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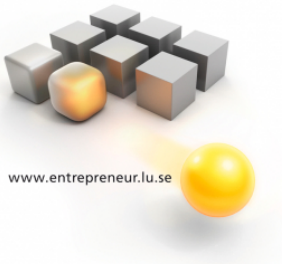

Entrepreneurship Education in Swedish Compulsory Schools: The Perception and Implementation from an Educator's Viewpoint

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Abstract

The purpose of this paper is to investigate the current state of entrepreneurship education in Swedish compulsory schools. In light of the 2011 reform of the national Swedish curriculum in which entrepreneurship education was first introduced, four schools are examined, through interviews with the principal and two teachers per school, to determine their perceptions and implementations of entrepreneurship education. The results show a distinction of perceptions along three different streams, and a similarly inconsistent implementation as found by previous studies from before the 2011 curriculum, suggesting the hitherto inability of entrepreneurship education to wholly permeate the Swedish compulsory education system.

Keywords

Entrepreneurship Education, Teaching Pedagogies, Teaching Activities, Compulsory Schools

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1 Introduction

It is a widely shared belief that small businesses started by entrepreneurially minded individuals account for a large proportion of job creation, and contribute significantly to a region's economic prosperity. As a result, an increasing number of policymakers, economists, and educators believe that fostering a strong entrepreneurial culture stimulates both individual and regional economic growth. From the 1990s onwards, this belief in the economic value of an entrepreneurial society has initiated a trend throughout Europe and other OECD countries towards the inclusion of entrepreneurship education in all levels of education (Mahieu, 2006; Dahlstedt and Hertzberg, 2013).

Entrepreneurship Education (EE) is a broad notion, which has led to many different interpretations of this new area of education (Gibb, 1993, 1996; Fayolle, 2005; Leffler, 2009; Kirby, 2006; Mwasalwiba, 2010). Initially, many scholars and policymakers put emphasis on EE as a tool to encourage self-employment as a career choice (Elmuti et al., 2012; Blenker et al., 2011). However, new insights advocate the potential impact of EE on an individual's life beyond its sole purpose in an entrepreneurial career, suggesting that thinking and acting like an entrepreneur may impact one's general work performance and life perspective as well (Gibb, 1993, 2002; Fayolle and Gailly, 2008; Dahlstedt and Hertzberg, 2012).

This shift in attitude towards the value of entrepreneurship beyond self-employment has given rise to a considerable growth in EE initiatives (Matlay, 2008). Nevertheless, these initiatives are traditionally focused on higher levels of education such as universities, whereas EE at compulsory school level has yet to gain the same level of traction - a distinction that is reflected by the existent literature and academic research (Gibb, 1993, 1996, 2002; Béchard and Grégoire, 2005; Hindle, 2007; Blenker et al., 2008; Elmuti et al., 2012; Heinonen and Poikkijoki, 2006).

However, EE at lower education levels is recently gaining more attention. Many future-oriented policymakers argue for more emphasis on entrepreneurial values in the compulsory school curricula, and their efforts are starting to pay off. According to Eurydice (2012), the Education Information Network in Europe, EE in schools is currently promoted in many European countries. Yet, the adopted approaches to support EE vary in intensity, and range from sporadic independent initiatives to overarching national educational strategies.

As outlined by Eurydice (2012), Sweden is one of the countries with a specific, nation-wide strategy concerning the implementation of EE in general education. In 2011, driven by the increasing political and corporate pressure, the Swedish curriculum underwent a major revision and adaptation towards the new challenges of education and, for the first time, explicitly coined the term "entrepreneurship", requiring schools to promote entrepreneurial teaching and learning. The current national Compulsory Curriculum (CC) includes the following paragraph (Curriculum for the compulsory school, preschool class and the recreation center 2011, Skolverket, 2011, p.11):

> *The school should stimulate pupils' creativity, curiosity and self-confidence, as well as their desire to explore their own ideas and solve problems. Pupils should have the*

> *opportunity to take initiatives and responsibility, and develop their ability to work both independently and together with others. The school in doing this should contribute to pupils developing attitudes that promote entrepreneurship.*

The critical eye notes that the paragraph is inexplicit about the specific pedagogical techniques and activities involved in the implementation of EE. Similarly, the majority of academic efforts on EE in compulsory schools leaves the question how entrepreneurship is effectively taught unanswered (Gibb, 2002). Some of the few academic studies on EE in Swedish schools include research by Leffler (2009) and Mahieu (2006), who investigated various entrepreneurial school projects in the area of Västerbotten held between 2000 and 2005. Both studies conclude that educators define and teach entrepreneurship in very different ways, and indicate a conceptual confusion on what EE comprises. Note that these studies stem from *before* the 2011 curriculum, which raises the question whether the incorporation of the new EE paragraph in the curriculum has united the EE attempts across Swedish compulsory schools. Moreover, Leffler (2009) and Mahieu (2006) took only few efforts to contrast different perceptions and relate them with concrete teaching activities. Indeed, educators' understanding of EE and the concrete activities to implement it have remained relatively untouched in academic research (Holmgren and From, 2005).

In response to this research gap, our study aims to evaluate the current state of the perception and implementation of EE at Swedish compulsory schools by answering the following overarching research question:

> **"How is entrepreneurship education currently perceived in Swedish compulsory schools, and what teaching methods are implemented to promote entrepreneurship for compulsory school students?"**

For academic research, this study aids in closing the research gap on the perception and the practical implementation of EE in lower-level education. We contribute to the under-represented academic field by applying research on EE in higher-level education on compulsory schools, and by mapping the perceptions of EE with corresponding teaching activities. In doing so, we provide support for any longitudinal studies towards the effects of EE, as researchers can only effectively draw causal connections between EE and the students' learning outcomes if the different conceptions of EE and the inherent teaching methods and activities are extensively assessed and clustered at present level.

For policymakers, this study provides insights into the results of the political efforts to stimulate EE, allowing for a feedback loop that shows how the practical implementation compares to the original political intentions.

Finally, for school teachers and principals, this study outlines the landscape of activities and initiatives taken by different schools, and provides a model of practical examples on how entrepreneurial learning can be effectively implemented in the classroom.

The remainder of this paper is structured as follows. In Section 2, we present a literature review on relevant research regarding our purpose, discussing the different streams of EE, general

pedagogies, and specific teaching activities. From this review, Section 3 constructs the theoretical framework that provides the basis for interpreting our empirical data. Next, Section 4 explains our empirical research methodology, and Section 5 presents our findings and analyzes the results of our research. Finally, in Section 6, we provide our conclusions, implications, and recommendations for further research.

2 Literature Review

This section reveals what is currently known in the literature in relation to EE in general and EE on a compulsory school level in particular. Most of the theory introduced finds its origin in the more densely populated research field of EE in higher-level education, which lays the theoretical foundations to assess EE in a compulsory school setting. We divide our theoretical discussion along the two components of our research question: the perception and the implementation of EE. First, Section 2.1 provides a conceptualization of the term EE, and further classifies EE in terms of different streams and associated intended learning outcomes. Afterwards, in Section 2.2, we discuss what is known in relation to the different types of implementation of EE in terms of teaching pedagogies and concrete activities. Figure 1 shows the different components of our research, along which this section is structured.

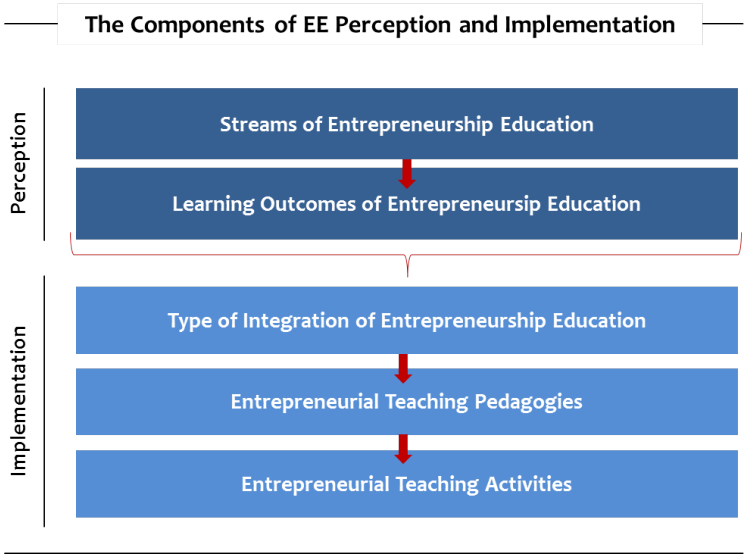

Figure 1: The different theoretical components of our research and their interrelation.

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2.1 Perception of Entrepreneurship Education

The concept of EE is plagued by diverse and ambivalent definitions. This ambiguity is unsurprising given the conceptual vagueness of the term *entrepreneurship* or the individual *entrepreneur* itself (Gartner, 1988; Landström and Benner, 2010). Indeed, research has been unable to conclusively relate *the* entrepreneur with a distinguishable set of character traits and skills (Gartner, 1988).

2.1.1 Streams of Entrepreneurship Education

As a result of the definitional ambiguity surrounding its very fundament, EE has grown into a heterogeneous, fragmented construct (Fayolle and Gailly, 2008; Jones and Iredale, 2010; Mwasalwiba, 2010), making the emergence of different streams of this new educational concept inevitable.

Generally, EE is divided in a stream that primarily encourages to start ventures, and a stream that primarily aims to boost the student's enterprising attitudes, skills, and behaviors (Gibb, 1993; Jones and Iredale, 2010). Hence, the most prominent distinctive dimension of these streams is their purpose. Many different authors have proposed different categorizations and labels for these two streams. For example, Gibb (1993) and Jones and Iredale (2010) label these different streams as *Entrepreneurship Education*, which prepares students for an entrepreneurial career, and *Enterprise Education*, which seeks to foster an entrepreneurial mentality. Similarly, Leffler (2009) proposes different labels for the same distinction, contrasting *External* against *Internal Enterprise Education* respectively.

Numerous scholars recently extended this classification with a three-fold notion (Hannon, 2005; Pepin, 2012; Moberg, 2014). For example, Hannon (2005) and Moberg (2014) distinguish between *Education about*, *for*, and *through Enterprise* - arguing for a truer reproduction of the entrepreneurship education concept and its ambiguous objectives. Education *about* Enterprise is the content-based approach that seeks to transmit explicit knowledge about small business formation. Education *for* Enterprise aims to prepare students to become future entrepreneurs by developing a relevant skillset directly related to new venture creation, and Education *through* Enterprise is the process-driven approach that perfectly shares its nucleus of developing students' general entrepreneurial abilities with the previous concept of Enterprise Education introduced by Gibb (1993) and Jones and Iredale (2010).

This multitude of classifications has yielded much confusion among scholars and practitioners, oftentimes because of the non-descriptive nature of the applied labels (Mahieu, 2006). In particular, Gibb's labeling of Entrepreneurship and Enterprise Education has frequently been used incorrectly and often enough raises questions about the concepts behind these streams.

Therefore, we propose alternative labels that more intuitively reflect the core of the two streams: *Small Business Education*, which represents the narrower, business-related vision, that aims at acquiring the relevant knowledge and skills to start a company; and *Entrepreneurial Mindset Education*, which represents the broader, multi-purpose vision of entrepreneurship, and aims at developing an entrepreneurial mind- and skillset - argued to be relevant in all domains of life. Figure 2 shows how our classification relates to those of the before mentioned authors.

The Different Labels of EE Streams

	- Small Business Education - = aims at acquiring the relevant knowledge to start a company	*- Entrepreneurial Mindset Education -* = aims at developing an entrepreneurial mind- and skillset
Gibbs (1993), Jones & Iredale (2010)	Enterpreneurship Education	Enterprise Education
Leffler (2009)	External Enterprise Education	Internal Enterprise Education
Pepin (2012),	Entrepreneurship Education & Small Business Education	Enterprise Education
Hannon (2005), Moberg (2014)	Entrepreneurship Education *about* Entrepreneurship & Entrepreneurship Education *for* Entrepreneurship	Entrepreneurship Education *through* Entrepreneurship

Figure 2: Our proposed classification of EE streams and their relation with existing literature.

As introduced in Section 1, the emphasis, both from academics and practitioners, has traditionally been on Small Business Education, which is still widely taught in higher educational spheres (Mwasalwiba, 2010; Carrier, 2007; Gibb, 2002). However, since entrepreneurial skills and attitudes, such as leadership, perseverance, and creativity, are considered invaluable in our present society for both entrepreneurs and non-entrepreneurs, Entrepreneurial Mindset Education has gained a wider foothold in the strategic and operational landscape of compulsory education (Studdard et al., 2013). Consequently, many scholars argue that the Entrepreneurial Mindset Education fits more appropriately with the principles, values and challenges at the lower-level education in primary and secondary schools (Jones and Iredale, 2010; Leffler, 2009; Pepin, 2012).

2.1.2 Learning Outcomes of Entrepreneurship Education

The aforementioned EE streams and corresponding goals naturally translate into diverse learning outcomes. In light of previous literature, it is worthwhile to note that the goals and learning outcomes of EE have mistakenly been used interchangeably. However, it should be highlighted that the EE goals, such as generating economic wealth through new venture creation, apply to a broader, societal level (macro level), whereas the entrepreneurial learning outcomes are concerned with the individual level (micro level), and describe individually acquired and developed knowledge, skills and attitudes that, ultimately, may contribute to these larger goals.

