal Traits (Creativity, risk tolerance, determination, ability to build relationships and motivate) moderates positively EE direct effect on students' EI	X	V
Personal Traits (Creativity, risk tolerance, determination, ability to build relationships and motivate) moderates positively ESE's mediation effect of EE effect on students' EI	X	V
Combined variable: Moderation effect of EE by combination of teaching tools:	X	V
Active elements moderates positively EE direct effect on EI	V	V
Active elements moderates positively all EE effects	X	V
Compulsory elements moderates negatively EE direct effect on EI	V	V
Compulsory elements moderates negatively all EE effects	X	V
Inspirational and experienced educator moderates positively EE direct effect on EI	V	V
Inspirational and experienced educator moderates positively all EE effects	X	V
Additional:		
Small size of a group moderates positively EE	X	V
Relevance of EE cogent to the region's context	X	V
Balanced volume and length of EE moderates positively EE	X	V

Financial situation of a student negatively moderates EE effect on students EI (Russia)	X	V(Russia, urban towns only)
Non-resident condition of a students in the town they receive EE moderates negatively EE effect on students' EI (Russia)	X	V(Russia, urban towns only)

Table 16 Comparison of Research models 1 and 2

Chapter 6 Discussion

The chapter presents an interpretation of the major research findings, the research contribution to the existent theory and directions for future research.

In Chapter 6 we explain how the results of the cross-case analysis and the literature review resolve theoretical inconsistencies presented in Chapters 1, 2 and 5.10. New research questions are raised from the outcomes of the discussion section (Cooper, 1998).

The cross-case analysis in Chapter 5 has been structured accordingly the interview guide sections. Moreover, the cross-case analysis has shown that many of the findings were related and could be divided into categories. Hence, we have re-structured Chapter 6 according to the categories, which present variables in the Research Model 2. In addition, the Sub-chapter 6.1 Preventing factors and EE objectives are included to present the whole picture of EE needs.

6.1 Preventing factors and EE objectives

Throughout the literature, all researchers explain that entrepreneurship is an engine for value creation and for economic development through the process of transformation of an idea to a successful enterprise (Aasland et al., 13.09.2011; BiliĆ, Prka, & VidoviĆ, 2011b; Farashah, 2013; Gustavsen, 2013 ; Kuratko, 2005; Spilling, 2008; Valland & Fanghol, 2013).

However, the GEM Reports Russia (2013) and Norway (2013) have identified dramatically low EI due to the lack of information and ESE among the population.

Similarly, the cross-case analysis highlights the two main factors, which prevent social positive EI and the ability to identify opportunities. These factors are the traditional system of thinking and the lack of information moderated by a number of myths about entrepreneurship activity.

The historical and GEM Reports (2014, 2013, 2013) data suggests that, considering the rather late development of entrepreneurship in Norway and, especially, in Russia, the improvement of populations' EB requires to shift populations' system of thinking from the traditional towards the proactive problem-solving.

According to the respondent A: "*The main challenge … is to figure out how to encourage people to start businesses and become self-employed despite the fact that they actually prefer employment.*"

Katz (2003), Klandt (2004), Davidson and Honning (2003), Piperopoulos (2012), Rasmussen and Sørheim (2006) explain that, in order to spread the information and to nurture the next generation of entrepreneurs, universities around the world implement "the third task", which aims to increase students' entrepreneurial knowledge and competence for opportunities recognition and exploration in order to improve their EI and EB.

However, a general long-term education prevents students' EI both in Norway and Russia, according to the results of GEM Reports (Alsos et al., 07. 2014; Hostanger et al., 1998; Verhovskaya et al., 2014). The researches explain that regular education aims to prepare students according to the demands of the labor market, which requires employees with a stable behavior. Hence, the stable behavior reduces people's entrepreneurial personal traits such as risk taking, creativity and entrepreneurial attitudes.

It confirms the essentiality of EE. Similarly, all professors, who were interviewed during the study, emphasize that the main goal of EE is to improve students' entrepreneurship awareness and their abilities to find and to analyze relevant information.

Respectively, the professor C: "*EE's main objectives are to teach students how to search and to apply the required information; and to present success stories and entrepreneurial tools."*

The professor A agrees: *"The main objective is to teach students about entrepreneurship as a field of research and a field of science… I define entrepreneurship as a science of opportunities; and defining an opportunity, finding an opportunity and exploiting that opportunity are things this field is concerned with."*

This EE goal matches the "know-what" EE levels - and the supply-theory EE model descriptions, which were presented in Chapter 2. These EE types represent the theoretical approach combined with active elements, which aims to transfer entrepreneurial knowledge to students in order to develop their awareness about entrepreneurship (BiliĆ et al., 2011b; A. Fayolle & Gailly, 2014; A. Fayolle et al., 2006; Mayer, Kortmann, Wenzler, Wetters, & Spaans, 2014a; Sanchez, 2011).

Nevertheless, the literature review emphasizes according to Bilic (2011), Fayolle et al. (2006) and Fayolle et al. (2014) that the majority of EE focuses on the "know-what" dimension, while the real challenge lies in the entrepreneurship as a matter of culture and as a tool for skills and abilities development, which could be realized through the "know-how" dimension.

Consequently, we suppose that the dissonance between the EE objectives and the real social demand is one of the main factors preventing EE effects on students' EI.

Furthermore, the literature review has shown inconsistent findings about EE effects, which were emphasized by the professor E: *"… there is a lack of selective well-controlled studies on EI. I did the literature review some years ago, and found three or four, five studies, which were (quasi) experimental … It was not much."*

This chapter is trying to find a solution against future research inconsistencies by discovering new variables influencing EE effects, where EE is a variable aiming to capture EE program specifics and to influence students' entrepreneurship awareness, EI and competences.

6.2 EE effects

6.2.1 EE direct effect on students' EI

The literature review highlights the fact that EI are the best antecedent of planned EB, which is rare and hard to observe, and involve unpredictable time lags (I. Ajzen, 1991; Bagozzi et al., 1989; Bird, 1988; Alain Fayolle & Gailly, 2008; A. Fayolle et al., 2006; Hindle & Cutting, 2002; Krueger Jr & Brazeal, 1994). Moreover, EI could be influenced by exogenous factors such as EE (Bandura, 1986; Tokila & Tervo, 2011). Similarly, the literature review, GEM Global Report and governments in Norway and Russia highlight the importance of EE in order to improve populations' EB and the quality of start-ups (Alsos et al., 07. 2014; Verhovskaya et al., 2014).

The cross-case analysis supports the **Proposition 1a:** Entrepreneurship education has a positive direct effect on EI.

Moreover, the result matches the research findings about EE as one of the effective exogenous factors influencing students' EI (A. Fayolle et al., 2006; Alain Fayolle, B. Gailly, & Narjisse Lassas-Clerc, 2006; Garalis & Strazdienė, 2007; S. M. Lee et al., 2005; Peterman & Kennedy, 2003).

Not to be forgotten, as well, the cross-case analysis emphasizes that the EE direct effects vary strongly under the influence of intern and extern moderators. Similarly, the GEM Norway Report (2013) shows that only 8% of EE programs increase students' EI, while 5% of them decrease EI. Furthermore, the results obtained in the literature review were also inconclusive.

More specifically, the three articles present insignificant effect (A. Fayolle & Gailly, 2014; Mayer et al., 2014b; Shinnar et al., 2014), while one article emphasizes a negative effect on EI (von Graevenitz et al., 2010). However, the majority of articles (27) have found positive EE effect on students' EI, whereas three of them even confirm that this effect is direct (Hostanger et al., 1998; Shane, 2004; Zilz et al., 2004).

On the whole, the entrepreneurial theory explains that the controversial findings about the EE direct effect on students' EI and lack of robust researches are caused by the nature of entrepreneurship and EI, and variety of EE components. It supports our assumption that the literature inconsistence within the field has been caused by the moderation variables and poor separation of the EE components during the research. Hence, future studies have to provide more credible aliment of EE courses within the research, including the EE components and objectives, and moderators influencing its results.

The discussion has led us to the proposition that EE in general, excluding moderation effects of other variables, has positive effect on students' EI. Hence, we support the confirmation of the **Proposition 1:** Entrepreneurship education has a positive effect on EI, by the cross-case analysis.

At the same time, the field requires further detailed quantitative research within the topic.

6.2.2 Mediators of EE effect on students' EI

Not to be forgotten, as well, the EE – EI is a complex system of relationships, which includes variety of mediators and moderators, which could be influenced by intern and extern factors, some of which cannot be controlled by educators.

6.2.2.1 EE effect on students' awareness, skills and knowledge

The cross-case analysis emphasizes the differences between the Research model 1 and the Research model 2. The model, built on the findings of the literature review, lacks the skills and knowledge mediation effect on students' EI, which were emphasized by all professors during this study.

Hence, a new **Proposition 3e:** The extent to which relevant skills and knowledge are acquired in the EE mediates EE effect on students' EI, was formulated.

Moreover, the EE impact on students' entrepreneurial skills and knowledge matches the EE objective towards the improvement of their entrepreneurship awareness. However, only two papers in the literature review study EE effect on students' skills and knowledge. Lee et al (2005) carried out the quantitative comparison study of the EE effects on students, who took and did not take EE in the US and South Korea. The study has shown the significant positive EE effect on students' EI in both countries. The same effect was found by Petridou and Sarri (2011), who analyzed 904 students with business and scientific-technological background at the Aristotle University and at the Technological and Educational Institute of Thessaloniki in Northern Greece.

It should be noted that the majority of the research papers base their framework on the Ajzen's Theory of Planned Behavior (TPB) and Shapero's Model of the Entrepreneurial Event (SEE), which propose EI antecedences and do not discuss skills and knowledge as the separate antecedent of EI. Consequently, the researchers within the field have overlooked EE effects on skills and knowledge and their effect on students' EI.

We consider the necessity of the future research within the topic. The cross-case analysis emphasizes that different EE components influence students' entrepreneurial skills and knowledge differently. Moreover, there are a number of moderators, which are able to improve or to prevent variable's effect on students' EI. These EE components and moderators are discussed further.

The point is that the future research within the topic, searching for the effects of different variables on skills and knowledge and their mediation effect of EE, would allow improving EE influence on students' EI.

6.2.2.2 Skills and knowledge effect on ESE

The cross-case analysis supports the propositions:

Proposition 3a: The extent to which relevant skills and knowledge are acquired in EE mediates the effect of EE on ESE.

Proposition 3b: The extents, to which relevant skills and knowledge are acquired in EE, positively influence ESE; due to the fact that all interviewed professors agree about the strong effect of the variable on students' belief that they are able to perform EB.

The literature review in Chapter 2 was not aimed to define effects between the mediators of EE influence on students' EI. However, some articles within the topic of this research confirm that EE improves students' ESE through the development of their entrepreneurial skills and knowledge (Shinnar et al., 2014; Zhao et al., 2005).

Moreover, the researchers, who study EE effects, and GEM Reports Norway (2013) and Russia (2013) emphasize that the development of students' skills and knowledge is the main foundation towards the improvement of their ESE. Hence, GEM Reports (2014, 2013, and 2013) confirm the significant impact of skills and knowledge variable on individual's ESE and EI. The GEM Russia (2013) and Norway (2013) show that population in the both countries describe themselves as lacking entrepreneurial skills and knowledge. It explains their low ESE (around 30%) and their desire to receive more experience in order to realize EB (Alsos et al., 07. 2014; Singer et al., 2015; Verhovskaya et al., 2014).

According to the cross-case analysis, the influence of entrepreneurial skills and knowledge, which students receive during EE, on their ESE depends on EE components, which moderates its effects. We discuss it further under the Sub-chapter 6.3.

6.2.2.3 ESE mediation effect of EE influence on students' EI

The cross-case analysis emphasizes that due to the strong positive direct effect of person's ESE on his or her EI, the variable substantially mediates EE effect on students' EI. Moreover, the summary from the latest Sub-chapter, which states that skills and knowledge is the strongest mediator of EE effect on students' ESE and EI, makes ESE one of the key mediators in the EE-EI relationship. Consequently, the **Proposition 3c:** ESE mediates the effect of EE on EI, and the **Proposition 3d:** ESE positively influences EI, were confirmed.

In order to either support or to reject this conclusion, the literature review results could be discussed. The research literature states that eight out of ten research papers, which measure ESE effect on EI, indicate positive effect of the variable (Farashah, 2013; Laviolette et al., 2012; Mayer et al., 2014a; Sanchez, 2011; von Graevenitz et al., 2010; Zainuddin & Rejab, 2010; Zhao et al., 2005). Thus, for example, von Graevenitz et al (2010) have implemented quantitative longitudinal analysis of the compulsory EE courses on students' ESE, and have found significant positive direct effect. Furthermore, Farashah (2013), and Laviolette et al (2012) have stated positive effect of students' ESE on their EI. They also emphasized that this

effect depends on the extent of active elements and inspirational teaching such as guest-lecturers entrepreneurs within EEP.

ESE's positive effect on students' EI could be explained by the TPB and Shaperos' Model of the Entrepreneurial Event, which claim that individuals' perception about his or her ability to execute a target behavior is the antecedent of the behavioral intention (I. Ajzen, 1991; I. Ajzen & Fishbein, 1975; Icek Ajzen & Madden, 1986; Shapero & Sokol, 1982).

The GEM Reports data supports the cross-case analysis and the literature findings. It shows the significant mediation effect of ESE on EE - EI relationship. Hence, the ESE of the Norwegian respondents is 30.5%, while the ESE of the Russian respondents is 28.5%. It is rather interesting, considering that EI in Norway are 5%, while EI in Russia are 1.5% lower, which corresponds to 3.5% (Alsos et al., 07. 2014; Singer et al., 2015; Verhovskaya et al., 2014). The EI difference matches the ESE difference with the accuracy ± 0.5%. It illustrates the significant direct effect of ESE on population's EI.

On the other hand, Byabashaija et al (2011) and Noel (2001) implemented the research of EE effect on undergraduate students in Uganda and the US, respectively. Both authors argue that there have not been found any mediation effect of students' ESE on their EI. However, the nature of the researches differs a lot. Hence, Noel (2001) implemented quantitative ex-post analysis of undergraduate students in the US, who had enrolled into EEP and had a background within entrepreneurship and management. He found that students with majors in entrepreneurship had stronger EI. Considering the lack of facts about students' pre-EE ESE, the components of the EEP and quantitative analysis of the background variable effects, we can neither explain nor support their finding.

Contrary to Noel (2001), Barashaija et al (2011) executed the quantitative longitudinal quasi-experiment in Uganda, where he studied undergraduate students, who had enrolled into business courses at three Universities. However, the study lacks control group, admits high possibility for biased results due to the problems of extern validity and also lacks the description of EE components.

Therefore, based on the weaknesses of the discussed research papers and prepotency of research papers, which found positive mediation effect of the ESE variable, we consider the propositions 3c and 3d supported. Nevertheless, we would like to emphasize the importance of the future

research within the topic with the focus on the effects of different components and moderators of EE effects on students' ESE and its mediation effect on their EI.