With an endless list of learning outcomes such as inner drive, self-awareness, and problem-solving skills, the prevailing literature on EE has spawned a far-reaching collection of learning outcomes that clearly indicate the lack of a unified perspective towards that matter. To avoid such loose enumeration of outcomes - that more closely resemble a list of buzzwords than a thoughtful compilation -, we distinguish between the categories *Knowledge-*, *Skills-* and *Attitudes-Based Learning Outcomes*, as proposed by the European Commission (2012), and based on theories by Gibb (1993, 2002) and Heinonen and Poikkijoki (2006).

Knowledge-Based Learning Outcomes

The entrepreneurially-oriented knowledge to be transmitted through EE can be divided into two overarching domains. First, EE should convey knowledge about self-employment as a career choice. Second, EE seeks to impart relevant knowledge in terms of business concepts. Students should have a sound knowledge of business organizations and processes, and how these concepts differ in start-up like environments. Knowledge of strategy, marketing, leadership, resource allocation, human capital, and economic and financial literacy constitute a large part of the EE knowledge dimension (Moberg, 2014; Garavan and O'Cinneide, 1994).

Skills-Based Learning Outcomes

Elmuti et al. (2012) argue that entrepreneurial skills comprise three distinct categories: technical skills, business management skills, and personal entrepreneurial skills. Among the technical skills, organization and communication skills are most important. Business management skills include decision-making, marketing, planning, and financial skills, while personal entrepreneurial skills comprise persistence, creativity, and innovation. Following a similar line of thought, Gow (1997) differentiates between social and personal skills. Social skills encompass the ability to effectively work in groups and communicate in speech and writing. Personal skills include skills like flexibility, adaptability, openness to new ideas, and innovativeness. Gibb (1993, 2002) adds problem-solving skills, persuasiveness, and negotiating to the list of skills associated with EE. Räisänen and Räkköläinen (2014) further pinpoint to the importance of reflective skills that guide students to learn from experiences, and to evaluate personal activity and actions made by others.

Attitudes-Based Learning Outcomes

In the literature, it is widely argued that EE aims at developing and steering the students' attitudes towards becoming more open-minded, curious, independent, and self-confident in order to better cope with future demands. According to the European Commission (2012), the entrepreneurial attitudes taught at educational institutions should compile two main aspects: confidence and initiative. Confidence consists of self-awareness, which entails discovering one's own abilities, and self-confidence, which involves trusting them enough to turn one's creative ideas into action. Initiative implies empowerment through critical thinking, creative problem-solving and action-taking, - all fundamental entrepreneurial attitudes that develop the students' "enterprising self". Most of these concepts have been considered by Gibb (1993, p.14) under the umbrella of *behaviors*. In his elaboration, he acknowledges behaviors such as "actively seeking to achieve goals", "creatively solving conflicts", and "flexibly responding to challenges" as entrepreneurial. We believe that these concepts are closely linked to one another as attitudes are known to drive behaviors to a large extent.

Naturally, the different streams introduced in Section 2.1.1 correspond to different intended learning outcomes, as shown in Figure 3. It is claimed that Small Business Education covers the whole

spectrum of attitudes, skills and knowledge, with an emphasis on knowledge-based learning outcomes. In contrast, in Entrepreneurial Mindset Education, the focus tends to solely be on attitudes and skills-based learning outcomes, with an emphasis on attitudes.

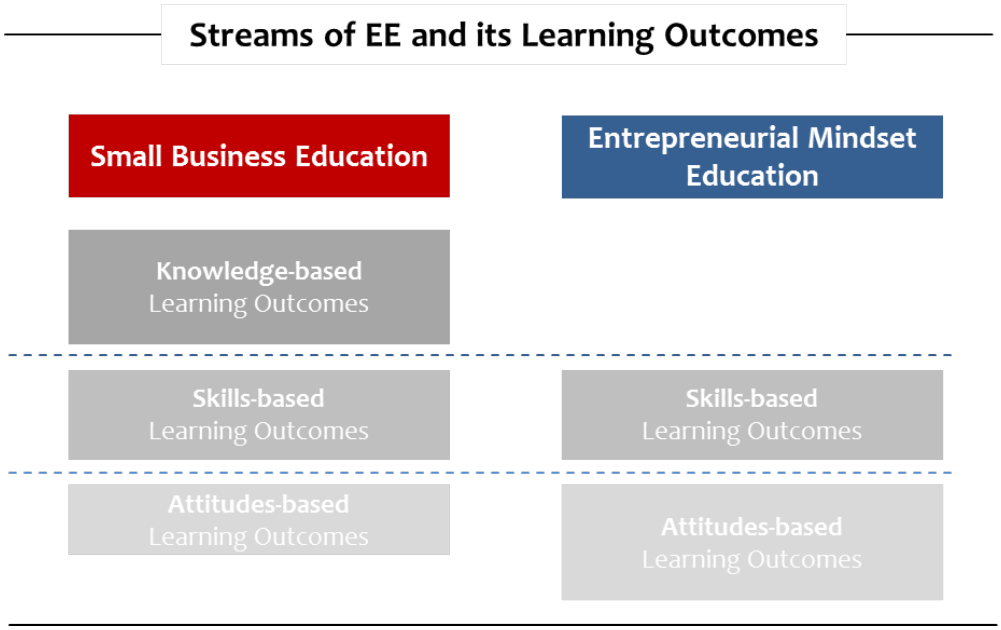

Figure 3: Relation between streams of EE and corresponding individual learning outcomes

2.2 Implementation of Entrepreneurship Education

In line with the previous discussion on the different streams of EE and corresponding learning outcomes, the implementation of EE equally varies. There are only few academic articles on that matter (Rahman and Day, 2014), which typically lack profound empirical evidence and a common teaching model (Béchard and Grégoire, 2005; Blenker et al., 2012; Rahman and Day, 2014). However, in light of the enduring confusion on how EE should be implemented, more emphasis on an entrepreneurial teaching model, outlining the type of integration, teaching pedagogies and concrete activities, would certainly create some remedy for scholars and practitioners.

2.2.1 Type of Integration of Entrepreneurship Education

The type of integration of EE changes according to the stream of EE, where Small Business Education is typically taught in a separate subject, and Entrepreneurial Mindset Education through a more cross-curricular approach. Whereas EE has traditionally been incorporated into a variety of social science subjects such as business studies, economics and career-related courses, numerous academics recently started to claim that entrepreneurial teaching and learning should be implemented throughout all subjects - in particular at compulsory school level (Mahieu, 2006; Dahlstedt and Hertzberg, 2012). Therefore, given its broader and transversal learning outcomes, Entrepreneurial Mindset Education is highly apt to be generally embedded into multiple contexts and lessons rather than being taught as a single, specific topic (Mahieu, 2006; Moberg, 2014).

2.2.2 Entrepreneurial Teaching Pedagogies

Beyond the different types of integration of EE in the classroom, the literature is inconclusive regarding *the* entrepreneurial teaching pedagogy - particularly for lower-level education. Focusing on entrepreneurship as an educational sub-dimension within business education and management sciences, so-called *entrepreneurial teaching pedagogies* of university programs have been extensively investigated (Gibb, 1996; Béchard and Grégoire, 2005; Kirby, 2006; Elmuti et al., 2012; Rahman and Day, 2014). Still, Béchard and Grégoire (2005) point at the studies' insufficient connection with relevant pedagogical theory, and come to the conclusion that even at university level, - despite being the most widely examined unit of analysis -, comprehensive pedagogical frameworks for EE are generally missing. As a result the entrepreneurial pedagogy is oftentimes loosely equated with other, pre-existing pedagogies, raising the question whether we can actually speak of an independent and distinctive entrepreneurial pedagogy.

Yet, it is clear that many scholars share the belief that EE requires a shift in pedagogical orientation and should be taught through non-traditional teaching pedagogies (Gibb, 1993, 2002; Heinonen and Poikkijoki, 2006; Jones and Iredale, 2010; Carrier, 2007; Seikkula-Leino, 2011). Gibb (1996) argues that EE moves from a merely didactic approach towards an entrepreneurial approach, and Leffler (2009, p.6) describes this widespread train of thought as follows: "Traditional education is described as reactionary and conservative, and entrepreneurial education as progressive and innovative."

The progressive pedagogy, which is an umbrella term of many non-traditional pedagogies such as the Montessori pedagogy, show vibrant similarities with the so-called entrepreneurial pedagogy (Dahlstedt and Hertzberg, 2012). Similar to how the entrepreneurial pedagogy is described, the progressive pedagogy clearly has a student-centered approach, encouraging individual development and learning (Dewey, 1929; Montessori, 1912). Differences among students are recognized and appreciated by the educators and instructors, and teaching methods are adapted accordingly. Students engage in active participation characterized by open discussions, critical argumentation, and problem-driven activities, and teachers shift from an educational monologue towards an engaging dialogue with their students while making use of working methods that stimulate their student's abilities (Leffler, 2009; Pizarro, 2014). Fueled by these defining aspects, both the progressive and the entrepreneurial pedagogy seem to protest against traditional educational doctrines that rest on generalization, hierarchy, and limiting choices, and barely reflect the reality outside of school (Leffler, 2009).

Similarly, Pizarro (2014) argues that the entrepreneurial pedagogy should follow an *experiential* and *action-based* approach. Both theories are highly connected with each other. Experiential learning is defined as the process of learning through the transformation of experience (Kolb, 1984) and draws upon the famous expression of *learning by doing* advocated by Dewey (1929). Learning occurring through experience can have many facets and is oftentimes a consequence of action-taking, hence its close relation with action-based learning theories has been vastly outlined by numerous authors (Schunk, 1996; Heinonen and Poikkijoki, 2006; Rahman and Day, 2014). It

is often suggested that EE is highly driven by actions, as they grant higher autonomy and empowerment over one's own learning progress. Moreover, action-based learning is closely intertwined with task-, content-, problem-, project-based, and exploratory learning theories (Lier, 2007) - concepts that have been presented as important cornerstones of the entrepreneurial teaching pedagogy.

Linking all these non-traditional pedagogies and learning theories explicitly with EE, Gibb (1993) is one of the few scholars who tried to outline an entrepreneurial teaching framework. His model attempts to introduce the three major aspects of small enterprises into an educational context (see Figure 4). Although primarily directed at university-level, all of his three key principles can be found - either explicitly or implicitly - in papers related to compulsory school levels (e.g., Leffler, 2009; Mahieu, 2006), and therefore form a relevant basis for our theoretical foundation.

- First, Gibb (1993) argues for a learning environment that seeks to offer students high levels of autonomy and responsibility in order to encourage them to be active agents in their learning. With a high degree of autonomy, the students possess more freedom and flexibility while steering their personal development.
- Second, he strongly advocates a project management task structure under uncertainty. Teachers and students should be able to work on projects that realistically depict uncertain conditions and circumstances that require high levels of self-reflection and feedback gathering. Projects and tasks should cover all phases from idea generation to planning, implementation, and evaluation.
- Third, he suggests that educators should direct strong focus on entrepreneurial teaching methods - in contrast to traditional didactic methods - using approaches like learning by doing, conducting action-oriented projects, and allowing students to experiment and to learn from their mistakes.

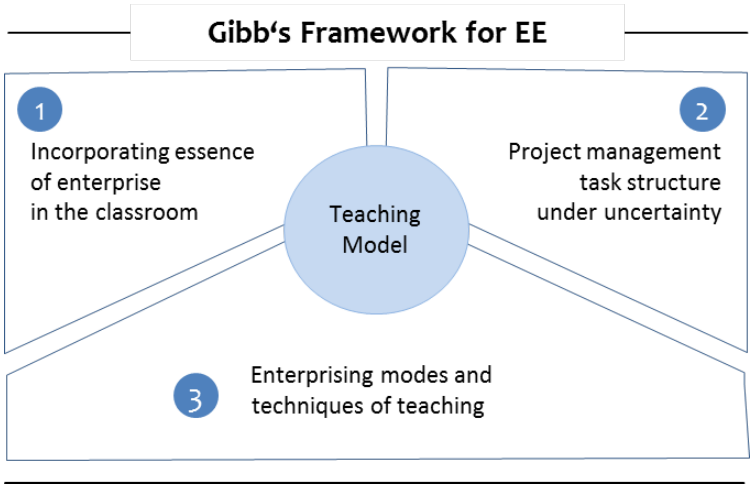

Figure 4: Teaching Model for EE according to Gibb (1993)

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Gibb (1993) argues that the model for entrepreneurial education will be successful in creating

entrepreneurial knowledge, skills, and attitudes when all three conditions are met, although there has been little empirical evidence for this claim.

2.2.3 Entrepreneurial Teaching Activities

Given the lack of a distinctive entrepreneurial pedagogy, it is no surprise to find a lack of consensus regarding distinctive entrepreneurial teaching activities. Instead, many progressive, pre-existing teaching activities are loosely described as enterprising teaching methods, as they seek to fulfill their students' entrepreneurial potential (Carrier, 2007; Hindle, 2007). These activities range from action-oriented seminars to discussion groups, and from real-life projects to virtual or so-called pseudo projects. Real-life projects include placements in companies, company visits, community projects, case studies in corporation with the industry, school events, student-consulting projects or even student-led mini-companies, while pseudo projects encompass fictive case studies, simulations, and group research projects initiated by the teacher. Although only little empirical evidence can substantiate whether these techniques are actually enterprising, they all have been labeled as *entrepreneurial* in previous studies.

For example, Jones and Iredale (2010, p.9) promote a stronger focus on collaboration between education and industry to enhance EE. They propose to "involve employers more centrally in young people's education" and argue in favor for a variety of activities that can be embedded within the curriculum. For example, work placements, business start-up simulations, research and consultancy projects, careers talks, business ideas generation, and business planning are great ways to add relevance and engagement to their learning. On top of that, Fayolle and Gailly (2008) emphasize the opportunities of role-play and problem-based inquiries. They stress the importance of multimedia tools such as websites and videos that can prove useful in fostering more independent and autonomous teaching and learning. Leaning extensively on the concepts of mentoring, Rahman and Day (2014) highlight the benefits of exposing the students to different enterprising role models that can range from successful entrepreneurs to parents and teachers. Another activity suited for entrepreneurial learning is the *flipped classroom* concept. Following the principles of blended learning, students first learn about subjects independently at home using online or video lessons before the newly gained knowledge is applied and discussed in the classroom. Once again, the teacher's task drives away from only imparting knowledge towards tutoring students during their practical work and thus, opens new alleys for personalized guidance (Wang et al., 2015).

It is suggested that some subjects and topics allow for more entrepreneurial methods than others, whereby the selection of techniques is highly influenced by the objectives and contents given in the institutional context, the students' abilities and the teacher's preferences and teaching habits (Gibb, 1993; Fayolle and Gailly, 2008; Leffler, 2009). As shown in Figure 5, Gibb (2002) provides a first template that aims to connect a range of teaching activities at university level to entrepreneurial skills and attitudes. Among the first authors trying to map entrepreneurial teaching activities to entrepreneurial learning outcomes, Gibb presents which activities are rather likely to stimulate certain entrepreneurial attitudes and skills. According to his elaboration, workshops

on problems and opportunities would highly foster the students' creative problem-solving skills, whereas, for example, regular and passive lecturing fails to promote any of the acknowledged entrepreneurial qualities.

	Seeking opportunities	Taking initiatives acting independently	Solving problems creatively	Persuading /influencing others	Making things happen	Dealing with uncertainty	Flexibly responding successfully	Negotiating a deal	Taking decisions	Presenting confidently	Managing interdependence successfully
Lectures											
Seminars			*					*		*	*
Workshops on problems/ opportunities	**		***	*				*	**		
Critiques			*	*			*				
Cases									*	*	
Searches	*	*			*	*					*
Critical incidents			*			*	*		*		
Discussion groups			*	*				*			*
Projects	*	*	*		*	*		*	*	*	*
Presentations				**						**	
Debates				**						**	
Interviews			*	*		*	*	*			
Goldfish bowl				*			*	*			*
Simulations			*	*			*	*	*	*	*
Evaluations	**										
Mentoring each other			*	*		*	*	*			*
Interactive video							*		*		
Internet											
Games	*	*	*	*	*	*	*	*	*	*	*
Organizing events		**		**	**	**		**	**		*
Competitions											
Audit (self) instruments											
Audit (Business) instruments											
Drawings			*	*							
Drama				*		*				*	
Investigations			*		*				*		
Role models											*
Panel observation				*				*	*		*
Topic Discussion		*		*			*			*	*
Debate					*			*			
Adventure training	*		*	*		*	*		*		*
Teaching others			*	*		*	*	*		*	*
Counselling			*	*			*	*			

Figure 5: Teaching activities connected to entrepreneurial learning outcomes. Source: Gibb (1993).

3 Theoretical Framework

This section builds on the previous literature review by combining independent elements and theories, along the perception and implementation dimensions, into one comprehensive theoretical framework that specifically applies to the landscape of Swedish compulsory schools.

Perception of Entrepreneurship Education

In terms of the previously established different streams, we find that policy documents for European compulsory schools in general steer towards the Entrepreneurial Mindset Education stream, arguing for the school's responsibility to develop enterprising individuals rather than future entrepreneurs. The European Commission (2013, p.5) phrases it as follows in its Entrepreneurship Education Guide for Educators:

> *Entrepreneurship education is more than preparation on how to run a business. It is about how to develop the entrepreneurial attitudes, skills, and knowledge which, in short, should enable a student to turn ideas into action.*

Sweden follows the same line of thought, which becomes apparent from the learning outcomes in the curriculum. The learning outcomes that are explicitly linked with EE in the 2011 CC are *creativity*, *curiosity*, *self-confidence*, *desire to explore own ideas*, *problem-solving abilities*, *initiative*, *responsibility*, and *collaboration*. Building on our discussion in Section 2.1.2, all these learning outcomes belong to the attitudes and skills categories, with an emphasis on attitudes, whereas learning outcomes connected to knowledge are not addressed (see Figure 6). As a result, now that the CC explicitly stipulates these learning outcomes, we expect that - in contrast to previous findings by Mahieu (2006) and Leffler (2009) - the perceptions of principals and teachers on EE outcomes are more converged towards these attitudes- and skills-based learning outcomes.

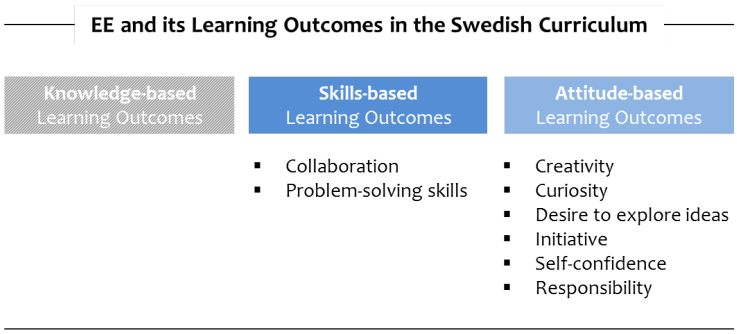

Figure 6: The EE learning outcomes mentioned in the Swedish 2011 CC.

Implementation of Entrepreneurship Education

In terms of type of integration, Section 2.2.1 already showed that a cross-curricular approach is more suitable for compulsory schools. This is reflected by the national steering documents in Sweden, which advocate EE to be taught throughout all subjects. In fact, Figure 7 shows that Sweden is one of the few European countries where EE is actively promoted as a cross-curricular concept.

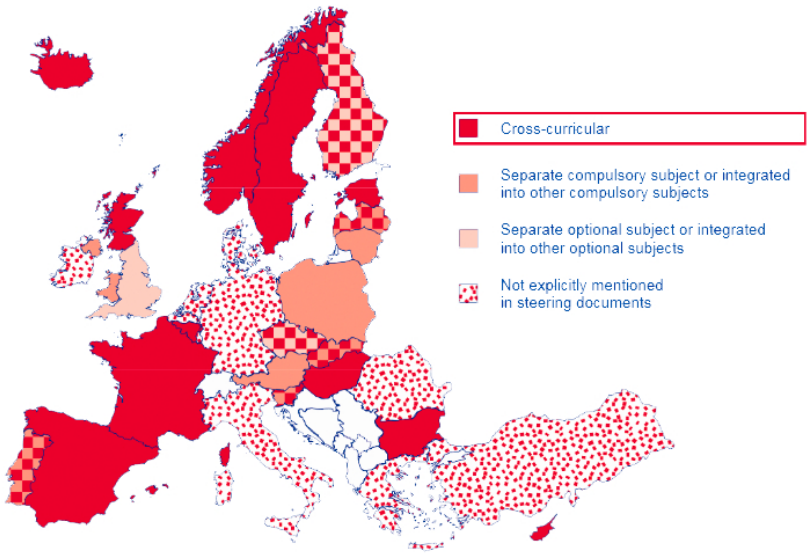

Figure 7: Approach to EE in compulsory schools according to national steering documents. Source: Eurydice (2012)

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On top, for numerous specific subjects - ranging from scientific to artistic subjects - the curriculum mandates certain activities that show implicit similarities with the entrepreneurial teaching and learning principles. Specifically, for the subject Technology in grade 7-9, EE learning outcomes such as idea exploration, decision-making, and problem-solving are posed as follows:

> *Pupils can carry out very simple work on technology and design by systematically testing and retesting possible ideas for solutions, as well as designing well developed physical or digital models. During the work process, pupils formulate and choose action alternatives that lead to improvements.*

For the subject Crafts in grade 7-9, similar phrasing implies entrepreneurial learning outcomes such as creativity, idea exploration, and initiative-taking:

> *Pupils in crafts can develop ideas in interaction with inspirational material provided and material which pupils have themselves obtained. In addition, pupils can systematically try and retry how material and handicraft techniques can be combined with respect to the form and function of an object. During the work process, pupils formulate and choose action alternatives that lead to improvements.*

However, despite political intentions, studies on entrepreneurship projects in Swedish schools from before the 2011 CC indicate that entrepreneurial initiatives in schools have barely been integrated into the daily teaching strategies (Leffler, 2009; Mahieu, 2006). Instead, the initiatives were rather conducted as separate and additional projects, and were rarely aligned with the regular lesson plans, raising the question whether these policy documents adequately reflect the current practice in school.

In terms of teaching pedagogies, Hartman et al. (2005) argue that the progressive pedagogy has certainly permeated the Swedish school system throughout the last decades and left an essential cornerstone for entrepreneurial learning and teaching. Given the popularity of the progressive pedagogy throughout Swedish schools, we use the previously introduced entrepreneurial teaching model by Gibb (1993) - explicitly relating the progressive pedagogy with EE - as the foundation for our investigation on entrepreneurial teaching pedagogies in lower education institutions. Gibb (1993, p.23) clearly indicates the appropriateness of his model for lower-level education, by describing that "it is not at all essential that the project and associated task structure [of this model] is strictly that of a commercial independent business, [...] [a]nd the learning goals may indeed have nothing to do with business: they can range from improving understanding of a particular historical event, to enhancing appreciation of a poem, to improving numeracy and writing ability."

In terms of the concrete activities used to promote entrepreneurship among compulsory school pupils, we build on the template by Gibb (2002) directed at higher education (see Section 2.2.3). However, in an attempt to create a comprehensive list of teaching activities that is more suitable for

compulsory school, we adapt his template, based on additional teaching activities mentioned by the previously quoted scholars (e.g., role-play (Fayolle and Gailly, 2008) and mentoring (Rahman and Day, 2014)). Following Gibb's train of thought, we relate this diverse spectrum of teaching activities to their intended learning outcomes, whereby we confine ourselves to those learning outcomes explicitly advocated in the current Swedish CC. Thereby, we seek to achieve consistency throughout the entire framework, and ensure its applicability for Swedish compulsory schools. This mapping is outlined in Figure 8, and serves as a basis to assess and compare the practices we find empirically.

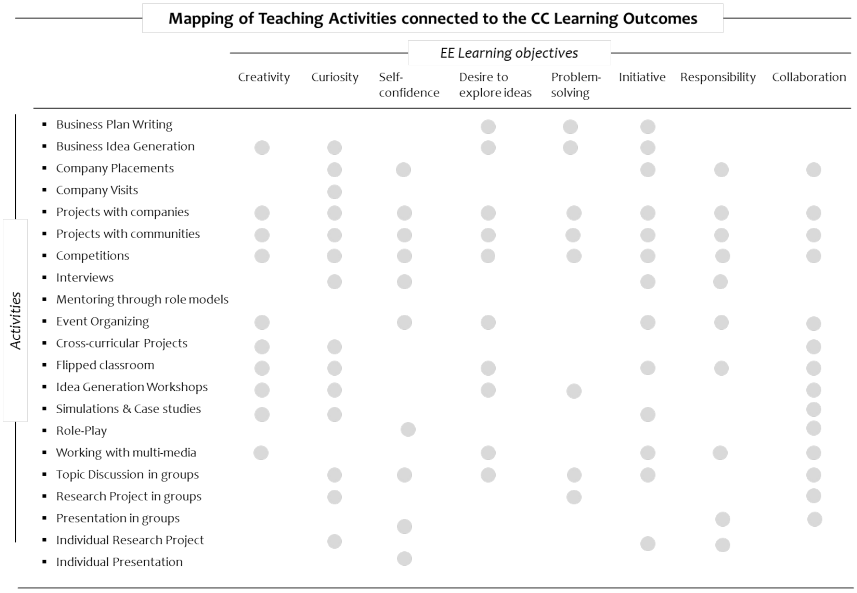

Figure 8: Teaching activities connected to entrepreneurial learning outcomes promoted in the Swedish curriculum - adapted from Gibb (2002)

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By combining all these independent elements, we construct the theoretical framework that blends perceptions with implementations of EE in Swedish compulsory schools, and forms the basis for our empirical research. Similar to how Figure 1 (see introduction of Section 2) outlined the individual components of our study, Figure 9 provides the same outline where every component is filled with a suitable theoretical fundament.