6.2.2.4 EE effect on students' SN

Chapter 5 indicates the lack of SN mediation variable in the Research model 1. However, the cross-case analysis emphasizes that EE provides an access to the motivated class-mates, experienced entrepreneurial guest-lectures and network. These new entrepreneurial networks engage students into the learning process and entrepreneurial activities through the opportunity to share and to relate to coevals' experiences, ideas and thoughts. Consequently, SN within the university and the study group improves students' attitudes and mediates EE effect on students' EI.

As a result, the cross-case analysis offers propositions for the future research:

Proposition 8a: SN within the university and study group mediates EE effect on students' EI

Proposition 8b: SN within the university and study group mediates EE effect on students' attitudes.

The cross-case analysis conclusion about EE effect on students' SN and SN mediation of EE effects is complementary to the Bandura's Social Cognitive Theory. Bandura (1986) explains that people learn and maintain behavioral intentions by observing others (Bandura, 1977, 1986). That is why SN within the study group, feedback from participants and communication with the professor enhances their attitudes and leads to the improved EI. The same effect is confirmed by the Ajzen's TPB, where SN represents social (people, who are important to a student) desirability of the behavior, and is one of the three antecedence improving individuals' behavioral intentions (I. Ajzen, 1991; I. Ajzen & Fishbein, 1975; Harris & Gibson, 2008; Shapero & Sokol, 1982).

The literature review also supports our conclusions about SN effects. Thus, Souitaris et al (2007) studied 250 students from the two major universities in London, the UK, and in Grenoble, France. They found out that inspirational teaching has the most positive moderation of EE effect on students' SN. Furthermore, Farashah (2013) evaluated the data reported from the GEM Report Iran of 601 respondents and found out SN's partial mediation of EE effect on students' EI. These findings are similar to the findings of Byabashaija et al (2011), who found positive influence of SN on students' EI in Uganda.

Despite the fact that the literature review lacks research papers within Russian context, it presents the research within Norwegian context. Thus, Shneor and Jenssen (2014) have analyzed 1972 students at the University of Agder in Norway and found mediation effect of the variable on students' EI, which supports the findings of this master thesis.

The cross-case analysis states that SN within the University and the study group has the strongest effect on the variables mediation power of EE effect on students' attitudes and EI. Similarly, the Piperopoulos (2012) found that lack of entrepreneurship culture in the two public HEIs in Northern Greece led to a significant negative moderation of students' EI.

Not to be forgotten, as well, there is one article in the literature review, which indicates no mediation effect of the SN. Thus, Zainuddin et al (2010) implemented the quantitative ex-post survey of the final and penultimate year entrepreneurship students from four major universities in Malaysia, and found no effect of professors' SN on students' EI. However, he explained that the professors had lacked the experience within entrepreneurship and the universities had a weak entrepreneurial culture. Therefore, we support the formulated **Proposition 2p:** The extent to which the EEP includes practical experienced educator positively moderates the effect of EE on students' EI, for the future research. Furthermore, we consider the findings of Zainuddin et al (2010) biased by the weak universities culture and lack of professors' experience, and would like to propose to test the **Proposition 2r:** The SN mediation effect of EE influence on students' EI depends on the university's SN and the support of entrepreneurship. Likewise, Wang and Verzat (2011) state that the clear perceptions of university's culture on entrepreneurship have significant moderation of EE effect on EI.

Consequently, it is necessary to clarify that SN effect might be moderated by other variables such as university's culture. Moreover, based on the assumption that the GEM Reports index of the attractiveness of the entrepreneurship career, which indicates society's views on the entrepreneurship career choice, represents SN; we noticed a rather interesting phenomenon. SN in Norway (58.2%) is lower than SN in Russia (67.1%) (Alsos et al., 07. 2014; Singer et al., 2015; Verhovskaya et al., 2014). That is rather interesting, considering that EI in Russia is lower. However, not to be forgotten, GEM Reports survey trends and populations, in contrast from our study that focuses primarily on EE's students. In addition, as it is discussed in the Sub-chapter 6.4, the financial situation of people is worse in Russia, and it might significantly reduce their EI and mediation effects of other variables (Verhovskaya et al., 2014).

Not to be forgotten, the cross-case analysis states not only the mediation power of SN for EE effect on students' attitude and EI, but considers SN effect on females' ESE. We neglected this finding in the Cross-case analysis because it was mentioned only by the Norwegian professor E. However, the research of the Norwegian professors Shneor and Jenssen (2014) has also found direct positive effect of SN on females' ESE. Therefore, we would like to formulate the **Proposition 8c:** SN within the university and study group mediates EE effect on females' ESE.

6.2.2.5 EE effect on students' attitudes

Attitudes are the variable that measures personal attraction towards entrepreneurship (I. Ajzen, 1991; Kolvereid, 1996). The conclusion obtained in the cross-case analysis indicates that attitudes are a complex variable, which is difficult to observe and to manage, especially within the short-time EE courses. However, during the cross-case analysis the **Proposition 5:** Entrepreneurial attitudes mediate the effect of EE on EI, was confirmed; and the **Proposition 5b:** The extent to which relevant entrepreneurial skills and knowledge are acquired in EEP mediates the effect of EE on students' entrepreneurial attitudes, was formulated.

Moreover, contrary to the Research Model 1, the cross-case analysis does not support the direct effect of EE on students' attitudes. The lack of the SN mediation variable between EE and students' attitudes can be explained by Ajzen's TPB (1991).

The TPB state that an attitude towards behavior is one of three antecedences of intentions, which effect both intentions and each other. As it was mentioned earlier, SN and PBC are the two other antecedences (I. Ajzen, 1991; Krueger Jr & Brazeal, 1994; Shapero & Sokol, 1982). Therefore, based on the assumption in Chapter 2 about the common sense of the PF, PBC and ESE, we consider the observation of the professor A, that EE is able to improve students' entrepreneurial attitudes through ESE and SN, confirmed.

On the other hand, contrary to the theory, the findings of the cross-case analysis argue that only two of five professors state that ESE improves students' attitudes. The fact that the literature review articles assessed students through the survey tools; and the fact (that we confirmed under the Sub-chapter 6.3.2.1) that skills and knowledge are significant mediator of students' ESE, could complicate students' and educators' opportunities and abilities to separate ESE from skills and knowledge effects on their attitudes.

All professors in the cross-case analysis agree that EE influences on the students' entrepreneurial attitudes through skills and knowledge, and SN variables. Skills and knowledge, which students receive during EE courses, significantly increase their awareness of the hard work that entrepreneurs do in order to achieve results. It improves students' perception of entrepreneurship from the «easy-money» career path towards the respectful one.

In addition, EE courses create an entreprneurial environment where students meet successful entreprneurs, motivated and experienced class-mates, who are the drivers of students' SN and motivation, due to the social behavioral factor. As a result, it might moderate their SN towards entreprneurship and mediate EE effect on their attitudes.

Excluding the time factor, all professors agree that EE has a positive effect on students' entrepreneurial attitudes mediated by skills and knowledge, and SN within the university and the study group. In order to enhance this effect, educator should provide information about both entrepreneurship as a process and its meaning for economic and social development of the region and the country, which is supported by the research literature (Garud & Giuliani, 2013; Rasmussen & Sørheim, 2006).

Four of five articles, presented in the literature review, confirm the mediation power of the attitudes on EE effect on students' EI (Davidsson & Honig, 2003; Liñán, 2008; Tkachev & Kolvereid, 1999). Not to be forgotten, as well, the remaining paper argues that students' entreprneurial attitudes can negatively mediate their EI. However, the resercher explains that this effect was caused by increased students' awareness of amount of risks within entreprneurship process. Respectively, the cross-case anlysis mentions that one of the professors from Norway (the professor E) notes that EE might reduce students' attitudes and EI due to the EE focus on entreprneurship requirements and risks. The inhibition of entreprneurship in Russia in the begginning of the twenties century is the great example of the negative moderation effect of the knowledge of risks on populations' attitudes and EI.

According to the discussion during this Sub-chapter, we have proved that the attitudes mediation influence on EE effects. Consequently, we support the **Proposition 5:** Entrepreneurial attitudes mediate the effect of EE on EI.

Finally, we would like to present the cultural differences, which were found during the cross-case analyses. Thus, Russian educators suppose that attitudes of the students are able to moderate their ESE. This master thesis attempts to explain it via the Russian historical

background, where entrepreneurship was forbidden and was equated to the risky life choice (Asaul et al., 2008). The fear has reduced peoples' entrepreneurial attitudes, which decreased their self-confidence in their ability to realize the EB. It is discussed in more detail in the Sub-chapter 6.4.

Summary

The results obtained in this Sub-chapter explain that EE improves students' EI. More specifically:

- EE has a direct positive effect on students EI;
- EE positive effect on students' EI is mediated by skills and knowledge; ESE, which is affected by skills and knowledge mediation effect of EE; SN; attitudes, which is mediated by EE effect on SN.

6.3 Moderators

The previous Sub-chapters 6.1 and 6.2 have discussed the main EE effects on students' EI. This Sub-chapter intends to explain the role of moderators in the EE-EI relationship.

6.3.1Combination of EE tools

The cross-case analysis concludes that the combination of EE tools is the strong moderator of all EE effects. Moreover, it might be one of the main causes of the inconsistent results in the literature review.

6.3.1.1 Active versus theoretical elements

The main purpose of EE is to improve students' skills and knowledge about entrepreneurship, which could be achieved by including the combination of the variety of theoretical and active elements within EEP.

The cross-case analysis points out that the theoretical elements have a positive effect on students' knowledge. Moreover, the theoretical knowledge is the essential element of EE in order to build a foundation for students' entrepreneurial awareness and interest.

On the other hand, the cross-case analysis highlights the weak effect of theoretical elements on students' entrepreneurial skills, while two of five professors warn that the theoretical elements

might even reduce students' ESE and EI due to the increase of the students' awareness about amounts of risks and challenges within the entrepreneurship process.

Therefore, we suppose that the total weak effect of the moderator could be explained through the extrusion of improved knowledge effect by the negative effects on students' ESE and skills.

Contrary to the theoretical elements, active elements within EE have a strong impact on EE influence on students' EI. It provides to students an opportunity to confirm and to test knowledge, which they receive during EE. Therefore, the cross-case analysis confirms the **Proposition 2a:** The extent, to which EEP includes active elements, positively moderates the effect of EE on EI.

Furthermore, all professors insist on the essence of the combination of the theoretical and active elements within EEP due to their complementarities. Therefore, the new propositions were formulated:

Proposition 2d for the future research: The extent, to which EEP includes a combination of active and theoretical elements, positively moderates the effect of EE on EI.

Proposition 2v: The extent, to which the EEP includes active elements, which aim to confirm theoretical study material received during the EEP, positively moderates EE effect on students' EI.

In order to explain our findings, we are looking for the support in the research theory within the field. However, the literature review does not contain the detailed descriptions of the courses analyzed during the research. It significantly complicates the opportunities for identifying the theoretical support.

Nevertheless, we identified two particular articles providing information on the separate effects of the theory- and active-based EE. Hence, Wang and Verzat (2011) explained that systematic development of active pedagogies would significantly moderate EE effect on students' EI. Similarly, Walter and Dohse (2012) compared the effects of the active business simulation EE versus reflective-theory lectures in 30 German Universities. They found out that passive theory EE programs did not affect students' EI, ESE, SN or attitudes, while the active-based modules, which included business plans, seminars, business simulation and field work, significantly moderated EE effect on students' EI and attitudes. Surprisingly, the research did not identify any effect on students' ESE and SN. We lack information about courses description, which

makes it hard to explain the lack of the effect. However, we would like to notice that Walter and Dohse (2012) implemented ex-post analysis, which complicated the opportunity to separate between pre-EE and after-EE results.

Contrary to these findings, Mayer and Kortman (2014) analyzed the effect of active EE situational gaming on students in Netherlands. The results indicated direct positive effect on students' ESE and insignificant effect on their EI. However, the insignificance of the effect could be explained by the gaming nature of the course, which bonded gaming and entrepreneurial SE of students. Moreover, students had to pass the selection process in order to attend the EEP, which confirms their high EI. Due to the nature of the research, which was during and ex-post EE, it complicated the opportunity for researches to separate the real effect on students' after- EE EI.

Due to the inconsistence of the literature review results, we would try to explain the effects through the practical indexes of the GEM Reports in Russia and Norway. GEM Reports conclude that low EI among Russian (3.5%) and Norwegian (5%) populations might be caused by the populations' high fear of failure and high demands for entrepreneurship experience in order to adapt entrepreneurial confidence, skills and knowledge and ESE (Alsos et al., 07. 2014; Verhovskaya et al., 2014). Moreover, according to the GEM Russia (2013), ESE among entrepreneurs and non-entrepreneurs differ. There are 82.6% self-confident in their ability to realize entrepreneurship activities entrepreneurs, while there are only 20.5% non-entrepreneurs with high index for ESE. Not to be forgotten, as well, only 28.5% of the respondents consider that they possess enough skills. Based on these results, we conclude that both entrepreneurship awareness and practical exercise is required in order to improve population's ESE.

As we noticed from the literature review of the research of Walter and Dohse (2012), and Mayer and Kortman (2014), the theoretical and active EE elements are unable to improve students' ESE separately. Hamidi et al. (2008) provides the research on this topic and explains that the application of the theoretical-elements-only within EE creates the "one-size-fit-all" type of programs, which reduces students' motivation and EI. This finding is confirmed by other researches, who argue that including training and learning-by-doing elements should improve EE effects towards increase of students' ESE and skills (Brown et al., 1989; Minniti & Bygrave, 2001). The same requirement is emphasized by Bandura (1986), Kolb (1976), and Walter and Dohse (2012).

Among the active elements, the professors name all EE forms defined by Mayet et al. (2014), which are case studies, incubators, simulator games, coaching programs and projects. These components allow students to gain practical experience and ESE through the development of various entrepreneurial projects and tasks, cooperation with role models, elements of real life problem-solving tasks within the low risk environment of their universities. They significantly moderate EE effect on students' EI (Béchard & Grégoire, 2005; Chang & Rieple, 2013; A. Fayolle et al., 2006; Walter & Dohse, 2012; Wang & Verzat, 2011)

To summarize the above points, we need to explain that the combination of the "taught" theoretical components with the active elements: "business-planning", an "interaction with practice" and "university support"; includes each of the four necessary components allowing to construct an efficient EE program, which is able to increase students' EI (Gartner & Vesper, 1994; Souitaris et al., 2007). Respectively, the theoretical elements within EE are mainly based on old theories, while the active elements are based on current information. The combination of elements allows to develop both the foundation for students' understanding of entrepreneurship process and to adjust EE to the modern demands and trends in order to improve students' skills (Bandura, 1986; Garud & Giuliani, 2013; Rasmussen & Sørheim, 2006).

Hence, we can conclude that combination of the EE elements allows educators to shift from the "know-what" to "know-how" and from the supply to the demand-competence models of EE pedagogy, which have been proved to be the most effective towards EI formation (Walter & Dohse, 2012; Wang & Verzat, 2011).

Not to be forgotten, the availability of active elements is possible only through the "university support", which requires its resources, space, technology and even funding. The research literature highlights two articles, which include the university culture and support effects on students' EI. Both papers confirm positive moderation effect of the factor of EE influence on students' EI.