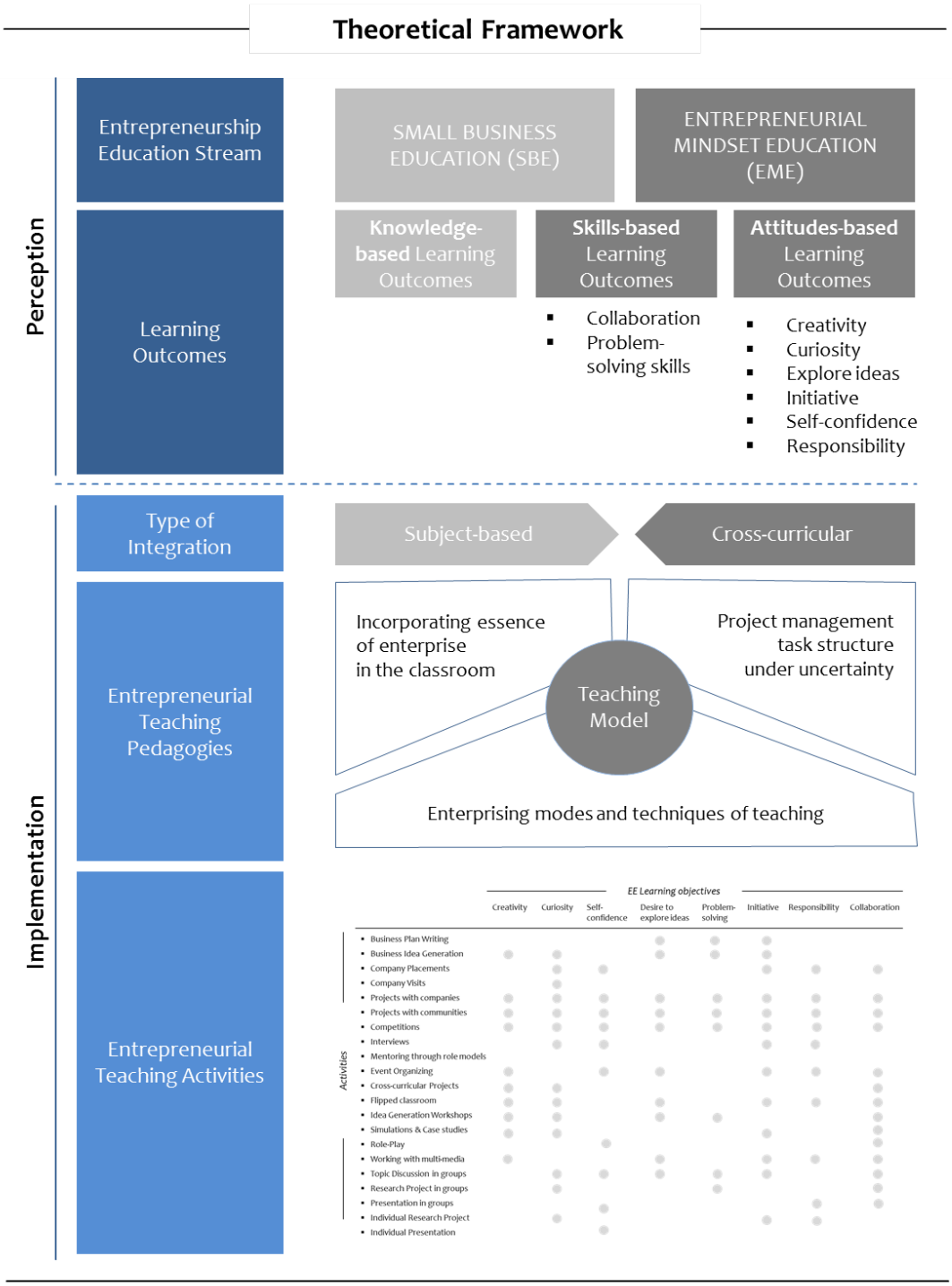

Figure 9: Theoretical framework of perceptions and implementations of EE in Swedish compulsory schools. The darker shades of gray indicate alternatives that are more suitable for lower-level education, and are emphasized in specific policy documents for Swedish compulsory schools.

4 Methodology

The key purpose of this section is to describe the research design and methodology we employ. We consecutively discuss our research design in Section 4.1, our sampling strategy and procedure in Section 4.2, and our data analysis method in Section 4.3. Finally, we discuss the ethical considerations of our research and the limitations of our data collection approach.

4.1 Research Design

This research adopts a descriptive and exploratory approach with the aim to thoroughly investigate the perception and implementation of EE in compulsory schools from the educators' viewpoint. Our unit of analysis is the Swedish compulsory school, the so-called Grundskolan, which houses students between 6 and 15 years old. Within each school, we conduct interviews with the headmaster in order to portray and deduct the overall strategic perspective towards EE in schools, and two teachers, teaching in grade 5/6 and 8/9, to gain insights from an operational standpoint.

By conducting semi-structured interviews with principals and teachers from multiple schools, this empirical research adopts a qualitative approach based on various cases. According to Saunders et al. (2009), descriptive and exploratory research designs are highly suitable for qualitative studies which attempt to depict a phenomenon in a new light or context, and thus, are highly appropriate for our investigation. In light of the work by Yin (1981, 2003, p.13) on case study analysis, "a case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially then the boundaries between phenomenon and context are not clearly evident". Case study designs can either follow a single- or multiple case approach, whereas the multiple case study design is generally argued to provide more robust analytical conclusions and thus, increases the external validity of our study (Yin, 1981; Eisenhardt, 1989).

Yin (2003) argues that case studies can be particularly useful when research questions pose "how?" questions, and when the components of a novel phenomenon have not yet entirely been assessed. The use of multiple cases is especially appropriate for purposes of description and comparison. Since every individual experiences their own reality, the multiple case study design serves to evaluate and comprehend different perspectives on the emergent topic of EE in schools. For our research, this method does not only entitle us to conduct a cross-unit analysis, comparing the different schools examined, it also guides us in our analysis within each case, contrasting the teachers' and principals viewpoints against each other. Case studies can be assessed by a variety of means such as experiments, observations, and interviews. Yet, as described by Stake (1995, p.64), an interview "is the main road to multiple realities" and, given our limited time frame, constitutes the most suitable mode to gather the information.

The research follows an abductive approach which enables us to contrast the existing theory from EE in higher education against newly gathered information on EE in lower educational institutions throughout the interviews, and thereby, increases our understanding of the underlying research topic at hand (Reichertz, 2010). Moreover, the abductive approach helps us to grasp

novel perspectives and viewpoints based on the interviewees' perceptions and remarks, which in turn present new insights that were not necessarily captured within previous secondary and primary research projects - a very likely outcome given the newness of EE at compulsory school level. Finally, this research is cross-sectional, as the interviews on EE have been conducted at one particular point in time.

4.2 Sampling and Case Selection

In this section, we discuss our sampling technique, and the basis on which we select our cases. As discussed in Section 4.1, our unit of analysis is the Swedish Grundskola. In each school we interview the principal and two teachers in similar grades in order to get a fairer idea about the implementation of EE in the whole school, and to have the same basis for comparison across schools. In total, we analyzed four schools in Malmö and Lund, Skåne, and therefore conducted 12 interviews, which is highly in line with Guest et al. (2006) who affirm that 12 in-depth interviews would be sufficient, if the sample presents a fairly homogenous group. The process of selecting each school, and the interviewees within that school was identical for each case. With the aim to find highly valuable interview partners, we adopted a combination of the purposive sampling, the convenience sampling, and the snowball sampling methods.

The purposive component of our sampling strategy consists of aiming for a proper representation of the entire Swedish school population in terms of school type (regular public schools versus independent schools), and student body (including different types of neighborhoods and socio-economic backgrounds). As a result, we include three regular public schools, and one Montessori school (in line with the national distribution of 5.600 compulsory schools of which around 900 are independent *friskola*), with students ranging from well-educated to socially disadvantaged backgrounds. The purposive sampling technique helps us to select cases that would grant us rich information, and is suitable when working with small samples, and an in-depth research purpose (Saunders et al., 2009; Bryman and Bell, 2011).

The convenient component of our sampling is underlined by our regional focus on Skåne, that enables us to conveniently conduct face-to-face interviews, and best fits studies with a short time period allocated to the data collection processes (Saunders et al., 2009; Bryman and Bell, 2011).

The snowball sampling component lies in the fact that we let the principal set up the interviews with two teachers, provided they fit our grade criterion. This technique is often used when it appears difficult to identify members of the desired population (Saunders et al., 2009). Naturally, this case selection approach presents severe self-selection biases, which are discussed in Section 4.6.

4.3 Units of Analysis

In the following, we briefly introduce the four schools that we include in our sample.

Lindeborgsskolan, Malmö

Lindeborgsskolan is a public school situated in Hyllie, Malmö, and hosts classes from pre-school to 9th grade. Currently, Lindeborgsskolan counts 670 students, from which 250 students visit pre-school until grade 5, and 420 pupils are enrolled in grade 6 - 9. Within the body of students, approximately 30% - 40% have an immigration background, an average proportion in the city of Malmö. In terms of overall student performance, Lindeborgsskolan ranks in the mid-range. The school established their vision under the umbrella "Learning for the future - with the tools to succeed", which is actively advocated on their website. All activities within Lindeborgsskolan should be permeated by and follow the three pillars of "Engagement, Inspiration and Challenges". High emphasis is placed onto creative subjects such as music, drama, film, dance, and arts, which are acknowledged to be vital in the student's development. At Lindeborgsskolan, we conduct interviews with the principal Karl Axel Arvidsson, Jens Brixhagen, an English and Swedish teacher with 23 years of experience in teaching, and Jan Persson, an Arts teacher with 25 years of experience.

Bergaskolan, Malmö

Bergaskolan is a public school located in Linhamm, one of the better-situated areas of Malmö, and currently hosts 300 students in grades F-5, and 600 students in grades 6 - 9. Students mainly come from highly educated families with quite demanding parents and a strong focus on good grades. Given that the students' performance is quite high, the school enjoys a very good reputation in the greater area of Malmö. The school's policies mainly focus on the overall national curriculum without any special emphasis on a more individual vision. Yet, their website acknowledges "Order and Consistency" as two of the main ingredients for the school's success. Interviews were held with the principal Rikard Persson, who accumulates 17 years of experience as a teacher and holds the position of principal since 2008, Sofia Nordberg, a Social Science and Home Science teacher, and Per Beckmann, teacher for Math, Sciences, and Teknik, with more than 15 years of experience.

Fäladsgårdenskolan, Lund

Fäladsgårdenskolan is a school with grades ranging from 6 until 9, and is located in the area of Fäladen in the north of Lund. Currently, the school has about 450 students with an average of 22 students per class. Within the educational landscape, Fäladsgårdenskolan is a well-known institution, mainly due to its rigorous advances and school development projects throughout the last years. While the school has been described as a "problem school" some years ago, today the school enjoys an excellent reputation among parents and children presenting very good student results and a high-level infeed of students every year. During this phase of constant improvements and progress, the school has created and adopted an internal vision, presenting themselves as "the school where students and teachers create tomorrow's skills through creativity, collaboration and knowledge". In this school, we gained insights from interviews with the principal Viveca Dahl, who is still teaching at her school, Ann Stjernquist, a Spanish and Swedish teacher with 15 years of

experience, and Ingrid Tidvall, educator in music and dance with more than 8 years of experience.

Maria Montessori School, Malmö

Maria Montessori School is an independent school following the Montessori pedagogy, situated in the outskirts of Malmö. Only built in 2002, the school is comparably small and currently hosts around 200 students in grades F - 9 with an average of 20 students per class. The student body presents a great mix of different backgrounds, ranging from very well-situated to more socially disadvantaged backgrounds, with a considerable number of students coming from Rosengård, a less fortunate area in Malmö. Following the Montessori pedagogy, the school's aim for their students is to become confident, independent and creative individuals who appreciate learning through discovery and experimentation and take on more responsibility. Stressing the student's involvement in their own learning, students develop an individual working plan aligned with their needs and preferences, and learn in mixed and smaller groups. At Maria Montessori School, we conducted interviews with the merely unexperienced principal Martin Akerman who holds his position only since 2014, Eva-Lena Nilsson, a Swedish teacher with 12 years of experience, and Alexander Holzmann-Ekholm, a Religion, History and German teacher since 2009.

4.4 Data Collection and Analysis

Previous to our in-depth interviews, we conducted a small pilot study with one teacher and one principal in order to assess perceptual differences (in terms of teaching pedagogies and activities), clarify terminology used to transmit our inquiry, and test different types of questions. As described before, both the strategic and operational perspectives gave valuable insights into the phenomenon of EE in schools. Unlike the teacher who focuses on their teaching practices and subject-specific circumstances, the headmaster points out the broader and more strategic connections between the school's general vision and entrepreneurial teaching and learning requirements. In our pilot study, we found that the term EE was not always equally well understood, which underpins the importance of open-ended questions, as mentioning explicit EE concepts can lead the respondent into a certain direction and inhibit us from sketching a realistic picture of this phenomenon in schools. Therefore, the interview guide's questions (see Appendix A) were carefully adapted after the pilot tests.

The in-depth interviews follow a semi-structured manner as they are both guided as well as flexible to the interviewees' responses and observations. In other words, while pursuing a consistent line of topics and inquiries, the actual stream of questions is less rigid in this type of case study interviews (Rubin and Rubin, 2005). Most of the questions asked are of an open-ended nature to create a comfortable conversational atmosphere, encourage respondents to take a clear position, defend their propositions (Stake, 1995; Yin, 2003), and properly address the open-ended nature of our research question. The interviews are carried out face-to-face in their corresponding schools and audio-recorded to facilitate the subsequent process of analysis. Following this mode

of information gathering, we are able to acknowledge social cues such as gesture, mimic and voice that can offer additional insights.

Each interview lasts approximately one hour, ranging from 40 minutes to 100 minutes depending on the acquired, and necessary depth of the interview. The interviews begin with some basic questions with regard to the school and the interviewee's background. Afterwards, our questions cover the different dimensions and concepts of EE, as well as questions regarding its implementation as outlined in our theoretical framework (see Figure 9 in Section 3).

Although our interview guideline is structured to cover a multitude of different sub-dimensions of EE in educational institutions, our initial categorization was altered and modified throughout the interview process as new input was received and led to the discovery and recognition of novel aspects in addition to our preconceived notion. This is highly relevant in light of the grounded theory taught by Strauss and Corbin (1998), who suggest that new data may originate in qualitative research beyond the sections of a priori categorization, especially if the research follows an exploratory approach. As proposed by Miles and Huberman (1994); Saunders et al. (2009), and Bryman and Bell (2011), all data is transcribed, conceptualized, and related to predetermined categories in a process that is described as *conceptual* or *open coding*. Coding is a valuable method to systematically handle huge amounts of raw data, recognize alternative meanings of concepts and phenomena, and identify the most relevant cornerstones of the eminent theory (Strauss and Corbin, 1998). Once all data was broken down into separate interpretable units (Eisenhardt, 1989), the data is compared with each other in order to detect similarities and discrepancies in the process of *axial transformation* or *axial coding*. This procedure specified by Strauss and Corbin (1998) seeks to detect and clarify the relationships between the pre-specified set of categories and sub-categories as well as to investigate the within-group and inter-group connections (Eisenhardt, 1989; Yin, 2003). The collected data was analyzed by finding similarities as well as differences among our interview partners in order to find patterns of how their entrepreneurial teaching activities differ according to their perception and understanding of EE in compulsory school. Further, the most relevant categories for both our own research proposal and previous research and literature on EE were selected in the course of *selective coding* (Strauss and Corbin, 1998), to eventually draw conclusions and verifications. Appendix B shows the identified and applied categories throughout this empirical research. A cross-case approach to analyze the prevailing schools helped us to finally assess and answer the overarching research question.

4.5 Ethics

In this section, we discuss the importance of ethics throughout our research, according to the five ethical considerations of qualitative research suggested by Bryman and Bell (2011).

- Information requirement: Before the start of any interview, we are completely transparent about the purposes of our research, and the role of the interviewee within that research. We explain how the interviewee's responses would be presented in the results section, and how the thesis would be published.

- Consent requirement: Every interview occurs on a voluntary basis, with the interviewee having the right to quit the interview at any given time. Moreover, the interviewees are explicitly asked for the possibility to record the conversation.
- Confidentiality requirement: The raw data, the recorded and transcribed interviews, are treated as confidential, and are not shared with anyone other than the people present at the interview without explicit consent of the interviewee.
- Usage requirement: Any data collected throughout our research is used for this paper, and this paper only.
- False pretenses: Neither before or during the interviews do we engage in any kind of false pretenses, and interviewees are offered to receive a copy of the final paper.

4.6 Limitations

Case studies are criticized for lacking sufficient control over individual variables (Saunders et al., 2009), and offering very subjective answers that highly depend on the individual and several other influencing factors. In this light, we have to acknowledge that our sampling procedure, as discussed in Section 4.2, includes some bias. First of all, principals that feel relatively confident about EE in their school may be more likely to accept the interview in the first place. Secondly, by letting the principal select the teachers, we are likely to obtain a non-representative sample of teachers that employ a relative high degree of EE. In return, however, we obtain much richer data of principals and teachers that are leading the way when it comes to implementing EE in their schools. Since this is not a study to *the extent* to which EE is implemented, but rather a study to *the practice* of implementation, we are happy to accept some bias on the intensity of implementation in return for much richer data on the practice.

Moreover, our results are not generalizable on statistical grounds. First of all, since qualitative information gathering through interviews is rather time-consuming, our sample size does not lend itself for purposes of statistical generalization. Additionally, our regional focus on Malmö and Lund in Skåne may not allow for any type of generalization either. Although we have no reason to believe that the implementation of EE in Malmö and Lund should be different from other urban areas throughout Sweden, it is not unreasonable to argue that the perception and implementation of EE could differ between regions with higher density of start-ups and regions with a lower density of newly created businesses. Stockholm and the south of Skåne are particularly famous for their large start-up scenes, and thus, likely to demonstrate a stronger start-up mentality and a greater awareness of EE among educators.

Finally, our cross-sectional design limits the assessment of changing perceptions and implementations over time and the validity of any causal claims in the conclusions. In specific, care must be taken for our inquiries whether EE after the enforcement of the new CC in 2011 has changed, as the responses are entirely dependent on the interviewee's individual perception and retro-perspective (Bryman and Bell, 2011).

5 Results

This section presents the results of our empirical research. First, in Section 5.1, we discuss our findings from the interviews for each school. Afterwards, Section 5.2 further analyzes the findings, contributing a novel conceptualization of the perception and a coherent mapping of the implementation of EE across Swedish compulsory schools. Additionally, Sections 5.3 and 5.4 discuss some critical factors that help explain the vast differences across schools as well as some practical impediments for implementing EE.

5.1 Findings

In the following, we present the findings gained from the interviewees from the four previously introduced schools.

Lindeborgsskolan, Malmö

At Lindeborgsskolan, both the principal and teachers appear to be well aware of the EE paragraph in the 2011 CC. The principal Karl Axel Arvidsson acknowledges the importance of EE in today's rapidly changing society and states that they "[...] had a lot of talks with [their] staff and even established a special development group that focused on finding ways to make [their] teaching more entrepreneurial". Generally, the interviewees at Lindeborgsskolan refer to EE as a means to develop creativity, curiosity, self-confidence, initiative, and critical thinking, which shows their strong attitudes-based view on entrepreneurial learning outcomes and their close alignment with the new EE paragraph. Figure 10 shows a map of the perception of EE at Lindeborgsskolan. This map shows the learning outcomes that were actively linked to EE by interviewees at Lindeborgsskolan, where we make a distinction between attitudes-, skills-, and knowledge-based learning outcomes according to our discussion in Section 2.1.2. The larger the circle, the more emphasis was put on that particular learning outcome. Additionally, larger circles indicate a stronger alignment of perceptions towards EE among the different interviewees in the same school. Finally, the learning outcomes highlighted with an *asterisk* overlap with the concepts explicitly mentioned in the 2011 CC in relation to EE. For example, at Lindeborgsskolan, 6 out of 8 learning outcomes in the CC were perceived to highly correlate with EE.

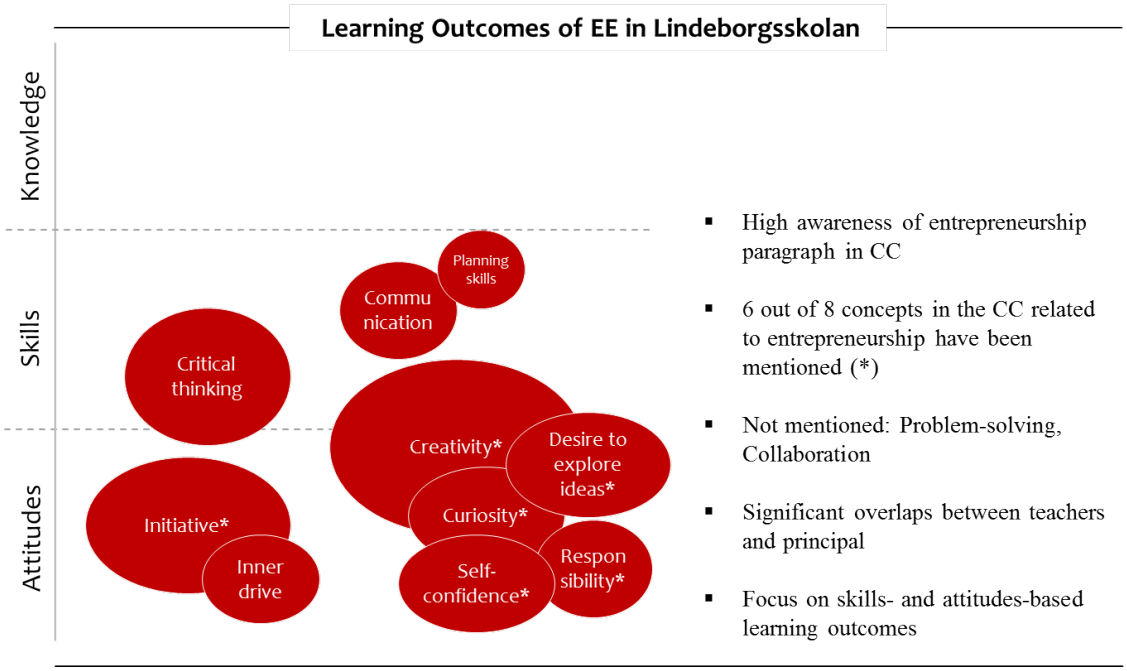

Figure 10: Mindmap of the different concepts and learning outcomes that are perceived to be related to EE at Lindeborgsskolan.

Following the EE development for several years, Karl Axel recognizes a clear shift of this concept: "In the earlier days, it was more about teaching the skills how to start a business; about 15 years ago, we even had a subject on that matter. Today, it is rather a pedagogy that stimulates entrepreneurial qualities in our student's personalities." While he confirms that EE should be an integral part of all subjects, he admits that entrepreneurial teaching approaches are more pronounced in creative subjects such as arts and media. In terms of concrete teaching activities to foster the before mentioned EE concepts, all three interviewees suggested action-oriented, problem-based, and cross-curricular projects as valuable teaching techniques. In particular, real-life projects have proven to be more encouraging and motivating for students, especially when they benefit from the results (e.g., a project to gain money for a school trip). Figure 11 tabulates some examples of concrete entrepreneurial teaching activities and their corresponding intended learning outcomes at Lindeborgsskolan. Yet, both teachers claim to encounter several hurdles to successfully integrate these teaching methods on a more extensive scale. Jens Brixhagen, a Swedish and English teacher, argues that there has even been less holistic projects that subordinate all subjects to one theme since the new CC. He would like to have more of these cross-curricular workshops, as all subjects are interrelated and should be taught in this way, "[...] but the strict division between subjects, the dedicated hours and time tables in the new curriculum destroy this cross-curricular approach of teaching." Jan Persson, an Arts and Media teacher, adds to this statement: "I believe that teaching was better in the past, as we did many more practical projects where students could actually experiment and learn from their actions and mistakes. Most of the teachers today do not have time for these projects, because they have to put so much content into their lessons and have to prepare for national and PISA tests."

Interviewee	Subject(s)	Objective	Activity
Jens Brixhagen	Swedish & Arts	Creativity, Initiative, Collaboration, Desire to explore own ideas	Sustainability project: Redesigning milk cartons to find new purposes for old cartons
	German & Arts	Creativity, Initiative, Collaboration, Desire to explore own ideas	Creation of a local guide in German for exchange students
	Swedish	Curiosity, Responsibility, Critical thinking	Writing of an essay on an era of literature, reasoning assignments to make students critically evaluate information and own conclusion
	Workshop week	Initiative, Collaboration, Responsibility, Planning skills	Preparation and execution of dinner to collect money for a school trip to Berlin
	Workshop week	Initiative, Collaboration, Responsibility, Planning skills, Creativity, Self-confidence, Communication	Project to promote the school in Malmö through different activities, students select core messages, create and share the promotional material
Jan Persson	Arts	Initiative, Collaboration, Creativity, Curiosity, Responsibility, Planning skills	Donation project with Red Cross: Creating a video on kids from less fortunate areas to collect money
	Arts	Creativity, Initiative, Collaboration, Desire to explore own ideas, Planning skills	Yearly competitions in Skåne: Silence movie, students decide on content, record and cut movie
	Arts & English/ Danish	Communication, Initiative, Curiosity, Planning skills	Radio podcasts with interviews on Danish art exhibition visitors in Copenhagen

Figure 11: Examples of concrete activities and corresponding learning outcomes at Lindeborgsskolan.

Bergaskolan, Malmö

At Bergaskolan, we encounter a great discrepancy between all three interviewees in terms of the awareness of the EE paragraph in the curriculum, their understanding of EE and the (desired) level of implementation. Both the principal Rikard Persson and the Math and Science teacher Per Beckmann demonstrate a somewhat negative association towards the new educational concept, stating that "EE is just another trend in the educational landscape, claiming to be innovative, but in fact, many of the mentioned concepts are anything but new". Rikard even considers EE as an "easy way out" and an excuse for the current development in schools where teachers lose their authority and adopt, out of necessity, a more laissez-faire pedagogy. Furthermore, he believes that people are born to be an entrepreneur which makes it questionable if schools could teach children to become more enterprising. Yet - despite his negative stance towards EE - the principal generally understands EE as a concept that should help children to become better students by developing an inner drive and curiosity for ongoing learning and a greater sense of self-reflection. Per Beckmann, on the other hand, showed little to no interest in that topic arguing that "EE is generally hard to apply in compulsory schools, and if so, rather in creative subjects such as Arts and Music." The inappropriateness of EE in schools is mainly driven by his perception of EE being

heavily linked to money-making processes and business creation. Again, his negative attitude is more than apparent when equating EE with a simple promotion tool for (mainly independent) schools to attract more students: "They market themselves to be more entrepreneurial, but in the end, they just do entrepreneurial stuff for about 20 minutes." In contrast, the Social Science and Home Science teacher Sofia Nordberg follows a rather positive approach towards EE, in spite of her unawareness of the EE paragraph in the CC. For her, EE is a pedagogy that should enable the kids to take initiative, to ignite their creativity and ambition to explore, and to critically reflect upon their ideas and doings. She assigns great importance to EE, as it can provide her students with the right tools to cope with the "new society", characterized by uncertainty and change. Therefore, her style of teaching aims to make her kids think freely, creatively and outside-of-the-box by encouraging open discussions and problem-based inquiries. Similar to the previous mapping, Figure 12 shows a map of the perception of EE at Bergaskolan.