6.3.1.2 Compulsory vs. voluntarily EE

Furthermore, the study found out that despite the positive effect of both theoretical and active elements within EEP, the type of EE moderates its effects on students.

All professors explain that compulsory EE courses involve much bigger groups of students; some of them are not very much interested in entrepreneurship. It negatively influences the study group's ESE and SN and, as a result, students' EI. Earlier discussion has explained that both ESE and SN within the group are the important mediators of EE effect on students' EI. The cross-case analysis confirms the **Proposition 2b:** The extent, to which students' participation in EEP is compulsory, negatively moderates the effect of EE on EI.

The literature review points four studies, which report the negative or insignificant EE effect on students' EI. These four papers studied the effect of compulsory theoretical EEP (A. Fayolle & Gailly, 2014; Mayer et al., 2014a; Shinnar et al., 2014; von Graevenitz et al., 2010). For example, von Graevenitz et al (2010) analyzed responses from 357 students taking the compulsory EE course at the Munich School of Management at Ludwig-Maximilians University in Germany, and found out the direct negative effect of EE on students' EI. Not to be forgotten, as well, the researchers focus only on one university and these findings cannot be generalized. However, Fayolle and Gailly (2015), Shinnar, Hsu and Powell (2014) and Mayer and Kortman (2014) have also found out insignificant but positive effect of the compulsory EE on students' EI.

Contrary to the findings, Bilic et al (2011) implemented the survey of 253 students at Faculty of Economics at the University of Split in Croatia. They found positive moderation effect of the compulsory type of EEP on students' EI. However, these findings cannot be generalized. Moreover, the researchers admit the high possibility of extern factors intervention and moderation of the results.

Therefore, based on the fact that all the articles presented in the literature review, which conducted negative or insignificant effect on students' EI, were studying compulsory EE programs, and there is predominance of the articles reporting insignificant effect on the compulsory EEP on students' EI, we support the **Proposition 2b:** The extent, to which students' participation in EEP is compulsory, negatively moderates the effect of EE on EI.

A further point is that the cross-case analysis explain that, contrary to the compulsory EE, the voluntarily EE courses have a function of *"a filtering mechanism"* that *"filters up students"* who are "*already having natural interest in it. People that already have … personality traits … or they had already thought about the EE before" (Respondent D).* Moreover, this type of EE courses is more likely to improve students' EI.

Therefore, we offer the **Proposition 2e** for the future research: The extent, to which students' participation in EEP is voluntarily, positively moderates the effect of EE on EI, for further research within the field.

The literature review indicates six articles focusing on effects of the elective EE courses on students' EI. All articles unanimously conclude that voluntarily EE courses have a positive effect on students (Bilic et al., 2011; Hamidi et al., 2008; Linan et al., 2011; Petridou, E. & Sarri, K., 2011; Sanchez, 2011; Souitaris et al., 2007).

It is important to notice here, that other variables might moderate the effects of EEP types. Thus, Petridou and Sarri (2011) report that, despite the positive result of the elective EE courses on students' decisions to start their own businesses, student's specialization and prior EI increases students' expectations, which impact on the EE influence power on other variables. Similarly, the professor E warned us during the interview that he noticed that despite the positive effect of the voluntarily EE courses, they make it hard to observe the direct EE effect on students' EI due to the fact that most students are biased by the variety of factors influenced their pre-EE EI. The moderation effect of the prior EI is discussed further in the Sub-chapter 6.3.4.1.

6.3.1.3 Volume and length of EE

The cross-case analysis emphasized that heavy theoretical loading of EE courses, which is not confirmed by and relevant to practical experience, might bore and de-motivate students. Therefore, it is essential to find a proper balance among all EE components. The cross-case analysis warns that the extent of theoretical components increases accordingly the length of the course. Therefore, as a result, we formulated two propositions, that we would like to check during the next research.

Proposition 2t: The extent to which the EEP includes heavy theoretical study material negatively moderates EE effect on students' EI.

Proposition 2u: The length of the EEP increases the theoretical volume of the study material within the EE course.

The literature review contains two articles analyzing moderation effects of the length of EEP, which provide the opposite to the cross-case analysis results. Thus, Bae et al. (2014) implemented meta-analysis of 73 studies and have found insignificance of the duration of EE on students' EI. On the other hand, Bilic et al. (2011) analyzed 253 students at the Faculty of

Economics at the University of Split in Croatia, and discovered that the duration of EE influenced students' EI positively. Both researchers lack credibility due to the lack of studies about EE duration effects on students' EI for the first research paper and lack of generalizability for the second. Moreover, taking into consideration the research paper of Shinnar, Hsu and Powell (2014), who found insignificant general effect of two-semester long compulsory introductory EE on students' EI, which varied for male and female students; we suppose that the effects of length and volume moderators depend on other EE components.

6.3.1.4 Size of the groups

Due to the mediation effects of SN and attitudes on EE relationships with students' EI, the size of the groups moderates EE effects. Size of the groups is a variable that defines the spread of the EE and its moderators' power on students. The right size of study-groups enables the professor to manipulate EE component towards achieving preferable outcomes. Hence, smaller study groups make EE more concentrated and available for every participant. It improves the information flow from the professor to students and backwards. In contrast, the bigger groups might disperse EE effects and de-motivate students. Accordingly, the three propositions were formulated.

Proposition 2w: The extent, to which the EEP includes small number of students, positively moderates EE effect on students' EI.

Proposition 2x: The extent, to which the EEP divides students into small groups, positively moderates EE effect on students' ESE.

Proposition 2y: The extent, to which the EEP includes de-motivated and undisciplined students, negatively moderates EE effect on students' EI.

We identified only two articles, which explored the study-group atmosphere on EE effects. Hence, Bilic et al. (2011) found insignificant effect of the business of the EEP on its' influence on students' EI. Contrary, Fayolle et al. (2006) implemented quantitative longitudinal experiment with 275 French students, who were working in groups of 4-5 persons and interacted with professors and entrepreneurs. They indicated significant positive effect of EE audience on students' attitudes towards their PBC and insignificant effect on attitudes towards SN. Despite the fact that this research paper supports our proposition, we would like to notice

that the "audience" factor was analyzed in the combination with other EE components, which could affect the results. Therefore, this part of the study requires further exploration.

6.3.2 Teaching

6.3.2.1 Inspirational teaching

An educator is a knowledge provider. His or her ability to communicate with students, to present study material and to engage them defines EE effects. Moreover, positive relationships between educator and students might moderate students' ESE through inspirational feedback. A positive feedback enhances students' desire to receive and to test entrepreneurial skills and knowledge. Respectfully to the cross-case analyses, we confirmed the **Proposition 2c:** The extent, to which participation in the EEP includes inspirational elements, positively moderates the effect of EE on EI.

Moreover, the study showed that the variable moderates all EE effects. We would like to test these findings during the future research. Thus, the following propositions were formulated:

Proposition 2f: The extent, to which participation in the EEP includes inspirational elements, positively moderates the effect of EE on mediation effect of skills and knowledge on students' ESE.

Proposition 2g: The extent to which participation in the EEP includes inspirational elements positively moderates the effect of EE on mediation effect of students' ESE on their EI.

Proposition 2h: The extent, to which participation in the EEP includes inspirational elements, positively moderates the effect of EE on mediation effect of SN within the study group on students' attitudes.

Proposition 2i: The extent, to which participation in the EEP includes inspirational elements, positively moderates the effect of EE on mediation effect of students' attitudes on their EI.

The theory of the triadic reciprocal causation states that feedback from others and mentoring could significantly moderate EE effects, especially on individuals' ESE (Bandura, 1986; Shinnar et al., 2014; Zhao et al., 2005). In accordance with the psychological theory, the literature review presents some articles, which discuss this moderator. All these articles confirm the positive moderation power of the variable.

More specifically, we have already presented the findings of Fayolle et al. (2006), who indicated significant positive effect of EE components on students' attitudes towards their PBC. Among the EE components, the authors highlighted pedagogical approach influence. Despite the fact that this research paper supports our arguments, we would like to notice again that the paper presents the common result of the combination of EE components' effects.

Nevertheless, Laviolette et al. (2012), Azim & Akbar (2010), and Wang and Verzat (2011) indicated medium positive effect of the educators' effort on students' EI, while Petridou and Sarri (2011) emphasized students' dissatisfaction with computer-assisted instruction studies and their gratification with communication with instructors during the EEP. In addition, Petridou and Sarri (2011), Sanchez (2011) and Soouitaris et al. (2007) did not primarily analyze the inspirational teaching component, but concluded that inspiration and mentoring are strong moderators of EE effects on students' EI.

On the other hand, Zainuddin and Rejab (2010) explain that educator's SN has no effect on students' EI. However, we would like to notice that SN indicator differs from inspirational teaching. Moreover, the authors admitted low entrepreneurship culture within university and lack of practical experience among educators, which strongly decreases professors' opportunity to influence students.

6.3.2.2 Educators practical experience and ability to present the study material

According to the previous Sub-chapter and the results of the cross-case analysis, professor's ability to present study material relevant to the region context in a way that engages students and enhances their interest, is essential. Moreover, three of five professors insist on the necessity of the entrepreneurship practical experienced educators, which could be substituted by guest-lectures as entrepreneurs' role models. Consequently, three propositions were formulated:

Proposition 2p: The extent, to which the EEP includes practical experienced educator, positively moderates the effect of EE on students' EI.

Proposition 2q: The extent, to which the EEP includes to regional context study matherial and theoretically strong motivating educator, positively moderates the effect of EE on students' EI.

Proposition 2s: The extent, to which the EEP includes inspirational guest-lectures experienced successful entrepreneurs, positively moderates the effect of EE on students' EI.

There is a lack of research within the topic of the importance of educators' entrepreneurship and/or business work experience. However, we identified the research paper that indicated the lack of the educators' experience moderated negatively EE effect on students' EI. Respectively, the study of Zainuddin and Rejab (2010), who didn't find any effect of professors' SN on students, possibly, due to the lack of the educators' experience.

Respectively, there is a lack of research within the topic of the necessity of the relevance of EE to regional and industrial contexts. However, Petridou and Sarri (2011) emphasize that moderation of EE effect on students' EI requires more "real" and applied EE content relevant to the working environment. Similarly, Walter and Dohse (2012) explain that EEP design should vary according to regional circumstances because the EE curriculum has a direct positive effect on students' EI.

Luckily, there are some papers studying role models' effect on students. Thus, Baybashaija and Katno (2011), Lavolette et al. (2012), Shneor and Jenssen (2014), and Walter and Dohse (2012) identify the general positive moderation effect of role models into EE effects on students and attitudes. However, both papers of Lavolette et al. (2012), and Shneor and Jenssen (2014) discuss the differences of the moderation effect influenced by the gender of students. Thus, Lavolette et al. (2012) explain that the same gender role model has the strongest effect on female students. Shneor and Jenssen (2014) argue that role models have direct effect only on male students' EI and positive moderation for females. Gender differences are discussed further in the Sub-chapter 6.3.3.

It is important to notice here, that despite the moderation effects of other variables, the invitation of role models, which are successful entrepreneur gust-lecturers, should moderate EE effect on students' EI.

6.3.2.3 Successful and unsuccessful stories

Due to the supported proposition that inspirational teaching affects EE influence on students' EI, the content of the EEP might moderate its effect. The cross-case analysis indicates that examples of both successful and unsuccessful cases should be included into EE. However, while successful stories increase students' knowledge and EI; unsuccessful stories lack the moderation effect on students' EI and might even decrease them (according to professors A and E).

Nevertheless, the effect of the stories depends on educators' ability to present the learning outcomes from the cases while focusing on opportunities that might enhance students' awareness and ESE. This assumption is supported by the Lavolette et al. (2012), who found out that examples of unsuccessful role models positively mediate ESE effect on students' EI, while EE effect on students' EI is better moderated by stories than by role models.

There is a lack of studies focusing on the difference between the effects of successful and unsuccessful stories which should be explored in the future. We offer some propositions:

Proposition 2l: The extent, to which the EEP includes successful stories elements, positively moderates the effect of EE on EI**.**

Proposition 2m: The extent, to which the EEP includes successful stories elements, positively moderates the effect of EE on students' knowledge.

Proposition 2n: The extent, to which participation in the EEP includes unsuccessful stories elements, positively moderates the effect of EE on students' knowledge.

Proposition 2o: The extent, to which participation in the EEP includes inspirational teaching elements, positively moderates the effect of unsuccessful stories elements on EE influence on students' ESE.

Summary

The master thesis indicates that the Combination of EE tools and the Qualified Inspirational Educator variables are important moderators because they define the nature of EE courses and affect the research results. In fact, we suppose that these moderators were the main factors creating the difference in the research findings within the field of EE-EI relationships.

6.3.3 Gender

The cross-case analysis points out that four of five interviewed professors agree that female students in their countries have lower ESE and EI. They state that due to the male nature of entrepreneurship, lack of female role models and high probability of risk during the process, females are less interested in self-employment. At the same time, all the professors argue that EE should improve females' ESE through the SN, skills and knowledge mediators. The professors explain that EE is a great tool towards enhancing females' ESE and EI through the

inspirational teaching, the mixed-sex team-work during the practice, and the combination of different mediators and moderators.

The professor, who rejects low ESE among females, is experienced in women entrepreneurship. She considers that females' low ESE depends on the culture and social structure. According to her observations of Norwegian students, she explains that they strive towards equality.

Nevertheless, two male professors have noticed lower female ESE, which made us accept the propositions. Agreement of the majority of professors with the moderation effect of gender variable, made us confirm the following propositions:

Proposition 4a: Sex of participant will moderate the effect of ESE on EI;

Proposition 4b: Sex of participant will moderate the effect of EE on ESE.

In addition, we formulated one more proposition, which is interesting to check during the next research:

Proposition 8c: SN within the university and study group mediates EE effect on females' ESE.

Eagly (1987) explains that gender-based expectations lead people to act according to gender stereotypes. It enhances barriers against the EE programs effects on students. It is especially relevant to the EEP, which are based on the man narrowed theories and aim to increase both male and female EI (Tae Jun Bae et al., 2014; Williams & Subich, 2006).

For example, Bilic et al. (2011, and Petridou and Sarri (2011) state that gender positively moderated EE influence on males' EI. In addition, Petridou and Sarri (2011) emphasize the essence to encourage more females into EE. It leads us to the assumption that the lack of the EEP effect on female students is caused by the research within the male-based general EEP. Moreover, the EEP, they analyzed, was partially based on mentoring, while the other half was based on the computer-assisted instructions, which might decrease an effect on females.

The importance of female students' interaction with mentors and role models is also supported by Laviolette et al. (2012), Shneor and Jenssen (2014), who discovered, that introduction of the role models within EE, improved EE effect on females' EI. Laviolette et al. (2012) highlight that the introduction of the same-gender role models has a stronger effect on female students.

Furthermore, the other articles show that females' pre-EE ESE negatively moderates EE effect

on women's EI and could be positively moderated by EE, especially through the contact with female entrepreneurial role models and practical experience in the risk-free environment within the study-group (Jones et al., 2008; Laviolette et al., 2012; Paco et al., 2015). Consequently, five of seven articles have reported positive general moderation effect of gender on EE influence on EI (Tae Jun Bae et al., 2014; Bilić et al., 2011a; Jones et al., 2008; Nabi et al., 2010; Petridou & Sarri, 2011). Thus, Shneor and Jenssen (2014), Petridou and Sarri (2011), and Raposo et al (2013) state that while males possess more significant EI; EE has the direct influence only on women.

To support the arguments and trying to solve the problem of the professors' gender perspectives, we decided to look at the practical results from the GEM Reports Norway (2013) and Russia (2013).

Since 2008 the goal for the Norwegian Government action plan for Entrepreneurship had been to gain an increase in female entrepreneurship activity to 40% until 2013. However, the proportion of females, who are involved in early entrepreneurship activity, increased only to 29% by 2013. Moreover, GEM Norway (2013) indicates that females' skills to notice entrepreneurial opportunities are much lower, than males' skills. Thus, 70% of men saw positive opportunities for entrepreneurship, while only 50% women agreed with them. As a result of low ESE and skills, women scored lower than men in EI, early staged entrepreneurship and entrepreneurship activity. However, it is interesting to notice, that females' entrepreneurship activity is more stable than males' (Alsos et al., 07. 2014). Similarly, GEM Russia (2013) presents the controversial results. Men have always been more active, than women in Russia. However, the difference between EI of early staged entrepreneurs reduces in 2013. Moreover, the amount of early staged entrepreneurs-women grew more than the amount of men in 2013.

Hence, the GEM results show that females have lower ESE both in Norway and Russia. However, practical experience and improvement of their ESE leads to more stable performance. These findings support the differences between the professors' answers. Thus, male professors consider that people with high ESE would not be interested in EE in order to save the time on the "learning-by-doing", while female professors suppose that high ESE leads to the desire to take EE in order to enhance chances for success. In addition, it supports the ideas of the professor B, who explains that he has noticed an interest towards EE among experienced in entrepreneurship females.

Not to be forgotten as well, we consider that other moderators might manipulate the gender variable moderation effect. Thus, Shinnar, Hsu and Powel (2011) analyze the effect of the 12 section of the two semester-long introductory mandatory courses, and found out negative moderation effect of males' EI and positive moderation of females' ESE effect on EI.

Consequently, the number of differences between female and male professors' perspectives made us questioning the objectivity of their views on the gender moderator. Therefore, we consider that the gender moderation effects should be studied only through the experimental or observation longitudinal research methods. For example, Farashah (2013) had used empirical data form GEM report from 601 individuals from Iran, while analyzing the effect of the seven levels EE. We suppose that his results about the insignificance of the gender moderator might be influenced by the lack of analyses of extern factors and the lack of generalizability.

6.3.4 Prior background

Based on the cross-case analysis and Bandura's triadic reciprocal causation (1986), the two variables were combined into the Prior background variable due to their common effects on the same factors in the Research Model 2.

6.3.4.1 Prior EI

The prior-EI is the identification of students' entrepreneurship interest, intentions, knowledge and experience before the EE course. The cross-case analysis indicates that the prior EI variable strongly moderates EE effect on students' EI. More concrete, the variable forms students' abilities to understand the learning material due to the already established interest, knowledge and/or experience within the field. Hence, the prior EI moderates ESE and attitudes mediation of EE effects on students' EI.

Based on the discussion, we declined the proposition 7 in the Russian and Norwegian context.

Proposition 7: EE effect on EI is negatively moderated by prior EI.

Furthermore, we formulated the following propositions:

Proposition 7a: EE effect on EI is positively moderated by prior EI.

Proposition 7b: EE effect on students' entrepreneurial skills and knowledge mediation effect on students' ESE are positively moderated by their prior EI.

Proposition 7c: EE effect on students' entrepreneurial skills and knowledge mediation effect on students' attitudes are positively moderated by their prior EI.

Contrary to the cross-case analysis conclusion, the majority of the articles, which study the prior EI variable, conduct significant negative moderation of EE effect on students' EI (Tae Jun Bae et al., 2014; A. Fayolle & Gailly, 2014; A. Fayolle et al., 2006; von Graevenitz et al., 2010). For example, Von Graevenitz et al (2010) and Bae et al. (2014) indicate the strong negative influence of ex-ante EI on EE effect on EI during the education and ex-post EI (Tae Jun Bae et al., 2014; von Graevenitz et al., 2010).

On the other hand, Hamidi et al. (2008), and Shneor and Jenssen (2014) found out direct positive effect of students' entrepreneurial experience on their EI (Shneor & Jenssen, 2014; Yar Hamidi et al., 2008). In addition, Shneor and Jenssen (2014) discovered students' entrepreneurial experience mediation effect of the EE influence on their EI (Shneor & Jenssen, 2014). This finding is especially relevant, due to the same context of research with this master thesis, which is Norway.

Based on the fact that researches, who primarily focus on pre-EE EI effect on students' EI, state the positive direct effect of the variable, we expect that the inconsistence of the literature review findings and the cross-cases results about the moderator is caused by the type of the research. Thus, the majority of the papers presented in Chapter 2, assessed students using survey tools. These tools might complicate both educators' and students' ability to separate EE effects on students' pre-EI from EE effect on their after-EE EI.

Moreover, we assume that EE cannot affect students' prior EI due to the fact that prior EI had been established in the past. Therefore, the future research should separate between prior EI moderation effect and EE effect on students' during and after- EE EI.

We want to draw your attention to the fact, that the cross-case analysis expects that students with high prior-EI have higher expectations to EE courses. Thus, their EI could be reduced during the theoretical or/and compulsory introductory EE. Similarly, Petridou and Sarri (2011) support those students' expectations moderate negatively EE effect on entrepreneurial knowledge, skills and attitudes.

Consequently, the higher students' EI are, the more active elements should be included in the EE course. It should be further explored in the future research:

Proposition 7d: The extent to which students' possess prior EI moderates their expectations towards EEP.

Proposition 7e: The extent, to which the EEP includes variability of active elements, positively moderates EE effect on students' EI for students with high prior EI.

6.3.4.2 Background and specialization

The cross-case analysis considers that, on a par with prior EI, students' background and specialization moderate EE effect on students' EI through the pre-EE course skills and knowledge, which form a foundation for students' ability to maintain new study material and ESE, to see and to exploit opportunities faster. In addition, the moderator improves students' personal traits through the entrepreneurial skills and knowledge received within former education and experience.

Respectfully to the common effects of the variable with the prior EI, we would like to formulate the following propositions for the future research:

Proposition 10a: The extent, to which students' background and specialization are relevant to EEP, moderates EE effect on EI.

Proposition 10b: Students' background and specialization, which are relevant to EEP, have the common moderation effects with the prior EI variable.

The literature review contains three papers, which unanimously report positive moderation effect of students' background and specialization on EE effects. More specifically, Mohamed et al. (2012) analyze 410 local students at higher institutions in Peninsular Malaysia, and point out the significant moderation of the EE on students with the background in engineering and agriculture, as compared to the students with social science students. Similarly, Nabi et al (2010) confirm the bigger moderation effect of EEP among business, engineering and technology students compared to the weak effect on science and social science students.

It also confirms the opinion of the professor E, who supposes that EE has a strong effect on students with engineering specialization due to their abilities to produce the product, which open entrepreneurial opportunities for them.

The researchers within the Norwegian context, Shneor and Jenssen (2014), supported the previous researches' arguments on positive moderation power of students' background in the economics majors, which moderated EE effect on male students' EI and had strong effect on EEP for females.

Furthermore, the importance of the background and specialization can be supported by the findings of Wu and Wu (2008), which discover the negative effect of the level of the general education on students' EI, and confirm that diversity of students' educational backgrounds and academic majors affects students' EI through the knowledge and attitudes. Hence, the moderator is also the explanation of the different EI.

Based on the common agreement among the researchers, we consider the relevance of our new propositions to the next research confirmed due to the moderation power of the variable.

6.3.5 Personal traits

Among the most important personal traits, the cross-case analysis defines: analytical skills, motivational skills, and creativity, responsibility, self-confidence, and risk tolerance, abilities to work in the group and to build relationships. All the respondents agree that the variable moderates the mediation effect of ESE on students' EI. Hence, students with the listed above personal traits are expected to be more active during EE. However, the presence of the personal traits should not be a requirement to students, esspesialy because EE provides an opportunity for students to adapt and to improve the required personal traits. As a result, two propositions were formulated:

Proposition 9a: The extent, to which a student possesses such personal traits as creativity, ability to build trustworthy relationships, take decisions and organize, and his risk tolerance, moderates EE effect on student's EI;

Proposition 9b: The extent, to which a student possesses such personal traits as creativity, ability to build trustworthy relationships, take decisions and organize, and his risk tolerance, moderates the mediation effect of ESE on student's EI.

Similarly, the literature review indicates creativity, risk taking, need for achievement and independency as the personal traits mostly tested during the research. Moreover, the literature review presents five articles, which unanimously confirm positive effect of these students'

qualities on EI and EE effect on students' EI (Hamidi et al., 2008; Mayer & Kortmann, 2014; Sanchez, 2011; Walter & Dohse, 2012; Wang & Verzat, 2011).

Furthermore, Sanchez (2011) indicates the positive direct effect of students' personal traits and ESE on EI.

The next point is that the cross-case analysis emphasized that students' personal traits might enhance the moderation effect of the inspirational teaching on their EI. However, there is no research devoted to the topic. We formulated the proposition that might be tested during the next research in order to conduct to the field.

Proposition 2k: The extent, to which a student possesses such personal traits as creativity, risk tolerance, ability to build trustworthy relationships, take decisions and organize, moderates inspirational elements' effect on EE influence on student's EI.

6.3.6 FMEE

The FMEE represents the availability of the entrepreneurial members within students' families.

The cross-case analysis indicates that the variable moderate mediator's effects through the skills and knowledge received before EE, which enhance students' abilities to access new skills and knowledge during and after the EE.

FMEE moderates students' entrepreneurial attitudes through skills, knowledge, motivation and ability to maintain a better understanding of the processes within the family business. Furthermore, motivated students with FMEE might engage class-mates into EE and increase their EI by sharing their motivation, ideas and engagement. As a result, students with FMEE moderate their own and their class-mates' entrepreneurial attitudes.

We'd like to notice, that the professors indicate that FMEE could also moderate students' ESE. Thus, entrepreneurial siblings' experience allows a student to relate to the study material, while family financial and network support, and the student's ability to receive practical work within his family organization improves his ESE before, during and after EI.

Based on these positive effects of FMEE, the propositions 6a and 6b are confirmed:

Proposition 6a: FMEE positively moderates the effect of EE on students' entrepreneurial attitudes;

Proposition 6b: FMEE moderates the effect of EE on EI.

Moreover, we formulated one more proposition:

Proposition 6c: FMEE moderates the effect of EE on students' ESE.

The literature review conducts controversial results about the FMEE factor. Thus, Fayolle et al. (2006), Hamidi et al. (008), and Wang and Vezat (2011) indicate no effect of the family's background variable on students' EI.

Contrary, Fayolle and Gailly (2014) state that students' previous entrepreneurial experience within the family has a significant negative moderation of EE effect on EI and its antecedence.

In opposition, Mohamed et al. (2012) stated the significant positive effect of FMEE on EE effect on students' EI, due to their abilities to identify opportunities.

We consider that the cause of the inconsistent literature findings might lie in the different EE components. Thus, Fayolle and Gailly (2014) analyzed the effect of the short compulsory homogeneous EEP in France, while Mohamed et al. (2012)'s focus was aimed towards the evaluation of the Basic Student Entrepreneurial Program in Malaysia.

The further point is that the cross-case analysis points out that students' experience within FMEE and relationships within the family might influence FMEE moderation power on EE outcomes. Therefore, we consider that future research should be more detail about the description of students' previous experience and FMEE components in order to track the rigorous effects.

We'd like to mention, it would be interesting to evaluate the effect of male and female FMEE on students to compare FMEE variable with the role model variable. Hence, Laviolete et al (2012), and Shapero and Sokol (1982) explain that FMEE has a similar effect with role models. Self-employed family members could improve students' motivation, engagement and entrepreneurial understanding. Hence, the researchers expect that the factor would improve individuals' attitudes. The main point is that both literature review and the cross-case analysis agree that this variable moderates mediators of EE effects on students' EI improving EE effect on students' EI (Alain Fayolle, B. Gailly, et al., 2006; Mohamed et al., 2012).

Finally, we need to notice, the professor E supposes that FMEE factor moderates prior background moderator. Similarly, Fayolle et al. (2006) confirmed that family background had a positive effect on students' initial EI. There are no other articles searching for the effect of the moderator on prior EI moderation effect of EE influence on students' EI. We consider it interesting and formulate a new proposition:

Proposition 6d: FMEE moderates the effect of prior EI moderation effect of EE on students' EI.

Note:

It is important to highlight here that gender, FMEE, prior background and personal traits moderators could not be recognized as required variables due to their heterogeneity for every participant within the course and their limited predictive capacity (I. Ajzen, 1991; Gartner, 1985; Reynolds, 1997). Moreover, the literature review and the cross-case analysis explain that students are able to adapt entrepreneurial skills and personal traits during EE, while EE can not affect the other moderators (except the personal traits).

6.4 Nature of the differences between Norway and Russia

6.4.1 What is about the differences?

The cross-case analysis emphasizes a number of differences between the Norwegian and Russian professors' perspective on the EE-EI relationship. The professor D also highlights that the culture and social structure within the country affects EE-EI relationships.

The literature review does not present any studies comparing EE effect between Norway and Russia. However, Bae et al. (2014), and Walter and Dohse (2012) identify that students' EI, SN, entrepreneurial attitudes, and EE effects on them vary from the regional and cultural contexts. Therefore, we would like to discuss the historical background and present indicators of the GEM Reports Russia (2013) and Norway (2013) in order to explain the found differences.

Entrepreneurship development in Norway has started in the eighteenth century after the country's release from Denmark. During the eighteenth and half of the nineteenth century, the leader of the constitutional assembly Hans Nilsen Hauge was motivating population to improve their EB in order to contribute to the country's development. As a result, entrepreneurship has the historical association with encouragement and opportunity towards finding opportunities

for life quality improvement in Norway (Dalgaard & Supphellen, 2011). Therefore, it is not surprising that GEM Global Report (2014) and GEM Norway (2013) indicate positive social attitudes towards entrepreneurship and entrepreneurs' status (Alsos et al., 07. 2014; Singer et al., 2015).

In contrast, the development of entrepreneurship in Russia started very early in the ninth century. It was caused by Russia's advantageous geopolitical position and was supported by the government (Burov, 2013). However, entrepreneurship was forbidden in the beginning of the twentieth century due to the nationalization politics of the Russian government. It became allowed again only in 1921, while, at the same time, the government imposed an extra tax on entrepreneurship activities. Asaul et al. (2008) explain that these contrasting events made entrepreneurship become the unprofitable and dangerous life choice (Asaul et al., 2008). Finally, entrepreneurship was approved legally at the end of the eighties, while it was still associated with a risky career choice. During the last twenty years of the twenty first century, the government has been focusing on the improvement of Russian social entrepreneurial attitudes and EI. It has positively influenced social entrepreneurial attitudes and entrepreneurs' status. (69.5%) (Singer et al., 2015; Verhovskaya et al., 2014).