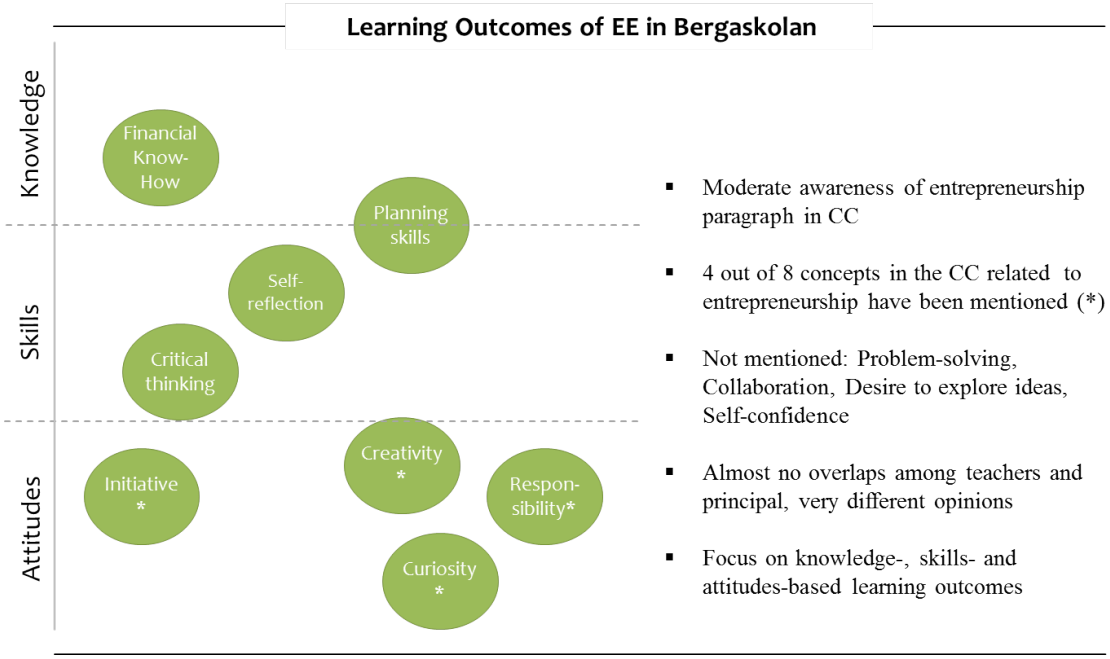

Figure 12: Mindmap of the different concepts and learning outcomes that are perceived to be related to EE at Bergaskolan.

Big parts of Sofia's teaching is dedicated to reasoning assignments during which students need to come up with own ideas and solutions and justify these. Even in written tests, she provides open-ended questions and grades the answers on the level of reasoning and their students' process-based thinking capabilities. "Sadly," she states, "other colleagues are more conservative. Some of them, mostly the older ones, prefer static lecturing where kids learn content by heart, and memorize and recite for the tests". Figure 13 tabulates some examples of concrete entrepreneurial teaching activities and their corresponding intended learning outcomes at Bergaskolan.

Interviewee	Subject(s)	Objective	Activity
Per Beckmann	Physics	Initiative, Planning skills, Collaboration, Desire to explore own idea´, Creativity	Measure Gravity Project: "scientific research experiment" that students have to plan, execute and measure, adapt to findings
Sofia Nordberg	Home Science	Curiosity, Critial thinking, Creativity	Idea generation workshops and discussion, find new uses for old household items
	Home Science	Self-reflection, Critical thinking, Curiosity	Real-life case studies on consumer inquiries from arn.se, students discuss problems, try to find creative solutions, present and evaluate them
	Home Science	Creativity, Collaboration, Curiosity, Responsibility, Critical thinking	Old Food Project: collect old food and find new purposes, student generate ideas, plan and execute the project, present solution in groups

Figure 13: Examples of concrete activities and corresponding learning outcomes at Bergaskolan.

Fäladsgårdenskolan, Lund

At Fäladsgårdenskolan, we experience the highest level of coherence in terms of EE in schools among all three of our interviewees. Both the principal Viveca Dahl and the teachers Ingrid Tidvall and Ann Stjernqvist highly welcome the new notion of EE in the curriculum. "For us, EE is all about being creative, collaborating, having an innovative mindset and thinking critically", says Viveca Dahl while highlighting the conformity with the mentioned EE concepts in the curriculum with their school-owned vision being "the school where students and teachers create tomorrow's skills through creativity, collaboration and knowledge". Similar to the previous mappings, Figure 14 shows a map of the perception of EE at Fäladsgårdenskolan.

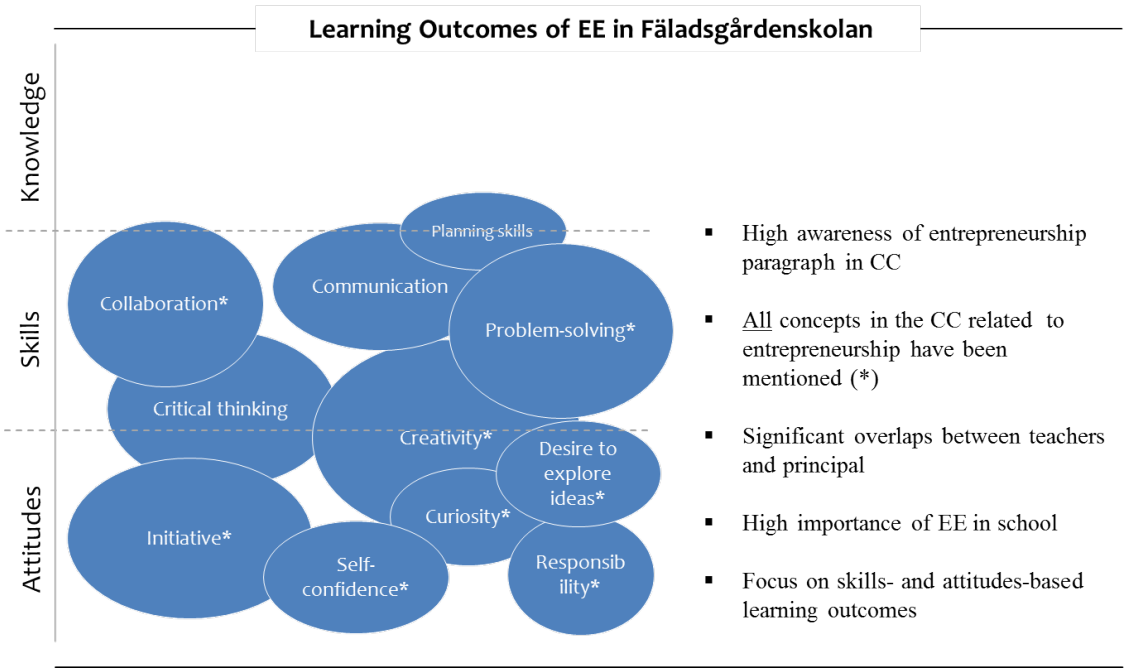

Figure 14: Mindmap of the different concepts and learning outcomes that are perceived to be related to EE at Fäladsgårdenskolan.

Since they have been focusing on many of the EE skills and attitudes before the modifications in the CC of 2011, their teaching has only changed to a certain extent. Yet, Viveca acknowledges that "since then, [they] have directed a stronger focus towards entrepreneurial activities and methods in all subjects and practices", thereby confirming that EE should follow a cross-curricular approach in compulsory schools. The extensive collaboration among teachers can be accredited to a large extent to the involvement and encouragement by the two principals. "We have two headmasters who both teach themselves," says Ann, the Spanish teacher. "They are encouraging and lead by example, which makes the other teachers more willing to put in the extra time and devotion that is necessary to innovate their teaching." Their positive attitude towards EE is shown in the frequency and extent of their cross-curricular projects that grant students autonomy, freedom, and flexibility to independently explore ideas and find solutions to different problems. "It is important to challenge them, to make them try new things, to make them speak out their minds, and to make them take initiative and responsibility", says Ann. Apart from role-plays, active group discussions, and presentations, their projects are usually student-led and cover all spheres of a project lifecycle from idea generation and planning to execution and post-evaluation. Considerable emphasis is directed towards connecting the school to the community and industry, which has become noticeably easier to establish with the new CC in place. Encouraged by Viveca, Ingrid and Ann take the stand that real-life projects and assignments have helped students to better relate to new contexts, increased their engagement and therefore their learning and personal development. Ingrid confirms that "by initiating projects with companies like Ericsson and Kraftringen, students are prompted with real instead of fictive problems, and that has really made them more proactive and curious. While engaging in these assignments, they learn how to collaborate, how to present themselves, and how to communicate their ideas". Moreover and in line with their philosophy of learning from challenges and failure, students at Fäladsgårdenskolan are graded on their learning process and reflection capabilities rather than solely on the end-result. Nonetheless, Viveca points to the increased number of examinations and tests that surely inhibit some of the activities centered on EE. In light of the accompanying time conflicts, the schools opted for a greater use of technology that allows for faster and better collaboration and the adoption of new teaching approaches such as the flipped classroom pedagogy. "In our case, the keys to a successful integration of EE has been our internal entrepreneurially-oriented vision, a series of concrete, measurable goals, and a handful of key teachers to support the rest of our staff", concludes Viveca. Figure 15 tabulates some examples of concrete entrepreneurial teaching activities and their corresponding intended learning outcomes at Fäladsgårdenskolan.

Interviewee	Subject(s)	Objective	Activity
Ann Stjernqvist	Spanish	Initiative, Planning skills, Collaboration, Desire to explore own ideas, Creativity, Responsibility	Student Exchange Project: Students need to come up with a variety of ideas what to prepare for student exchange, create bochures, plan and execute soccer tournaments, create an activity program with cooking classes etc. (idea generation, planning and execution)
	Workshop Week (History)	Curiosity, Critial thinking, Self-reflection, Creativity, Planning and communication skills	Project on "The period of youth": Students need to talk to elderlies and ask them about their experiences (collect old clothes, plan and execute a fashion show, write essay on gender roles in history based on interviews)
	Spanish	Self-reflection, Critical thinking, Curiosity	Active discussions on learnings: Students get granted time to reflect and reason about their learning progress, explain what they would like to improve and how
Ingrid Tidvall	Music, Swedish, History	Creativity, Collaboration, Curiosity, Responsibility, Critical thinking	Political Song Project, students have to learn how to analyze these types of texts and analyze the lyrics, work with historical events durign the time when the song came out, analyze rhythm and tone of the music (got graded in all of the cooperating subjects based on different assignments)
	Workshop/ Competition	Communication skills, Problem-solving, Creativity, Curiosity, Self-reflection, Responsibility	Competition with Kraftringen on sustainable energy solutions: Company presents problem, and students need to come up with ideas and solutions and present them in front of management
	Workshop/ Competition	Communication skills, Problem-solving, Creativity, Curiosity, Self-reflection, Responsibility	Competition with Goo Technology on how to market a "too futuristic product" in todays society, students learn about new technologies (e.g., Internet of Things) and have to come up and present ideas/solutions
	Music	Curiosity, Creativity, Responsibility, Critical thinking	Flipped Classroom Assignments, students get the task to present a topic in small groups, need to amke a video and a presentation on their research and findings, need to evaluate their end-result
	Music	Responsbilibity, Creativity, Planning skills	Creation of mini-musicals and songs that they put up on youtube, students are in charge of this media channel and have to decide what and how to produce new material to upload

Figure 15: Examples of concrete activities and corresponding learning outcomes at Fäladsgårdenskolan.

Maria Montessoriskolan, Malmö

At Maria Montessoriskolan, we find the lowest awareness of the new paragraph in the CC, and a certain ignorance to what the concept of EE entitles according to the national policy document. The newly incorporated principal Martin Akerman, a former lawyer and new in this educational environment, admits that the lack of explicit discussion about the concept of EE under his lead

could possibly cause an inconsistent understanding of EE within the school. When prompted to provide a definition, Martin Akerman takes a two-fold stance towards EE, differentiating a somewhat career-oriented approach from another more pedagogy-oriented approach. With regard to the former approach, he relates EE with the school's responsibility to make students more aware of self-employment, to provide them with some basic knowledge about the business world, and to teach them how to confidently market themselves: "Employment with big corporations is not the only way. The school needs to encourage students to, at least, think about entrepreneurship and self-employment as a career choice." Later, he shifts to a more pedagogical approach arguing that "the Montessori pedagogy is already quite entrepreneurial", as students need to learn how to think freely, independently and how to take responsibility for their own learning with the creation of individual development plans. "At Montessori schools, students plan their learning goals for about a month ahead; they learn how to gain and use knowledge independently and develop at their own pace. So they actually have to be an entrepreneur of their own learning." Similar to the previous mappings, Figure 16 shows a map of the perception of EE at Maria Montessoriskolan.