Consequently, both Norwegian and Russian EB were motivated by governments' support and encouragement. However, entrepreneurship was forbidden and equalized to a risky life choice in Russia until the middle of the 20th. Geert Hofstede identifies Russia as a country with a high power distance and uncertainty avoidance (Hofstede, 2015). Moreover, the majority of educational modules at the universities are compulsory. Therefore, it is not surprising that Russian professors identified positive moderation of students' EI by the compulsory theoretical EE and a strong moderation effect of the inspirational teaching. In addition, we would like to point out that the fact of high power distance in the Russian culture explains the warning of the Russian professors that FMEE moderators might have both positive and negative effects on EE outcomes, where the negative effects might be caused by forcing children towards EE or working for family business.

On the contrary, Norway, according to Geert Hofstede, has a low power distance and middle uncertainty avoidance characteristics of the social structures (Hofstede, 2015). Moreover, Norwegian EB has been inspired from the 18th century as a chance to improve the quality of life in the country and due to the low power distance the government had never forced people

towards anything. As a result, the cross-case analysis indicated that the Norwegian professors suppose that compulsory theoretical EE have only weak positive effect on students.

The further point of the study is the cross-case analysis which highlights two main preventing factors against social positive entrepreneurial attitudes and EI. These factors are the traditional system of thinking and the lack of information moderated by a number of myths about entrepreneurship activity. As we can see, both GEM reports from Norway (2013) and Russia (2013) explain that the fear of failure and the lack of information are the main factors preventing both entrepreneurship development and populations' EI within both countries (Alsos et al., 07. 2014; Burov, 2013; Singer et al., 2015; Verhovskaya et al., 2014). Nevertheless, the cross-case analysis identified the differences between Russian and Norwegian professors' perceptions on attitudes effects on students' ESE

There seemed to be the lack of attitudes effect on students' ESE in Norway. Similarly, GEM Norway (2013) has found out that, despite the high levels of identified opportunities, favorable conditions for entrepreneurship and high social attitudes towards entrepreneurship, the participants of the survey demonstrated dramatically low EI due to the lack of entrepreneurial skills, required experience and capabilities. Moreover, despite the secure supporting system in Norway, almost 38% of the respondents showed the fear of failure (Alsos et al., 07. 2014). Similarly to the cross-case analysis, there seems to be no connection between high attitudes and low ESE in Norway.

On the contrary, GEM Global Report (2014) and GEM Russia (2013) explain that attitudes of the Russian respondents about entrepreneurship as a preferable career choice are higher, than in Norway (Singer et al., 2015; Verhovskaya et al., 2014). However, the status of entrepreneurs and perceived opportunities are much lower. Based on the Russian history of forbidden entrepreneurship and results of GEM Russia (2013), we consider that unfavorable conditions for entrepreneurship and historically based traditional thinking have cased population's low ability to find entrepreneurship opportunities. In addition, a number of negative myths about entrepreneurship and the lack of information have leveled out ESE and knowledge among non-entrepreneurs in Russia. Hence, the fear of failure among the Russian population is higher than among Norwegians (38% to 40%). Therefore, we consider the finding about attitudes effect on students' ESE confirmed.

6.4.2 The extra moderator for Russian context

Based on the results of the cross-case analysis, we decided not to include the moderator of students' financial position into the common Research model variables, because four of five professors insist that entrepreneurship should be a voluntarily career choice (Krueger Jr et al., 2000; Verhovskaya et al., 2014). Otherwise, it leads to unsuccessful start-ups and shifting towards employment opportunities as soon as they arise. The same requirement is presented by the GEM Global Report (2014) in order to create successful enterprises and economic development of the countries (Singer et al., 2015).

On the other hand, we would like to propose to the future researchers to consider this factor within the EE in the Russian context.

More specifically, the professor C explains that financial situation of a student is a rather important factor influencing students' EI in Moscow (the biggest city in Russia) due to: the different, than in Norway, students' support system, essentiality to survive and to pay the rent in Moscow. However, she notices that this factor is only relevant to the settlers from the suburbs, which are taking EE in Moscow and have to work in order to procure.

Besides, the GEM Russia (2013) states that entrepreneurship opportunities depend on the infrastructure and the density of population. The study found out quite low level of EB among population in the countryside, whereas they have demonstrated the highest EI. The highest amount of new staged entrepreneurs was found in the cities of a million people.

Based on the fact that two papers from the literature review, Mohamed et al. (2012), and Walter and Dohse (2012), report the moderation effect of the regional context on EE-EI relationship; we decided to hold the findings and to suggest further research for the analysis of the regional context effects on EE influence on students' EI both in Norway and Russia.

6.5 Summary

Chapter 6 provides an evidence of the usefulness of the education perspective on the EE-EI relationship.

More specifically, it allowed us to recognize mediators and moderators, which strongly manipulate EE effects. Moreover, the lack of these variables within the past research papers helped us to explain the inconsistence within the findings presented in the literature review.

Hence, we found out the necessity to include skills and knowledge, and SN in the model in order to provide the improved picture of the nature of EE effects on other mediators and EI. We'd like to notice, that the professors warn that only SN within the university and study group has strong mediation effect on EE influence on students' EI.

The other important contribution of the research from the educators' perspective is that every EE effect depends on EE components and tools. Hence, more detailed description of the EE programs would allow the grouping of the similar EEP, which might increase the credibility of the future research results.

Finally, the perspective of the educators from both Russia and Norway allowed us to identify cultural difference influencing EE effects on students' EI. One of the most surprising variables we found was the strong influence of the historical and socio-economic realities on people's EI and EB. Hence, due to the poor financial support system for students in Russia, the financial situation of a student coming to Moscow from the regions decreases EE effect on his or her EI.

Chapter 7 Conclusion

In this Chapter, a brief summary of the purpose of this master thesis is presented, it is followed by a summary of the most relevant findings, the answer to the research question and the contribution to the field.

7.1 The purpose of the study

The overall topic of this research was the EE influence on students' EI. The aim of the research was to find out whether EE influence EI; the research is based on the multiple case analyses. The question presented in Chapter 1 was recapitulated in the research:

> ***Does entrepreneurship education influence students' entrepreneurial intentions? And How?***

In order to answer the research question and to design the credible research framework, 31 research articles, related to the field of study, were reviewed.

In the literature review it was discovered that there are inconsistent results about EE influence on students' EI, and there is a lack of the research within the field in Russia. Moreover, we identified the gap of the research in the educators' perspective on the EE – EI relationship. Since the educators stand at the interaction between instructors, partners and participants, we decided to examine the educators' perspective on the relations between EE and EI, based on their work and experience, in order to identify elements, which were not recognized in student-focused studies and might be critical for understanding the effect of EE on EI.

In addition, we decided to study both the Norwegian and Russian educators' perspectives on the topic in order to conduct the cross-cultural research of literature and to find out EE effects, which are moderated by the cultural factors from the educators' perspective.

7.2 General findings

Respectively to the purpose of this study to conduct to existent knowledge about EE and EI relationship, to expand these knowledge with qualitative study and to underline the educators' perspectives on entrepreneurship education effect on students' entrepreneurial intentions; and due to the time limitation, we have chosen the depth interview with a general interview guide

approach. We interviewed five professors, where three professors were from Norway, and two professors were from Russia.

According to the findings from the cross-case analysis, which were confirmed by Chapter 6 Discussion, the master thesis concludes that the general purpose of EE is to enhance students' awareness about entrepreneurship; this conclusion led to the establishment of "know-what" EEP. However, the practical results within the literature review and GEM reports highlighted that the population in both Norway and Russia requires more applied nature of education, which could be provided through the "know-how" and demand-based EEP.

On the whole, educators in Russia and Norway expect the positive direct effect of EE on students' EI. Moreover, it also has a positive effect mediated by skills and knowledge, ESE, SN and attitudes; where skills and knowledge variable is the strongest mediator of EE effects on students' ESE, attitudes and EI.

Furthermore, the research presents a number of moderators, which explain the inconsistence within the findings presented in the literature review. We consider that the biggest problem of the previous research was the lack of attention to the EE components and attempts to evaluate EE influence on students' previous EI, which by their nature relate to the past and cannot be influenced by the EE in the present time. However, they might moderate EE effects. The inspirational teaching elements discussed in the Sub-chapter 6.3.2 would help to enhance this effect.

In addition, the master thesis provides the comparison of the Russian and Norwegian educators' perspectives of EE-EI relationship. It visualizes the effects of the historical and social factors on the populations' EI and effects of the EE.

7.3 Contribution and future research

The master thesis contributes to the field by evaluating EE-EI relationship from the educators' perspectives, which allowed us to provide additional and re-evaluated existent factors that influence EE effect on students' EI and cause inconsistence in research literature.

As a result, this study provides the evidence that the main explanation for the discrepancy according EE effects on students' EI lies in the variables moderating EE effects. Serious attention should be paid to the EE components as the main tool towards designing EE and providing EE effects.

Moreover, the master thesis emphasizes the differences between female and male educators' perspectives on EE effects, which bring us to the conclusion that interviewees' answers about gender variable are highly subjective. Consequently, we suggest to pay extra attention to this factor in further research.

Furthermore, this master thesis is a qualitative research including the cross-cultural analysis of the EE-EI relations. It allowed us to present the historical and cultural effects of the EE influence on students' EI.

Finally, the research presents a number of propositions, which should be re-evaluated and used as a framework for the future quantitative studies, with the purpose to measure the power of discovered factors on EE outcomes. In addition, the further quantitative research within the topic is required to make sure that the results can be representative for the whole population in Norway and Russia.

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Appendix 1 The interview guide

1. Self-presentation, presentation of the purpose of the study and the interview procedures.
2. Could you tell me about yourself, your background?
3. What type of EE course have you been teaching? How long? What kind of students have you been teaching? What is the purpose of your course?

   EFFECTS
4. Do you think EE influence students? How? What do you think are the effects of EE on students? (Specify) What does "The effect of EE" mean?
5. Why do you think EE influence or not influence students? (Depends on answer on the previous question)

   RELATIONSHIPS
6. What is EE doing to students' self-efficacy; self-believe that they are able to perform as entrepreneurs?
7. What is EE doing to students' attitudes towards entrepreneurship?
8. What is EE doing to students' intentions to become an entrepreneur?

   TYPE OF EDUCATION
9. What do you think is the purpose of the general compulsory theoretical EE courses? What are their effects on students? Why?
10. What is the role of the active elements within EE courses? Can you give an example of the active elements?
11. What is inspirational teaching? What effects does it have on students within EE? Why?

    SKILLS AND KNOWLEDGE
12. What kind of skills and knowledge are students getting from EE courses? Do they differ within different educational types? How, why?
13. What is acquisition of such skills? Does it influence students' ESE, attitudes, intention to become an entrepreneur?

    FAMILY
14. To what extend do you think family members influence how EE impacts students' EI? How? Why?
15. Does the parent experience influence students, their intentions to become an entrepreneur, their attitudes and their self-beliefs? How? Why?

    GENDER

16. Have you noticed any difference between EE influence on female and male students? Specify. Why do you think these differences exist?

PREVIOUS EI

17. Have you noticed any difference between EE effect on students who had entrepreneurial experience and intentions before the EE course and students without it? Specify. Why?

CONCLUSION

18. What else do you think influence students Entrepreneurial intentions in general and in particular?
19. What else can influence the extent and nature of the effects of EE on EI?

Appendix 2 Table 2 Literature review: EE influence on EI

Paper	Dependent var.	Independent var.	Effect	Method	Context	Comments/Critiques
Wang and Verzat (2011)	EI and self-employed career orientation	**1) Family background** **2)EE curriculum**	**1) Insignificant/no effect on EI** **2) Direct positive effect on EI**	**Triangulation longitudinal approach:** Quantitative longitudinal analysis of data obtained from a questionnaire administered each year to students from both institutes. Analyzed by t-test and ANOVA	Comparison of the EI of **French engineering students** taking different training systems: Generalist Engineering Training in Ecole Centrale de Lille and Specific ITEEM training (management+entrepreneurship+engineering) 85% reliability	Critiques: Authors requires more detailed quantitative analysis of cultural and organizational characteristics of educational institutions Comments Previous EI have **Positive direct effect due to the different enrolling system to the ITEEM** Proposition: 1.Development of EI could be achieved through a curriculum based on a wider set of management and entrepreneurship courses and enhanced by systematic deployment of active pedagogies such as project work and internships
		4) Clear perceptions of the university Culture on entrepreneurship **5) Structural factors such as reputation and recruitment policy,** **6) Relational factors such as size and atmosphere of intake**	**4) expected to be significant moderation of EE effect on EI** **Expected to positively moderate personal traits moderation effect on EE influence on EI** **5,6,7) expected to be positive moderation of EE effect on EI** **8) expected to positive moderate EE effect on EI** **9) Expected to positively moderate personal traits moderation effect on EE influence on EI**	**Qualitative analysis** of 12 in-depth interviews		

		7) Pedagogical factors extensive use of project management pedagogy **8) Personal traits: emotional involvement in a variety of different experiences, and intense learning in relation to perception of market opportunities** **9) personal motivation and self-esteem**				2. The more prestigious and specialized school, then smaller are EI 3. An active learning student centered pedagogical approach, involving cont. formal and informal feedback by teachers, students and stakeholders, builds a strong entrepreneurial university culture
Fayolle, A and Gailly, B **(2015)**	Participant's entrepreneurial intentions and its' antecedence	**1) Short (less than 6 month) and Compulsory homogeneous EE programs** **2) previous entrepreneurial experience: a n entrepreneurial experience within the family of the individual, a past or a present job experience in a**	**1) Mixed: Positive effect on attitudes, but** **Insignificant positive effect on EI both in a medium and the short terms** **2) significant Negative Moderation of the EE effect on EI and its antecedence** **3) significant Negative Moderation of the EE effect on EI**	**Quantitative** Experiment spanned 24 hours of class time over three days Ex-ante and ex-post measurement by three similar questionnaires conducted at short (immediate) term (at the beginning and the end of the program) and the medium terms (after 6 month) effect,	239 French students from various masters programs excluding master in entrepreneurship. 158 properly completed answers, the average age is 25 years old The Goal of EEP: increase entrepreneurship awareness and highlight	Comments: * Persistence of the EE effect lasts six month after the program *EE has an effect ONLY on students having no previous entrepreneurship experience Critics: *TPB applies to individuals, therefore application to the

		small firm, having started **his/her own business** **3)experience abroad**	**and its antecedence** **Less significant negative moderation effect after 6 month**	inspired by Kolvereid (1996a, 1996b). seven-point Likert scale measures 47 items Analysis by SPSS	entrepreneurship as a career path Method: teaching of the key concepts and team workshops	group of individuals affects it validity. *Relatively small size of the sub groups, no control group, bias caused by external events influencing EI after 6 months course measurement of EI.
Shinnar, Hsu, and Powell, **2014**	EI	**1) The 12 sections of the two semester-long introductory mandatory EE course** **2)Entrepreneurial self-efficacy** **3)Gender**	**1)Insignificant general effect on EI at the beginning of the EEP;** **Insignificant negative effect on females EI at the end of the EEP;** **Positive significant direct effect on EI of male students at the end of the EEP;** **Significant direct positive effect on entrepreneurial self-efficacy in general and for males**	**Quantitative method** Ex-ante and ex-post analysis questionnaire: five and six Likert scale which result were analyzed by t-test	Survey, not mandatory participation, U:S: A sample of 187 Undergraduate students. The 12 sections of an introductory mandatory EE course.	Critics: Disproportionally male (76%) sample, one university and the same group of respondents,- not generalizable findings, possibility of the common method effect Do not specify entrepreneurial self-efficacy outcomes