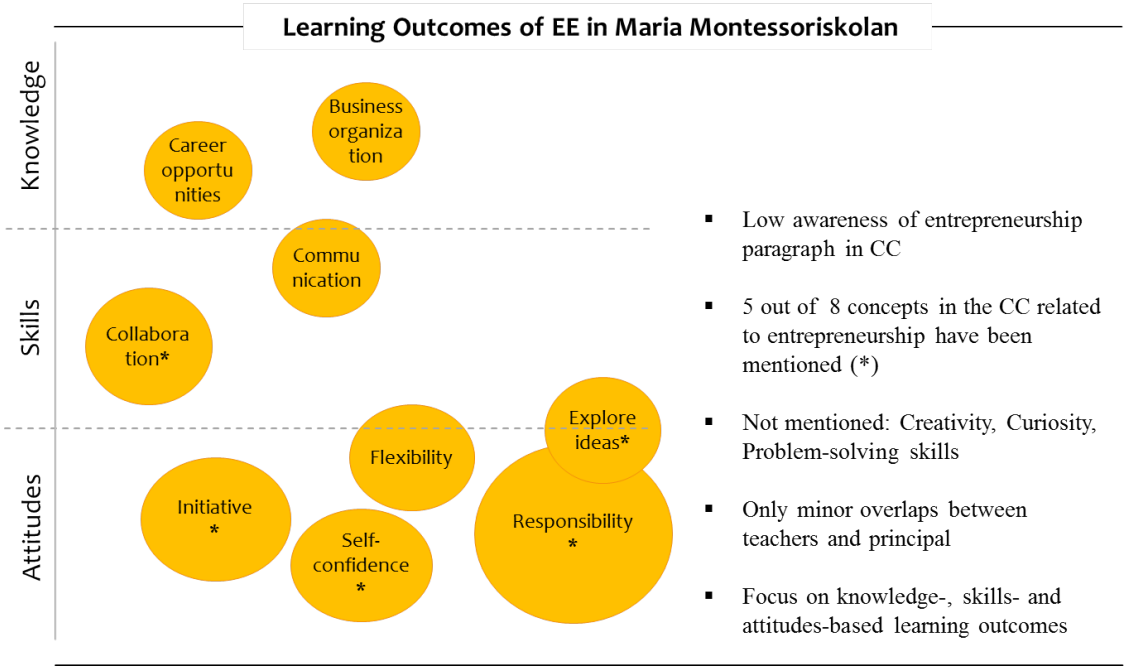

Figure 16: Mindmap of the different concepts and learning outcomes that are perceived to be related to EE at the Maria Montessoriskolan.

Highly in line with this more pedagogical conception, the Religion, History and German teacher Alexander Holzmann-Ekholm directly links the Montessori philosophy with EE, pinpointing at the concepts of flexibility, responsibility and the ability to create. Apart from the individual learning journals, he lists several activities that contribute to these learning outcomes. Among them, open discussions, thought experiments, business plan writing, idea generation, presentations within cross-curricular projects, and field trips seem to positively correlate with the students' enterprising qualities. Surprisingly, Eva-Lena Nilsson, the Swedish teacher, is not familiar with the term EE and takes a while to grasp the concept behind it. After reading the EE paragraph in

the curriculum, she highlights the concept of collaboration while making a point for the Montessori's approach to mix students of different age groups and the high level of independent group work. Still, her business-oriented approach becomes apparent when linking EE directly with the company placements conducted with students in 8th grade. All three interviewees acknowledge the increasing difficulty to follow the Montessori pedagogy - seamlessly equating it with EE - due to the amount of content that needs to be covered in each subject, the aggravating grading requirements and the growing number of tests. Figure 17 tabulates some examples of concrete entrepreneurial teaching activities and their corresponding intended learning outcomes at the Maria Montessoriskolan.

Interviewee	Subject(s)	Objective	Activity
General	Cross-curricular	Understanding of organizations, Initiative, Planning skills, Responsibility, Curiosity	Company Placements for two weeks, students get first insights into the professional world, need to find a company themselves and arrange a small student internship, write about their learning
	Cross-curricular	Understanding of organizations, Curiosity, Self-reflection	Career Talks, companies, employed and self-employed parents get invited to report about their daily working life, their profession etc.
	Swedish	Business planning, Understanding of organizations, Creativity, Desire to explore ideas, Critical thinking, Presentation skills	Business Creation Projects, students were allowed to imagine a company, had to write a business plan and present their ideas in groups, followed by open discussion on ideas
Alexander Holzmann-Ekholm	Religion	Communication skills, Creativity, Curiosity, Desire to explore ideas, Self-reflection	Religion Creation Project, students invent a new religion with rules and core values, write a paper to justify their choices, present own religion in class, and lead active discussion and exchange of feedback (grading is based on these three assignments)
	Religion & History	Problem-solving, Curiosity, Self-reflection	Migration Project, students learn about migration issues, the development of immigration in Sweden, learn about new religions, take school trips to synagoge, mosque etc.
Eva-Lena Nilsson	Swedish	Curiosity, Creativity, Responsibility, Critical thinking	Multimedia project on "What do you want to be in the future?", students write texts, create collages, movies to explain their future plans, discussion in groups

Figure 17: Examples of concrete activities and corresponding learning outcomes at the Maria Montessoriskolan.

5.2 Analysis and Discussion

As becomes evident from our findings, the perception and implementation of EE among and within schools vary substantially. In this section, we analyze and discuss our findings, and deduce an overarching mapping for the perception and implementation of EE in Swedish compulsory

schools.

Other than expected, the school as our chosen unit of analysis appears inappropriate in many cases. Typically, teachers in Sweden are very independent in developing their teaching methods and lesson plans, and, since the curriculum is strictly divided into various independent subjects, there is not always as much interaction and spill-over effects among teachers. In fact, despite the newly incorporated EE paragraph in the curriculum, in all schools but Fäladsgårdenskolan, we still found vast differences in perceptions and implementations of EE among teachers within the same school. Therefore, the remainder of the analysis combines a school and an individual level of analysis.

5.2.1 Perception of Entrepreneurship Education

In terms of perception, one can question the novelty of the concept EE, and therefore the extent to which a strategic shift has been initiated since the new inception of the EE in the Swedish CC in 2011. Of course, beyond the implicit link with other parts of the curriculum, EE has a lot of overlaps with some general teaching pedagogies discussed in Section 2.2.2. For example, the principal of the Maria Montessori school believes that they have always been practicing EE just by following the Montessori pedagogy. Now we should be careful in labeling any non-traditional teaching pedagogy as entrepreneurial, but surely the holistic, collaborative learning approach of the Montessori pedagogy agrees seamlessly with EE.

Although all principals in our sample were aware of the new EE paragraph, they all unanimously indicated that the accompanying paragraph is very broad, and that many of the corresponding concepts (e.g., creativity, collaboration, problem-solving) have always been covered in some way in the curriculum. As a result, EE is frequently regarded a fashion trend - one of the many that education has seen throughout the last decades - and just a nice repackaging of old concepts under a new buzzword. A more traditional principal even went so far as saying that the students' supposed autonomy in EE is just a nice-sounding "solution" for teachers losing control and authority over their students, whereas a more conservative teacher noted that many schools oftentimes abuse the popular term EE for their marketing purposes. Only a minority of pioneering principals and teachers have completely integrated EE into their schools. This is partly due to the surprisingly high number of teachers that are unaware of the new EE paragraph in the curriculum.

In terms of perceptions of EE, we can clearly distinguish two different camps. The majority thinks along the lines of the aforementioned Entrepreneurial Mindset Education, starting to coin skills- and attitudes-based learning outcomes similar to the ones described in the CC. They typically have a more positive attitude towards EE, and all of them share the view that entrepreneurial learning comprises a more active involvement of the students in their own learning such as outlined by Gibb (1993, 2002); Leffler (2009) and Pizarro (2014).

Although most of the concepts mentioned can be categorized as attitudes-based learning outcomes, there is already only limited consensus among principals about the emphasis on each of these learning outcomes. While some schools rather underline the concept of creativity, the other

half focuses on the ability to act independently and to think critically. Critical thinking was usually mentioned in the same breath with high self-reflection capabilities, which highly confirms the contemplations by Räisänen and Räkköläinen (2014) on reflective skills as one of the most important skillsets associated with EE. Surprisingly, both critical thinking and reflective skills are not explicitly stated in the Swedish curriculum. Collaborative skills are less frequently mentioned in relation to EE, which comes as no surprise given its historic prominent role in the popularized progressive pedagogy.

The second camp strongly associates EE with businesses and companies, following the aforementioned Small Business Education stream. Interestingly, this camp often has a somewhat negative association with EE, referring to the inappropriateness of business education in compulsory schools. In light of these differing understandings even within the same school, Figure 18 shows a mapping of the perceptions of EE of all interviewed individuals with the corresponding EE stream and learning outcomes.

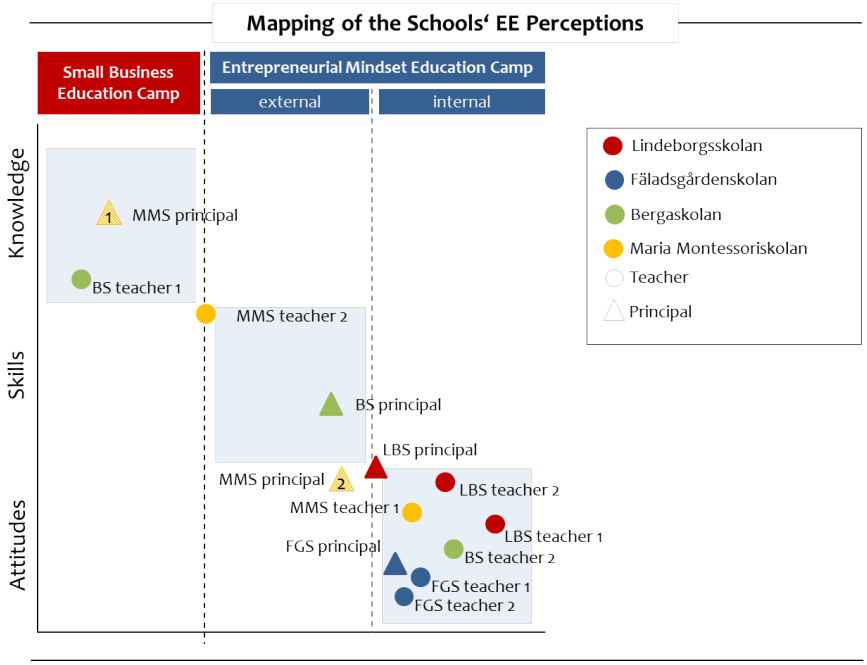

Figure 18: The different perceptions of EE and the corresponding EE streams and learning outcome categorization.

For example, the principal of Bergaskolan (green triangle) can be categorized in the Entrepreneurial Mindset Education stream, with a somewhat stronger emphasis on skills- over attitudes-based learning outcomes. The closer the different educators are located in the mapping, the more resemblance their perceptions show. For example, Lindeborgsskolan (red color code) and particularly Fäladsgårdenskolan (blue color code) show a strong alignment of perceptions among the principal and teachers, whereas EE perceptions within Bergaskolan and Maria Montessoriskolan are much more divided.

Carefully analyzing the subtle differences in perceptions within the Entrepreneurial Mindset Education camp, we can further distinguish between those with a more skills-based, external view on EE, the External Entrepreneurial Mindset Education stream, and those with a more attitudes-

based, internal view on EE, the Internal Entrepreneurial Mindset Education stream. Figure 19 shows the resulting novel classification of EE streams that, based on our results, best fits the compulsory education setting. To recap, the three-fold classification by Hannon (2005) and Moberg (2014) is widely accepted for EE at higher education levels, as argued in Section 2.1.1. In an attempt to adapt their classification to a compulsory school setting, we had already reduced it to the two streams of Small Business Education and Entrepreneurial Mindset Education. Our findings reveal a further distinction within the Entrepreneurial Mindset Education stream between a skills-focused externally oriented stream and an attitudes-focused internally oriented stream. We propose this model of classification as it is more suitable for lower-level education, and we invite further academic undertakings to provide further evidence for this classification.

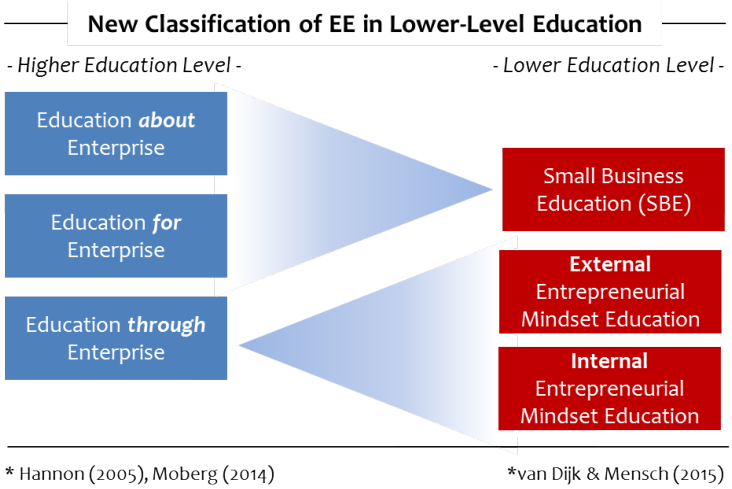

Figure 19: The classification of EE streams that best fit our results, and its relation with the previously proposed classifications by Hannon (2005) and Moberg (2014).

5.2.2 Implementation of Entrepreneurship Education

As advocated in the previous literature, we found a strong agreement among principals that EE should follow a cross-curricular approach, although in further discussions, their acknowledgements showed somewhat contradictory associations in practice. Many principals identify the more creative subjects (such as Arts and Music) to be linked with entrepreneurially-oriented teaching pedagogies and methods. In other words, there has been a quite apparent difference between conception and reality, which surprisingly contradicts the evaluation on Sweden's cross-curricular strategy made by Eurydice (2012), but supports previous findings by Mahieu (2006) and Leffler (2009) from before the 2011 CC. In conclusion, schools whose principals truly promote EE to be a cross-curricular phenomenon naturally showed more and greater attempts to integrate entrepreneurial practices than the schools whose principals only associate EE with some of their subjects.