			Insignificant direct positive effect on entrepreneurial self-efficacy of females **2)Direct significant positive general effect on EI;** **Positive significant correlation with EI and mediation of EE effect on EI for females, Insignificant for males** **3) Negative Moderation effect on ESE influence on EI of man** **Significant Positive moderation of ESE impact on EI of women**			Comments: Gender and ESE are positively correlated with EI Women EI significantly depend on their entrepreneurial self-efficacy, while EEP fails to increase these ESE for women students
Jones et al. **2008**	Immediate after the course EI	**1) The Starting a New Enterprise (SANE) course focusing prim on students motivation and future intentions** **2) Gender**	**1)Direct Significant Positive effect on EI** **2) Positive moderation significant effect which is more significant for women**	**Quantitative method** Two semi-structured Ex-post and ex-ante Questionnaires informed by studies of Kolvereid (1996) and Peterman and Kennedy (2003) 5-point Likert scale which results were analysis using t-test	50 undergraduate students aged 18-24 within a Polish University The Karol Adamiecki University The (SANE) course is divided in two parts: role and key attributes of entrepreneur and development of a business proposal	Comments: No gender difference Students are highly motivated to study in this particular university and pass entry exam to be enrolled Students are both Polish and International

					Within the first section, students learn about the effective entrepreneurial behavior , the characteristics and motivations of the successful Business person. In the second section, - identify and appraise a startup idea. Face to face method of learning resulting in e-delivery	97% had no previous entrepreneurial involvement, 66%(mostly males) had strong prior EI, and 91% expressed an interest and future EI in a becoming entrepreneur as a career choice NOTE: Students evaluated both part positively, however the first part was more interesting for females, while the second part was equally useful. Critics: based on one country
von Graevenitz, Harhoff, and Weber, **2010**	1)EI 2)More Precise indication of the Future plans 3)Self-confi	**a)The Compulsory EE "Business Planning" (October 2008-February 2009)**	**1)Direct Negative Effect that is** **positively moderated by previous EI** **2)Direct positive** **3)Positive significant Direct effect**	**Quantitative.** Ex-ante (before kickoff) and ex-post (before receiving the grades) anonymized survey. Questionnaire: Yes and no, seven and four points rating scales Test: regression, inter-item correlation, linear model, median test, descriptive analysis	Germany, Munich School of management at Ludwig-Maximilians-University, Germany. Bachelor of science. 357 responses total. Objective of the course: to teach basic capabilities in order to develop decision-making, gain practical experience by interaction with role	Critics: Analysis of one University in Germany – not generalizable. Other variables could influence: age, grades, finance crises at the time of enrolling to the class Study do not apply control group-do not exclude influence of extraneous factors

	dence and skills 4) Opinion and aptitudes about entrepreneurship				models Structure f the course: lectures by faculty augmented by examples from reality by role models and investors, insight in their business, small groups tutorials, to practice business planning, feedback	Note: EE effect on EI reduces if prior EI is high and students receive consistent signals EE has a positive influence eon self-assessment on the future career
Hamidi, Wennberg, and Berglund, 2008	EI	**1) Type of education: voluntary EE program 2) Creative potential 3) prior entrepreneurial experience 4)Level of risk perception 5) type of education 6) parents and relatives self-employment experience**	**1)Significant direct positive effect in EI 2)Positively related to Intentions, Most significant Positive direct effect on EI; Negative moderation of previous entrepreneurship experience effect on EI 3) Direct Positive 4)Direct Negative 5)Positive moderation 6)Insignificant/ no effect 7)Negative moderation of risk perceptions' effect on EI,**	**Triangulation:** Self-administered questionnaires with a creativity test, interview with 23 respondents Measurement: Seven point Likert scale. The operationalization was taken from Kolvereid 1996, and Krueger, et al. 2000; two open ended questions, 5 control variables: age, gender, number of their higher education semesters, undergraduate major and high school grades Analysis: ANOVA,	.A sample of 40 (34 completed) students in graduate entrepreneurship programs in Sweden: students undergoing a master in entrepreneurship: 13 business students at Gothenburg School of Economics; 19 engineering students at Chalmers University of Technology; and 8 students with divers background at Borås University College Based on the social cognitive theory Control group 38 students enrolled in	Comments:* the problem of **one-size-fits-all** approach of education. *Focus on a new education tools such as training session in acting and thinking creatively, starting a new ventures during programs, applying problem-solving approach to different cases, team work. *Biomedicine students have lowest EI *The difference of effect of different educational types is in

		7)Attitude variables: work load in entrepreneurship, administrative and marketing difficulties		multivariate linear, and ordinary regression analysis Control group	two other graduate programs in Sweden Average age 27 Examine three new small entrepreneurship education programs: Goal: Increase awareness of entrepreneurship as a career perspective, and includes some practical training modules, such as creative solutions and development of new business ideas	students perceptions of entrepreneurial opportunities as a future career. *Emphasizes a problem of a "one-size-fits all" education Critics: common method bias. Results could be influence of previous EI which caused already chosen entrepreneurship programs
Mayer, and Kortmann, 2014	EI and interest	**1) Serious Games (SG) = Simulation gaming in a master's level course in entrepreneurship. The Entrepreneurship Annotation week, 3 days of mandatory course** **2)Enterprising personality traits: *autonomy** ***creativity** ***risk taking**	**1)Direct Positive on SE;** **Insignificant positive effect on EI** **2) Positive Moderation of SG effect on EI** **3) Insignificant effect on SG or SG effect on EI,** **Positive direct effect on SE** **4) Significant mediation of SG effect on EI** **5)Insignificant Negative moderation of SG effect on EI for females**	**Triangulation: the quasi-experimental design : Qualitative observations and quantitative analysis** *ex-ante, during and ex-post both course and each of the three games five pre-and post-games questionnaires combined with video and personal observations and in-game-results (scores) An explorative evaluation	27 international students registered at one year specialization in entrepreneurship at TU Delf, Netherlands Experiment year 2012 SG is a deducting method of teaching aimed to provide knowledge, to promote as a career opportunity , to encourage students and develop reflections on decision-making	Comments:*Master level course in entrepreneurship in TU Delf, engineering students from different disciplinary backgrounds Comments: *variety of nations and degrees from bachelor to PhD *only 54% reported increased EI

		3) Educational achievement **4) Previous gaming experience** **5)Gender** **6) motivation** **7) need for learning**	**6) Mediate positively the response to the SG** **Significant moderation of SG, need for learning and SE effect on EI** **7) positive moderation of SE effect n EI**		The Project "Stimulating Entrepreneurship through Serious Games" within the Erasmus Life Long learning program.	Critics: *do not consider individuals' different types and needs for learning *low validity *most male students, which conduct difference in gaming experience (females reported less experience)*Big previous EI *extern pressure from staff member *frustration accordingly game results which depends on group members* students had no time to adapt*feels unreal
Souitaris, et. al 2007	EI Entrepreneurship and antecedence: SN; PBC and attitudes	**1)A semester long (January-Mai) elective EP** **2) Individual benefits derived from EEP** **a)learning** **b)inspiration** **c)resource-utilization**	**1)Direct Positive Effect on EI and on students subjective norms; Insignificant effect on Perceived behavior control** **2)a) Insignificant** **b) Most Positive Moderation of EE effect on EI and SN, but insignificant effect on perceived behavior control and attitudes to self-employment** **c) Insignificant**	**Quantitative** Ex-ante and ex-post questionnaire based on Kolvereid 1996a and seven-point Likert scale Quasi-experimental design, voluntary questionnaires. Analysis: Correlation and regression to test the relationships between attitudes and	Two major European Universities (London, UK and Grenoble, France) Engineering and science students 124 answers from the program group and 126 from the control group Period 5 mnth Data from 250 (51%	Comments: inspiration plays important role as a moderating variable and benefit of EEP. Critics: Perceptions were chosen instead of facts. Inspiration is a new construct and can suffer from bias

				intentions, ANOVA to test EE effect on EI	control group) Science and engineering students from two major universities in UK (67%) and France. Overall response 55.3% EE program with four components: teaching of courses, business planning, interaction with practice and university support	
Fayolle, Gailly, Benoit, and Lassas-Clerc, 2006	EI and its antecedence	**1)Entrepreneurship Teaching program: 3 day-case study focusing on entrepreneurship and its'** **-objectives** **-audience** **-institutional setting** **-type** **-content pedagogical process** **-pedagogical approach**	**1) Significant direct positive effect on attitudes about PBC** **Insignificant effect on EI, but the relative impact is significant and positive** **Insignificant effect on attitudes to SN and attitudes towards entrepreneurial behavior** **2)Significant negative moderation of EE effect on EI** **3) Negative moderation of EE effect on EI (no effect of international experience)** **Positive direct effect on initial EI**	**Quantitative longitudinal** Experimentation: Questionnaire: 47 Likert scale items about intentions antecedent and 23 questions about students background Analysis: SPSS: linear regression, correlation, t-test	Sample of 275 French students of a one-year Specialized Master in management at a business school (top 4 in France). This students have already received a degree at the Master of Science level, usually in technological disciplines from French engineering schools and technological universities Average age 25, only 7 international students	Comments: *ETP-entrepreneurship training program *Work in groups of 4-5 persons and interacting with professors and entrepreneurs.

		2)Previous EI **3) Socio-demographic:** **-having been exposed to the international context for a long tome** **-family background**				
Lee et al 2005	1)Skills And Knowledge 2)EI within the country 3) the recognition of importance of EE 4)EI outsi	**EE course**	**USA:** **1)Significant Direct Positive effect** **2)Significant Direct Positive effect** **3) No effect** **4) No effect** **Korea:** **1) Significant Direct Positive effect** **2) Significant Direct Positive effect** **3) Significant Direct Positive effect** **4) No effect, but positively**	**Quantitative study** Comparison study Ex-post/during the class Questionnaire: 16 questions 5 point Likert scale MANOVA analysis, correlation, t-test	Sample students who took and did not took EE courses in University of Nebraska –Lincoln U:S (60 vs. 102) and Kyonggi University in South Korea (102 vs. 115) Similar curriculum for EE courses	Impact on EI in Korea is much bigger Entrepreneurship culture play negative moderation role on EI and positive moderation on Skills and Knowledge Stronger effect for Korean students is expected to be moderated positively by development of Entrepreneurship culture in Korea, while established entrepreneurial culture in USA moderates negatively effect on EE on EI and moderate positively its' effect on skills and ability of

	de the country		**moderated by the Korean culture/government and economical need of Korea** **Bigger effect for Korean students than American**			venture creation Critics: no description of EEP and methods
Bae, Qian, Miao, and Fiet, 2014	EI	**1)EE** **2) pre-education EI** **3)Attributes of EE:** **-duration,** **-specify** **4) Socio-demographic factors** **5)Cultural values/contextual factors:** **- power distance** **-high in-group collectivism** **-low gender equalitarianism** **- low UA** **6)Business**	**1) Significant direct small positive effect on EI** **2) Negative significant moderation of correlation between EE and post-education EI** **3) Insignificant** **4) Insignificant** **5) -Insignificant** **- positive Moderation of EE effect on EI,** **- positive Moderation of EE effect on EI,(then lower, then more) p23** **- positive Moderation of EE effect on EI,(then lower, then more)** **6) Direct positive but very small influence on EI** **7) positive moderation of EE effect on EI if EE assessed as a continuous variable**	**Meta-Analysis** of 73 studies: the correlation coefficient effect size and the standardized coefficient effect size	Review of 73 studies, 74 samples and total sample size 37,285 respondents. EE aimed to increase entrepreneurship knowledge and skills	Comments: EE has stronger effect than business education. EE impact on EI was stronger when EE was assessed as a continuous variable than as binary variable EE should be more target I order to decrease negative moderation effect of prior EI on during- and ex-post EI Suggest real behavior, knowledge and skills, and performance as a better criteria for evaluation of EE effect (rather than EI) Critics: insufficient nr of samples in a few subgroups

		Education Programs **7) method of research assessment: continuous vs. binary variable of EE**				
Farashah, 2013	EI	**1) The one completed EE** **2) Perceived opportunity** **3) Fear of failure** **4) PD** **5) SN** **6) SE** **7) gender** **8) age**	**1)Direct Positive Effect on EI and PD** **Insignificant positive effect on perceived opportunity** **Insignificant negative effect on fear of failure** **2) Positive partial mediation of EE effect on EI** **3) Negative predictor of EI** **4,5,6) Partial positive Mediation of EE effect on EI** **7)Insignificant** **8)Insignificant**	**Quantitative** Empirical data Binary logistic regression used for analysis	The data reported from the GEM from 601 individuals from Iran, 87,3% male, average age 33 Paper includes 7 levels of EE: school level, after school graduation, university level, government, employer, informal, and on-line programs. Iran	Critics: *lack of generalizability. *does not exam effect of extern factors. *No claim for Causality. Comments: The completion of at least one of EE courses increases EI by 1,3 times. Participation in EEP offered by the government increase possibility of start-up by 1,9 times. Online courses are the least popular ones. Only informal and employer training focusing on learning by doing and contact with role models influence positively SE. Therefore, formal EEP demonstrate lack

						of knowledge and skills required in real word Culture influence directly on types of EEP
Bilic, Prka, Vidovic , 2011	EI	**1)Duration of EE** **2)Type** **3) Gender** **4) Business of the course (nr of enrolled students)** **5)Involvement in student activities**	**1)Direct Positive on EI** **2)Voluntarily EEP - Positive moderation of EE effect on EI and its value** **Mandatory EE – Positive moderation** **only of EE effect on EI** **3)Positive moderation of EE on EI for males** **4) Insignificant** **5) Expected to be insignificant positive moderation of EE on EI**	case study **Triangulation, mostly quantitative method** observation and questionnaire SPSS13.0	Croatia, , students at Faculty of Economics at University of Split, empirical data collected by a student survey 253 students, 72% females, 16% graduate students , 57% from Business School where some of entrepreneurship courses are compulsory EE goal is to provide required information and tools for realization of the EI	Comments: Males have higher EI, Graduate students have higher EI/EO Critics: Authors do not apply variables for extern factors such as a recession and high level of bureaucracy in the country; sample from the one university – can't generalize findings *based on single institution * heterogeneous EE including different goals, methods and types such as mandatory and voluntarily
Byabashaija, W and Katono , I	EI (Individual's cogni tive	**1) College Entrepreneurial Education**	**1) Small but statistically significant positive influence on attitudes variables (3,4,5)** **No significant effect on EI**	Quantitative Longitudinal quasi-experiment (before the	Sample of undergraduate students enrolled into business courses at three universities in Uganda	Comments: need to emphasize qualitative aspects in the measurement of EI (Tounes (2006))

2011	inclination to pursue an entrepreneurial career after graduation)	**2) Societal subjective norms (Friends, family, peers, role models, press coverage)** **3) PD** **4)PF** **5) Self-efficacy** **6) Employment expectations** **7) Situational factors (Environmental circumstances: Availability of paid employment, perceived future family commitments)**	**2)Significant positive direct effect on PD and PF** **Positive effect on self-efficacy** **Small but significant influence on EI** **3)Mediation between EE and EI, and Societal subjective norms and EI** **4)Mediation between EE and EI, and Societal subjective norms and EI** **Strongest significant positive effect on EI** **5) no mediation between EE and EI, and Societal subjective norms and EI** **6)Non significant moderation of PD, PF and self-efficacy effect on EI** **7)No moderation of attitudes effect on EI**	course and four mnth after) Self-administered questionnaire • PF and PD are measured with Cronbach's coefficient alpha values from 0.63 to 0.83 • The society subjective norm are measured with items on a five point Likert scale • Situational actors: tree items on Five-point Likert scale • EI: five multiple choice items Analyses: test of significance, mean, correlation coefficient, t-test, regression coefficient	Control group of students of non-business courses are impossible to find, because of mandatory entrepreneurship course at one of the universities 167 answers usable (of 750)	Critics: some measurements used were still under development and could suffer from problems of extern validity No description of EE course There are likely to be some common method bias of data collection in the same instrument
Azim, M and Akbar, M. **2010**	Efficacy of EE resulting in EI	**1) Entrepreneurship Development Courses (EDC):** **2) Effort professors put to**	**1) Medium positive effect** **2)Medium**	Quantitative, ex post Questionnaire (based on Azim 2007): Five-point Likert scale	The EDC offered at BBA and MBA level in different public and private universities in Bangladesh	Comments: The EBC have a medium level of effectiveness Professors have a high level of perception of viability of

		make EDC efficient		Assessment is based on the programs inputs/efforts/educators (nature of the subject, teaching methods and complexity) Analysis: Descriptive statistics: Mean, standard deviation, variance, percentage,	58 answers received (16 from public Universities, and 42 from Private) Objectives of EDC: to inform about entrepreneurship; to prepare students to be entrepreneurial and become entrepreneur (the last one objectives just in 70% of the respondents)	entrepreneurship as a career choice of their students' *teachers at private universities have higher education and experience *training and own entrepreneurship is required for teachers of EDC
Lanero et al **2011**	EI/self-employed career intentions	**1) Entrepreneurship Education** **2) Perceived entrepreneurship feasibility/PF** **3) Perceived desirability/PD**	**1) Significant small Direct Positive effect on PF** **Significant small positive direct effect on EI through PF** **No effect on PD** **2) Positive mediation of EE effect on EI** **Positive direct effect on EI** **3) No effect/unrelated with all variables**	Quantitative, ex post Survey approach Questionnaires: self-reported (February-June 2010) Measurement: EE: 5 items about the perceived implication of home university in related actions on Likert scale from 0-10 PF: students perceptions of competence to execute 7 typical entrepreneurship activities: Likert scale 0-10	Sample: 800 undergraduate Spanish University students from two Spanish Universities: The Complutesian University and The University of Leon 66,3% females, mean age 23,16 (18-48) Goal of EEP: raise students awareness of entrepreneurship for future successful start-ups	Critics: Majority of the scales might require more validation

				PD: 3 items: potential rewards derived from becoming entrepreneur: likert scale 0-10 EI: 2 items about undergraduates' preferences for self-employment and likelihood of starting business at the end of higher education, Likert scale 0-10 Data analysis: SPSS 17,0: correlation, descriptive statistics, the partial least squared		
Lavolette, E. et al. 2012	EI	**1) Same-gender fictional successful role models story (entrepreneurs' testimonials and narratives)** **2) Attitudes towards the role model (Dependent vary in the study)** **3) Roles models gender** **4) Role models message framing**	**1) Most effective positive effect on identification** **Direct positive effect on attitudes** **Mediates positively relationship between self-identification and attitudes; emotional arousal and self-efficacy, and self-efficacy and EI** **2) Positive mediation of same-gender successful role models effect on EI** **Positive direct effect on emotional arousal**	Quantitative Experimental research, ex post Measurement: the structural model equation : Attitudes towards role models: rate trustworthiness (5 items) and general attitudes towards the message (5 items) on Likert scale (1-7). Role model Identification: comparison to the role	276 French undergraduate and graduate students enrolled in a management and entrepreneurship curriculum in Spring 2011. Authors recruited 152 females and 124 males with a major or a minor in entrepreneurship to study the effect. Women were exposed to woman story, while men to men model	Comments: study also found positive direct effect on entrepreneurial attitudes, which enhancing self-efficacy, EI and emotional arousal EEP requires predominance of masculine role models *Women are more sensitive to role models influence *effect on self-efficacy and EI could be

		5) Unsuccessful role-models story **6) Entrepreneurial self-efficacy (Dependent var in the study)** **7) Emotional arousal (Dependent var in the study)** **8) Students' self-identification with role model (dependent var in the study)**	**3) No moderation effect of gender on the relationships between attitudes towards role model and the emotional arousal Moderates relationship between Self-efficacy and EI; emotional arousal and Self-efficacy, role model identification and attitudes** **Gender of the model have had stronger moderation effect for women** **4) Moderation effect of all effect** **5) Positive mediation between self-efficacy and EI** **6)Positive direct effect on EI** **7)Expected to be positively affected by the story, rather than by the role model** **Positive mediation between attitudes and Self-efficacy and EI** **Positive direct effect on Self-efficacy** **8) Strongest significant moderation of role models influence on EI and Self-efficacy** **Positive influence on attitudes**	model on 20 items from Brown (2010)on seven-point Likert scale Emotional arousal: emotional reaction to the message by PAD measurement scale by Mehrabian and Russell (1974) + identification of their emotional arouse on 11 seven-point Likert Scale Entrepreneurial self-efficacy: degree of confidence on the rating scales from 1-7 EI: 7 items seven-point Likert scales based on Thompson self-efficacy scale Analysis: Reliability test, confirmatory factor analysis, squared multiple correlations , multi-group analysis, χ^2-test,	Success story: young graduate who become an established entrepreneur, while Unsuccessful story: a young graduate who failed to become an established entrepreneur. Both models had to first expose their motivation to become an entrepreneur	moderated by situational, emotional and personal variables *Important that students feel that role model are feasible and accessed career goals *Role models expected to influence positively creativeness of students in their strategies and decision-making Role models strengthen self-efficacy and EI, if students feel emotional arousal, positive attitudes and identification with the model Critics: population size

Mohamed et al **(2012)**	EI to become an agri-entrepreneur	**1) The Basic Student Entrepreneurial Program (BSEP)** **2) Origin of the participant:** **Norhern,Southern regions, Central part and East coast** **3) Already involved in entrepreneurship activity family member** **4)Educational background:** **5)Attitudes**	**1) Significant Direct Positive effect on EI and attitudes** **Positive direct effect on Entrepreneurial skills** **2) Direct effect on motivation of becoming entrepreneur, EI¨** **Most significant positive moderation effect of BSEP on EI for East Coast students** **3)Significant moderation of The BSEP effect on EI** **4) Significant moderation of The BSEP effect on EI for students with technical background (engineering and agriculture) compared to the students with social science background** **5) Positive direct effect on EI** **Positive mediation of BSEC effect on EI**	Quantitative, ex post Questionnaire (Feb-June 2011) Measurement: seven-point Likert scale for 73 statements The respondents selected randomly among the graduates or the final year Bachelor 's degree students who already have attended the BSEP Analysis: Chi-square, descriptive, χ^2-analysis	410 local students at higher institutions in Peninsular Malysia. Students have undergone training program in entrepreneurship development, Malaysia. Course is offered by the National Entrepreneurship Institute (INSKEN) to the final year students in higher education institutes, only for native students. BSEP conducted in classroom with no field visit. At the end students receive certificate. Goal of EEP at school is to motivate audience to be a job creators Majority of the students were 21-25 years old, 60%from the urban area	Comments: Agri-entrepreneur is an agricultural entrepreneur *EE starts as early as the primary level school and is adapted in mathematics subject. Therefore, EE continues * The highest score was for students awareness of government politic and support for entrepreneurs * 2,7% of 100%of respondent showed negative effect, BSEP was unable to provide the proper business practices needs – EE requires careful designed curriculum with information about target auditorium needs + more innovative strategies to motivate students (such as visiting entrepreneurial Fields, role models, incubator programs)

						* suggest to focus on students with entrepreneurial family background and technical education to identify more opportunities
Zainuddin, M and Rejab, M. **2010**	Self-employment intentions/ EI	**1) The undergraduates' specialized entrepreneurship program (SEE) with information communication technology (ICT) learning application** **2) E SE** **3) silent believes** **4) Entrepreneurship lecturers expectations towards students' self-employment believes** **5) SN (professors)**	**1) Positive significant direct effect on ESE** **Indirect positive effect on EEI (through SE)** **2)Positive significant direct effect on EI; positive mediation of EE effect on EI** **3) self realization is not the most important silent believe** **Employment security and predictable career path are the highest silent believes.** **4)No effect on EI** **5) No effect on EI**	Quantitative, ex-post method census survey Sample choice: students who are facing imminent career-choice decision making Measurement: All var were measured by four-point Likert scale Dependent var: EI: 10 item Ind var: Silent believe (Prefer to be self-employed): 10 item including five control items (preferences of employment in org) SN: 4 items(degree of approval) Specialized entrepreneurship	Malaysia 186 final and penultimate year entrepreneurship students from 4 major public and private universities in Malaysia: University Utara Malaysia, University Malaysia Sabah, University Tenaga Nasional, and Multimedia University. 67% from the public universities with the female outnumbered, 94% 21-25 years old Focus on Me generation students – students born in 70th, 80th and 90th, having high self-esteem-world revolves around them, focus a lot on communication technologies	Comments: interesting approach focusing on generation characteristics * The findings that self realization is not the most important silent believe contradicts to definition of the ME generation *desire of predictable career development could be explained by lack of previous entrepreneurial and real exposure * lack of professors effect on students EI could be explained by their lack of experience and other influence via ICT *Requirement to strengthen the entrepreneurship culture at universities,

				education: 9 items about SEE effect ESE:16 items, degree of readiness and confidence to become an entrepreneur Analysis: descriptive, reliability, linear regression (for the hypothesizes test), collection of demographic profiles		role models, inspiration spirits, support programs *more practical approach
Noel 2001	1) EI	**1) Entrepreneurship** training 2) Perceived Self-efficacy/ESE 3) general self-efficacy – ability to perform tasks	**1)Positive direct effect on EI;** **Direct positive effect for students with entrepreneurship majors in the horizon of 2 and 5 years, marginally direct positive effect for one year** **2) no correlation between ESE and EI** **3) no correlation between GSE and EI** **High correlation between GSE and ESE**	Quantitative, ex-post Survey Measures: GSE: 8 item scale (Chen et al., 2001)5 point likert scale ESE: 5piont Likert scale agreement statements Analysis; Squares, mean , correlation, deviation EI to open the business in one/2/5 years, measurement of the subjective probability: percentage ranging;:0%-100%	Students-undergraduates of entrepreneurship, management or other disciplines and enrolled in an EEP The average age 30,8, 55% males US	Comments: Comparison of entrepreneurship and non-business graduates showed that the first ones own more business (significant difference). But this difference between EI and ownership is not related to the SE * EI are stronger for undergraduate students with entrepreneurship majors, than for students with non-business and non-entrepreneurship business majors

						*EI are more pronounced for the longer time horizon *One explanation to the insignificance of ESE and GSE is small sample size; and few years of business experience affecting on more realistic view of their own EI
Shneor, R and Jensse n, J.I. **2014**	EI	**1)EEP** **2) Gender** **3) Exposure to role models/ERM** **4) Economics majors/EM** **5) SN** **6) Entrepreneurial experience** **7) Self-efficacy/ESE**	**1) Direct positive effect for females;** **No direct effect for males,Indirect positive effect for males;** **Positive small direct effect on SN for females** **No direct effect on SNand ESE for males** **No direct effect on ESE for females** **Direct small positive effect on ERM for males** **Direct strongest effect on entrepreneurial experience for males** **2) Moderation role for EEP effect on EI**	A path analysis methodological approach based on multiple regression Ex-post/during Survey (September-Oct 2009) EI: 5 items, 7 point Likert scale ERM: 2 separate variables: role models: 7 point likert scale, and Parent entrepreneurial experience through value neutral dichotomous variable EM:Faculty	1972 students from a variety of faculties and degree programs in the University in Agder, Norway 42% males, 82% 35 or younger, 33% from the faculty of economics and social science	Comments: No direct effect of EE on EI for males, but positive indirect effect mediated through SN, ESE,ERM, EM Direct positive effect for females, plus indirect positive mediated through SN, ESE, Entrepreneurial experience EEP effect on EI exists for both genders, but mediates differently. Mediated by ERM, EM for males, mediated by effect of SN for females.

			3) Positive direct effect on EEP for females. No direct effect on EI for females **Positive direct effect on EI for males** **Positive mediation between EE and EI for males: Direct positive effect on EI for males** **Partially mediation of SN effect on EI for males** **4) Strongest positive direct effect on EEP for females** **Positive mediation between EE and EI for males** **5) Positive direct effect on ESE and EEP for females** **Positive direct effect on EI for males and females partially mediated by ESE for both genders4** **Positive direct effect on females EI partially mediated by EEP** **Positive direct effect on EI for males partially mediated by ERM** **Partially mediate positive effect of ESE on EI for both genders**	SN:3 items, 7point likert scale Entrepreneurial experience: availability of prior experience ESE: 5 items, 7point likert scale		

			6) Small direct positive effect on EI for both genders **Mediation effect of EE on EI for both genders** **7)Positive direct effect on males EI (mediation of the year of general study and ESE on EI)** **Positive direct effect on women EI (partially mediated by SN)** **Partially mediates ERM for males and females** **Partially mediates effect of SN on EI for both genders**			
Martin et al 2013	EI	**1) Entrepreneurship education** **2) Entrepreneurship training** **3) Focus of the EEP: academic or training**	**1)medium positive effect on EI** **2) medium positive effect on EI** **3) No moderation effect**	A meta-analysis Quantitative review of the literature Analysis: r- statistics,	42 independent samples Criteria for selection: 1) The predictor variable is Entrepreneurship education or training 2)The criterion variables are one of entrepreneurship outcomes or entrepreneurship related capital assets	Comments:*the effect of EE on entrepreneurship outcomes (financial success, behavior/entrepreneurship performance, actual start-ups) is stronger for academic focused EEP then training focused EEP interventions. However it not differ for EI and other entrepreneurship-related capital assets

					3)Studies data are applicable for meta analysis (r,d,t,F)	
Raposo et al 2013	EI	**1) Entrepreneurship education available in Avonbourne Schools**	**1)Positive direct effect on EI** **However EI of boys are bigger despite no education curriculum in a Portchester School**	Quantitative, cross-sectional analysis exposit Questionnaire (Lianan and Chen 20007, Koh 1996) Analysis: Descriptive statistics, SPSS, t-test, Levene's test	U.K 729 Girls attending an Avonbourne International business and enterprise school, 286 boys- a Portchester School - sports school. Secondary level vocational school, age 11-16 years old. Both schools are highly focused on motivation and inspiration, however the second school does not include entrepreneurship specifically in its curriculum Girls school has an Enterprise day to promote initiative and entrepreneurship	Comments: EI, PBC, Personal attitudes are lower for females *long-term solutions required to reduce the gender gap * males are more risk tolerant *males show higher PBC; persona attitudes *SN have a positive effect on females LC *LC has a significant positive effect on males EI Both boys and girls demonstrate equal score for engagement in Innovativeness Critics: 'different size of samples *haven't differentiated between all education variables and

						entrepreneurship education *don't give information about timing of data gathering
Pipero poulos **2012**	EI	**1) EE** **2) Business and management education** **3)Universities structure (rules and regulations) and culture (shared beliefs and attitudes): no entrepreneurship culture** **4) Lack of EE**	**1)Expected to have a positive effect on EI** **2) Negative effect (4th year)** **3)Expected to have a significant negative effect on EI** **4) Significant negative effect moderated by ordinary education duration**	Triangulation Quantitative: questionnaires and the secondary data analysis: five-point likert scales Qualitative case study research methodology: Semi-structured interview with students and faculty members	Academic year 2008-2009 603 first (Oct-Nov 2008) and final year students (April-May 2009)studying business and management studies in at two public HEIs in Northern Greece, 542 usable answers, 2.33-3.9% have a sibling running a business	Comments: to heavy, mathematical structured studies, disability to work n groups and make a discussion with the professor , too much theory focus reduce inspiration - For four years-only once offered an elective model in entrepreneurship and innovation in both universities -none professor had a degree in entrepreneurship - no longitudinal research
Nabi et al 2010	EI	**1) Type of High education** **-Business students (concentration of entrepreneurship activity at universities)**	**1)- Significant Positive effect on EI** **- Little effect on EI** **-No effect and no EI (the smallest one)**	Review/position paper Quantitative, not longitudinal – different groups of students are involved), ex-post	U.K Data from **2007/2008** EI survey within the Yorkshire and Humberside region compared to data from	Comments: Length of education do not effect EI, study an ordinary education, but it's a negative signal for the professors of entrepreneurship

		-Engineering and Technology **-Science and social science** **2) Gender** **3) Length of the high education** **4) Education with the focus on desirability of self-employment perspective after the graduation** **5)Ethnicity and subject studied**	**2) Moderation** **Male students have more clear EI and more positive attitudes towards entrepreneurship in general** **3)Insignificant** **4)positive small effect on awareness of support** **Expected periods between EI and actual startups increasing** **Negative direct effect on EI** **5) Expected to have a negative moderation of HE positive effect on EI**	EE goal: development of individuals and their entrepreneurship' awareness Measurement instruments were based on Luthje and Franke, (2003) model	2002-2003 and further to the focus years Students population=8456 in 10 participating institutions. Participating institutions obtained a representative sample and data collection	* Only minority of students holds a stable EI over the years *EEP require concert common objectives to be able to increase its' influence on students' EI: should we prepare entrepreneurs or enterprising individuals Critics: Authors critic the methodology and low reliability of the survey,
Walter and Dohse **2012**	EI and its antecedence	**1) EE: active modules: Business plan seminars, business simulations and field work** **2)EE: passive: theory lectures and literature – based seminars** **3) regional context: degree of**	**Department level** **1) Significant positive indirect effect on EI mediated positively by attitudes** **Positive direct effect on attitudes** **No effect on SN and PBC** **2) no effect on EI,SN, PBC and attitudes** **Regional level:**	Quantitative exposit Multilevel data set of individual- and regional/organizational level Measures: **Dependent var:** EI: 7 point Likert scale: including attitudes towards the behavior (12 items: advantages	Comparison of active-business simulation versus reflective – theory lectures effect Individual level data: data from 30 of 72 German Universities. 3 department types: computer science, electric engineering and business, who provide start-ups and similar rates of graduate entrepreneurship	Comments: Most effect via attitudes than SN and BBC *EI, SN and Entrepreneurial attitudes vary with the region *Active modules' EE influence EI and attitudes more significant than Passive, which effect are not significantly different from zero

		entrepreneurial activity **4) role models** **5) opportunity perception** **6) individual traits: risk taking, need for achievement and independency)** **7) regional level control var**	**1) Irrespective to the regional entrepreneurial activity effect** **2) Positive effect on EI only by moderation effect of regional entrepreneurial activity** **3)positively moderates the passive EE influence on EI and attitudes , no moderation effect on PBC and SN** **No moderation effect on active EE effect on EI and antecedence** **Effect of individual level control var:** **4,5,6) positive effect on EI** **Effect of the regional level control var:** **No effect**	and disadvantages), SN: 2 items multiplied by one item of willingness to comply with the Norm; PBC: 4 items self assets ease or difficulty of being an entrepreneur **Independent var.** : EE has a description of the programs the degree of entrepreneurial activity of the region: nr of startups and long-run start up intensity **Control var.:** need for achievement, need for independence, risk taking propensity, role models, work experience, opportunity perception, At the regional level: human capital density, university quality, academic unemployment **A dummy var.:** existence of an entrepreneurship program (university participated in the largest in Germany entrepreneurship program “EXIT”)	6037 of 7925questionnaires were returned. Respondents selection criteria: pass their second year, had worked less than 4 years full-time, were not likely to succeed a family business, and were German citizen , student who did not heard of EE programs of their universities, students who did not primary chose the university because of the EE programs. Sample: 1949 male student at 65 departments in 30 regions, average 24 years old in the seventh semester of their studies	*Optimal design of EEP depends on regional circumstances * EE plays rather motivational role than increases students self-perceived qualifications

				Cross-level analysis: hierarchical linear modeling, descriptive statistics, correlation matrix, regression		
Sanchez 2011	EI	**1) Entrepreneurship Education free elective module** **2)entrepreneurship competencies/EC:** ***personality traits (self-efficacy, risk taking, pro-activity)**	**1) Positive effect on EI and EC** **2)Positive direct effect of Personality traits and SE on EI**	Quantitative Pre-test-post-test quasi experimental design to measure changes in EI during 8 month period (Oct-May, 2h a week) ex-ante/before entering the program and ex-post –after completed the program Measurement: SE: 20items –capability to perform the task , score range 1-10 Proactiveness: 10tems five-point Likert scale Risk-taking: 8 items five-point likert scale EI: 3 item five point Likert scale Some control variables: prior competencies and intentions.	864 University students in Castilla and Leon , Spain: 404 students were taking the program, 460-control group) 64,2% women, 19-29 age: mean of 22,5 years, 47% on the final 2 years of study, different courses, 81,4% full time students with no job EEP: group of activities: a “taught” component with 4 modules (accounting, finance, marketing, management); a “taught” component on competencies as personality traits and attitudes; a “business planning” component – business plan competition and advice on developing a specific business idea;	Comments: there were 3 control variables initially: family background, prior work experience, university of origin, prior competencies and intentions. Only prior competencies and EI had a significance *Inspiration is important Critics: Which component is more efficient to increase EI?

				Analysis: t-test, correlation, ANOVA	an “interaction with practice” component - talks from practitioners and networking events. Technique: exposition, lecture-discussion, some experiential exercises	
Linan et al 2011	EI	**1) Education with entrepreneurship courses electives: entrepreneurial orientation** **2) Personal attitudes on entrepreneurship** **3) Planning, alliances and training for employees** **4) Perceived feasibility**	**1) Expected to be have positive effect on EI** **2) Main explanatory of EI negative relationship** **However positive direct effect of EI on attitudes** **3) Positive effect on EI** **4) Other main explanatory factor** **Positive effect on EI**	Quantitative exposit Questionnaire (from Linana and Chen, 2009): 7 pint Likert scales, yes/no questions, Two estimation instruments: EIQ and factor-regression analysis, SPSS	Spain Sample of 354 final-year undergraduate students from Business (69,21%) and Economic Science from two Universities in Seville: Pablo Olavide University (31 student) and University of Seville (323), 55% are females, average age-23,7 years old. 313 valuable answers EEP: the electives based on “start up” education: business bland elaboration, visits of entrepreneurs and support bodies	Comments: Personal attitudes and PBC are the most relevant factors for explaining of EI formation Critics: no info about Entrepreneurship courses and their types, too big collaboration with non-entrepreneurship educational courses and other influencing factors
Bakotic , D and Kruzic, D	EI	**1) Exogenous (external) factor:**	**1) Assumed a Positive strong effect**	Quantitative Questionnaire with 16 questions which covered four dominant areas:	Croatia 176 graduate students of business who	Comments: Students understand that entrepreneurship does not generate high wealth instantly

2010		**The introductory course Entrepreneurship**		type of potential business; financial aspects of business; the ways of implementing a business idea; the source of information needed to generate business idea and its successful implementation on the market. Descriptive statistical analysis supported by SPSS program	attended the course Entrepreneurship	- to generate their idea students search: scientific literature, newspapers, journals, visit fairs, use internet - 50% of students have talked with their family and friends about their ideas -40,9% students have talked with many small business owners in order to create a clear picture about market situation - Notice moderating effect of the government activities and incentives Critics: No description of the Entrepreneurship introductory course
Wu, S. and Wu, L. **2008**	EI	**1) Level of general education** **2) Entrepreneurship education** **3) Diversity of educational**	**1) Negative effect (Lower degree higher EI) on EI through personal attitudes** **Not significant influence on SN** **2) Positive effect on EI through personal attitudes**	Quantitative, cross-sectional data, Questionnaire (Close reference to the methods used by Linan and Chen (2006))	China Tongji University in Shanghai Sent 180 questionnaires, received 150 validity answers	Comments: Requires development of more flexible approaches with focus on different groups of students in accordance with their various educational backgrounds

		backgrounds, academic majors **4) Antecedence:** **- Personal attitudes** **- Subjective norms** **- PBC** **5) Academic achievement**	**No significant effect on antecedence** **3) Explanation on the different EI** **Effect on EI through impact on personal attitudes and PBC** **4) – Direct major significant positive impact** **Mediating effect of EE on EI** **- Not significant positive impact** **- Additional positive moderation effect on Personal attitudes impact on EI** **5) Significant effect on EI** **No effect on PBC**	Measurement through a Likert-type scale with seven items The statistical analysis was made in two parts: 1. The path analysis to define relationship between EI and its antecedence: 2. The descriptive statistics to examine the correlation of educational background and antecedence of EI. These analyses were accomplished by using the Amos 7.0 and SPSS version 15.0		- The respondents who are with diploma and undergraduate degree are more interested in start-up than those who are with postgraduate degree - No significant difference between antecedence between students who had EE and who did not have - Personal attitudes are the main predictor of EI irrespective of students entrepreneurship background - “Engineering” students have the highest EI, personal attitudes and PBC - Curriculum for EE has no significant influence on students’ entrepreneurial related ideas - EE should pay attention to entrepreneurial skills and inspiration of students’ EI

						Critics: No definition of EE and its' components - Cross/sectional data collection - Regionalized and not generalized findings
Petridou, E. and Sarri, K. **2011**	Decision to start-up own business	**1) Voluntary EE programs offered by a public University: AUTH and its elements** **2)Voluntary EE programs offered by a public technological & education institute:** **3) Entrepreneurial knowledge** **4) Entrepreneurial skills** **5) Entrepreneurial personal attitudes** **6) Gender**	**1) Negative effect on satisfaction from labs (computer-assisted instruction), the duration of the program (1 semester) and their networking with local business** **Positive effect on satisfaction by quality of the instructors, course content, student-instructor relationship, and the number of students per course.** **Positive but moderate effect on decision to start-up own business** **2) Content with labs, the duration of the program, mentoring and networking with local business have a positive influence on students interest in entrepreneurship due to their technological education**	Longitudinal pre- & post analysis of students perceptions T test analysis	Northern Greece 904 students with both business and scientific-technological studies background from the Aristotle University of Thessaloniki (AUTH, 404 students) and the Technological & Educational Institute of Thessaloniki (TEITH, 500 students). AUTH is the University oriented more towards the creation and disseminations of scientific knowledge through research and teaching. TEITH is a technological Institution mainly involved with applied	Comments: Design of EE programs: Emphasis should be put on the networking with the business word, the laboratory assistance, the mentoring process, the participants' scientific background. - Length of AUTH's EE course is one semester; the same course was repeated over two semesters once in each academic year, covering 13 weeks (9-week seminars and laboratories and 4-week field visits). Participants were students in their final year of studies. Program gives greater

		7) Satisfaction with programs **8) Expectations**	**The interdisciplinary approach had no significant effect on interest in entrepreneurship** **The theoretical part such as the introductory course and instructors' preparation had a negative effect on students satisfaction** **Positive effect on decision to start-up own business** **3) Are positively influenced by AUTH and TEITH** **4) Are positively influenced by AUTH and TEITH** **5) Are positively influenced by AUTH and TEITH** **6) Positive moderation effect of EE effect on interest in entrepreneurship among males students (More male participants at both programs)** **7) Is moderated by students education** **8) Negative moderation of program effect on dependent variable, 3,4 and 5 variables**		research and technical education and training. For both institutes the main objectives of the voluntary EE programs were to get students acquainted with entrepreneurship and enable "potential" entrepreneurs to acquire knowledge skills and behaviors required to start-up their own business: and to influence their attitudes towards the undertaking of entrepreneurial activities.	emphasis to the educational process (formation and development) i.e. emphasizing concepts, attitudes and values. 22% of students had working experience, small % came from entrepreneurial background -All non-business students at TEITH could choose 1 to 3 different elective courses, while business students could choose 1 to 2. Each elective lasted for 14 weeks. Participants were students from the final two years. Program give much more emphasis to the training dimensions (development and implementation) i.e. competence and skills acquisition, as well as to individual tutoring (30% of the total program). 44% had entrepreneurial family background - Analysis of learning strategies didactic

						(contextual knowledge about nature of entrepreneurship and the business development process, to provide a basis for use of other strategies and help to define interrelationship between content elements) and skill-building strategies was used in both programs (development of participants' effectiveness as entrepreneurs) -Students chose the programs to have additional career prospects and because entrepreneurship seemed to them an interesting subject - AUTH: **The preparation of business plan and the interdisciplinary approach made to entrepreneurship aspects were recognized as very useful elements** - Universities interventions should

						be more to the “real” entrepreneurial world and EE programs should have more “applied” nature - Females should be encouraged to participate in EE programs - Participation should be open to students coming both from a business studies, scientific and technological backgrounds. - EE program should include more knowledge of working environment - EEP requires variety of components. Mentoring should be the main nod component , while the overall quality of student-instructor relationship should be maintained - Include students, mentors and instructors’ evaluation in the design process

						Critics: Need for additional longitudinal research into the long-term impact

Table 2 Literature review: EE influence on EI