> **The English language distinguishes between teaching and learning. In Swedish, we only have one word for both, but learning very much requires active involvement.**
>
> *- Rikard Persson, Principal at Bergaskolan, Malmö*

Based on our findings, we deduce that the different perceptions of EE naturally lead to different types of teaching pedagogies and activities. All of the interviewed educators agree that an entrepreneurial teaching pedagogy highly differs from the traditional didactic one. However, comparing their teaching modes with the three entrepreneurial teaching principles introduced by Gibb (1993), we find that the schools follow these principles to varying degrees in practice (see Figure 20). It can be concluded that Entrepreneurial Mindset Education-oriented schools show more alignment with Gibb, granting their students higher autonomy, flexibility and responsibility, involving them in all stages of a project from idea to execution, and allowing for more experimentation and action-oriented tasks - compared to Small Business Education-oriented schools.

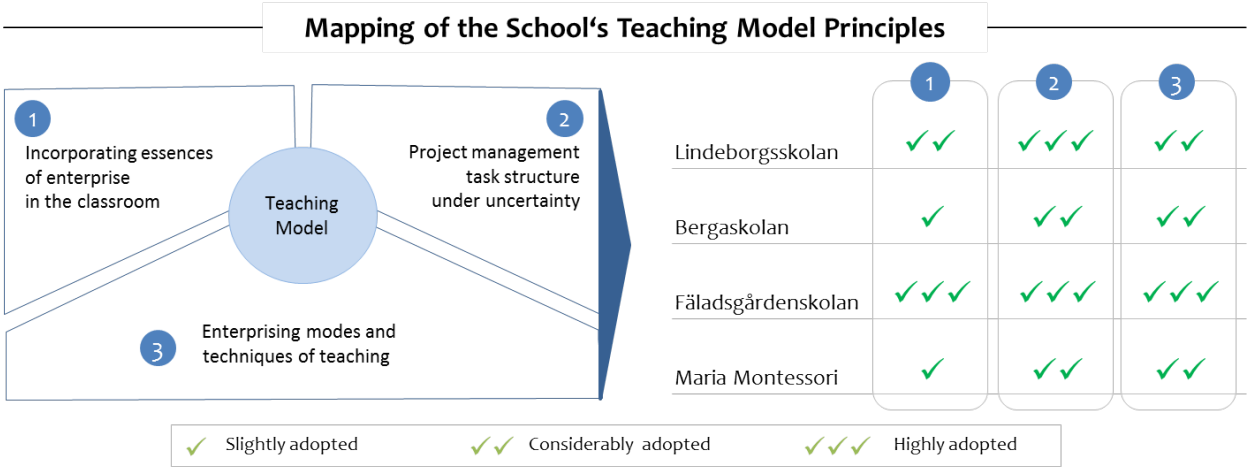

Figure 20: Adoption of the entrepreneurial pedagogy of the schools according to the model by Gibb (1993).

In terms of concrete teaching activities, recall that the Small Business Education camp often has a negative association with entrepreneurial learning, hence limited motivation to adopt entrepreneurial teaching methods. While some indicate to conduct minor and sporadic projects with student-led mini companies, or students' involvement in fund-raising activities; others dismiss EE as something that should only be taught in specific subjects (i.e., they can do "that creative stuff" in Music or Arts) or not be taught at compulsory school level at all. Moreover, although expected to show the highest alignment with the Entrepreneurial Mindset Education stream, we find that the Montessori school positions itself in the Small Business Education stream, rather focusing on career-oriented learning outcomes and thus business-oriented practices such as business plan writing, company visits and placements.

Within the Entrepreneurial Mindset Education stream, the external skills-based substream focuses on linking the learning process with real life. The activities involve a lot of group work and are often directly linked with society, either through excursions, guest speakers, or by bringing

real-life problems from industry and the local community into the class, focusing on skills such as collaboration, communication, and problem-solving. This is highly in line with Gibb's teaching model for EE in which he proposes to integrate more realistic assignments that the students can rely with (Gibb, 1993). The internal attitudes-based substream, on the other hand, highlights the individual learning process, and celebrates open discussion, reasoning and idea generation assignments to foster creativity, curiosity and the students's reflective thinking abilities. For them, EE directly relates to another fashion trend in the education landscape: formative assessment. Other than raw scores, teachers give qualitative feedback on each students opinions and performance, and students are encouraged to reflect on their learning after each unit, rather than mindlessly continuing with the next chapter. The exchange of information and the provision of feedback are clearly situated in the center of learning, and build two of the most important cornerpillars through which critical thinking should be stimulated and developed. Figure 21 shows the previously established mapping of activities with learning outcomes, and the positions of the schools within this mapping.

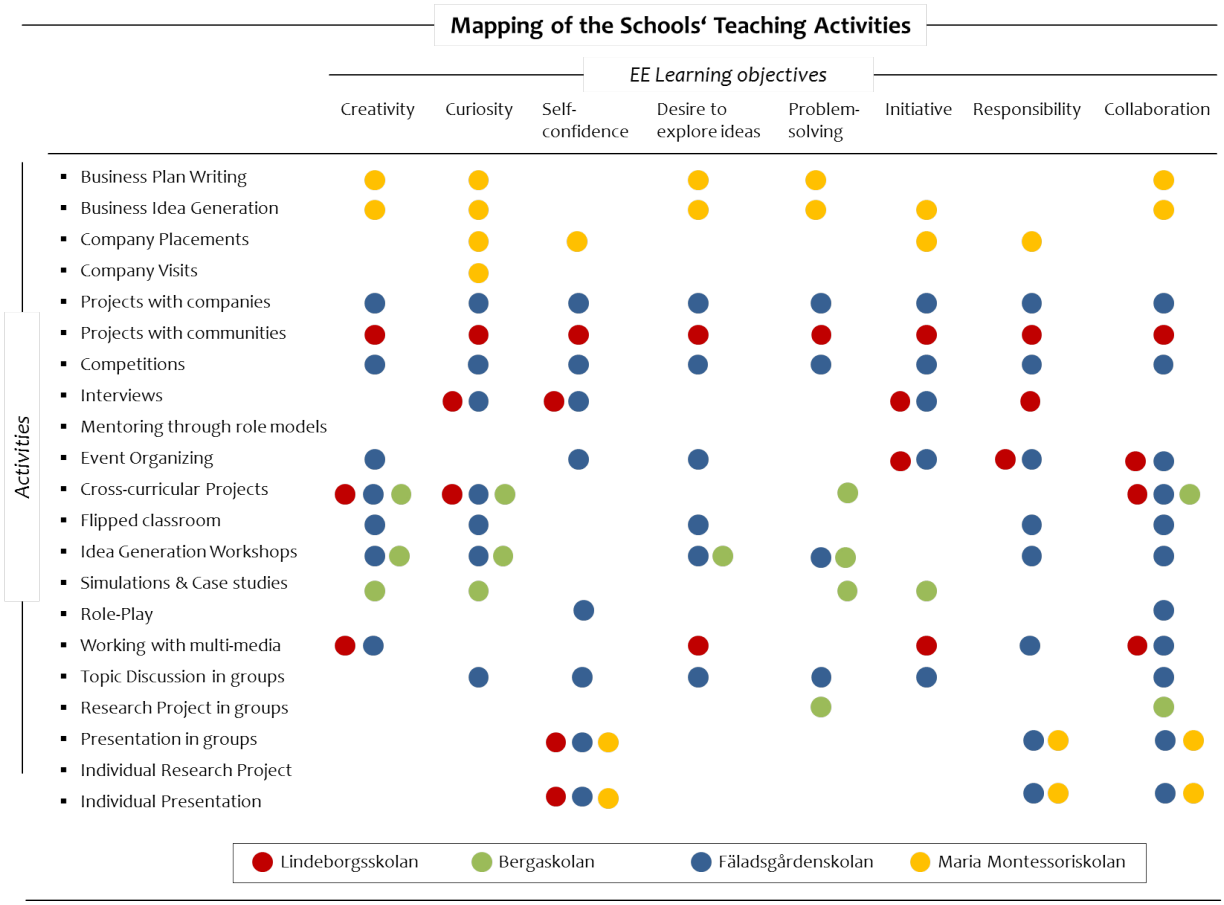

Figure 21: List of entrepreneurial teaching activities, associated intended learning outcomes, and the schools' positions in the mapping.

In conclusion, these sections have extensively analyzed our findings, conceptualized the differences within and across schools, and hence outlined the landscape of perceptions and implementations of EE in Swedish compulsory schools. Therefore, our overarching research questions have been thoroughly answered. Yet, we would like to direct further attention to the novel insights that

we gained due to our exploratory research design, which broadly indicate *why* perceptions and implementation efforts may differ. The remainder of this section seeks to explain the vast differences among and within schools, and discusses the critical impediments that have - thus far - prevented a more widespread adoption of EE.

5.3 Great Differences - An Attempt to Explain

We briefly discuss some explanatory factors for the vast differences in perceptions and implementations of EE across and within schools.

Low versus High Expectations

Throughout our interviews, we find a close relation between the implementation of EE in schools and the general level of expectation on students. Schools whose principals and teachers have less expectations on their students adopt less entrepreneurial teaching methods, and schools that really believe in their students' ideas and take them more seriously adopt a more entrepreneurial and encouraging pedagogy, leaving space for their students' opinions and preferences. Some schools claim that teachers have to force students to learn and highly guide them in their learning, because "otherwise they will not do anything" (Rikard Persson, Bergaskolan). These schools have a general mistrust in their students' discipline and engagement, which results in tighter and more traditional pedagogies leaving less room for experimentation and autonomy. On the contrary, schools with more trust in their students opt for methods that celebrate their students' individual mindset and desire for ongoing learning.

School popularity and Socio-economic Background of Students

We further find that the schools with a long tradition and good reputation show less efforts to adapt their teaching and learning, entirely in line with the motto of "sticking to old, well-established procedures". In those schools, the pressure from parents, who strongly focus on excellent grades, highly contributes to the schools' reluctance towards change. Instead, schools that have had reputational problems due to poor student performance, or generally lack popularity, show a higher tendency to try new pedagogies and are more interested in EE in general.

Principal's Engagement in Implementing Entrepreneurship Education

As previously discussed, the principal plays a major role in the school-wide implementation of EE. One important aspect can be seen in their individual handling of the new concept of EE with its inception in 2011. Principals who enforced active discussions and workshops on the EE paragraph, have been able to achieve a better alignment between teachers and principals. The support is crucial, as an active consideration of entrepreneurial teaching methods is generally followed by a greater adoption of entrepreneurial practices and decreased resistance among the teacher body. In the remaining schools where the topic of EE has not yet been addressed in detail, the discrepancies

in understanding and implementation in the same school are much more obvious. In these cases, EE is rather related to negative than positive associations.

Experience of Teachers

Of course, individual circumstances and characteristics of teachers have some sort of impact on the implementation of EE in school. Previous experiences in other more entrepreneurial or less traditional schools (e.g., schools with students with special needs) typically have a positive effect on the teacher's attitude towards entrepreneurial learning. In terms of grades, teachers of higher grades (7-9) are more prepared to adopt entrepreneurial teaching methods, as they argue that more freedom can be granted to older, more mature students. We found that teachers of creative subjects consider entrepreneurial methods more applicable during their lessons. The teachers' experience is also a very important factor. In general, younger teachers are more enthusiastic and devoted to try more entrepreneurial practices in their classroom. Although they tend to stiffly stick to their books in the beginning, they adopt new techniques faster and easier than their older colleagues. This can mainly be explained by their lack of routine, and thirst for experimentation.

5.4 Impediments to Entrepreneurship Education

Besides these explanatory factors, we detect numerous reasons why many schools and individual teachers have difficulties with a proper implementation: the barriers to EE.

First and foremost, it is a wide-shared belief that the EE paragraph is too vague. The concept leaves high potential and room for speculation and different sorts of interpretation, and thus, quite differing opinions on what EE includes. Despite these "nice-sounding" concepts stated in the new paragraph, there is little support on how EE should be implemented. Teachers often feel overwhelmed and confused with their new entrepreneurial task. The lack of examples and best practices have been argued to present great impediments to an effective consideration and implementation of EE in school.

Another common theme for all compulsory schools is the apparent conflict between, on the one hand, entrepreneurial learning and, on the other hand, the increased pressure on grades, national tests, and PISA scores. Driven by disappointing national PISA results, both in absolute terms and relative to other countries, the number of compulsory tests and the focus on grades has increased tremendously over the past years. As said, the paragraph on EE was born in the 2011 reform of the CC, but in that same curriculum, the number of compulsory national tests nearly doubled and the grading system was reformed. As a result, for many teachers in core subjects, much of the spring semester is filled with the time-consuming task of correcting and grading endless national tests. More importantly yet, because not only the students but also the schools themselves are heavily judged based on the grades they produce, both by the municipality and by parents in the local community, the rest of the year is dominated by the preparation for these national tests. This leaves little room for novelties and development of the teaching plan. The grade-based approach has extended to subjects without compulsory national tests such as Social Sciences, Home Sciences,

and Arts. In all subjects, every student is expected to get an individual grade, and in collaborative, open-ended assignments and projects, it is much harder to individually asses each student then in a straightforward knowledge-based test.

It is worth noting that all schools and teachers in our sample unanimously despise the increasing pressure on grades and excessive testing. Partly, because the time-consuming tests make their lives harder and more stressful, but many principals and teachers also genuinely believe that it causes a misguided way of teaching. They argue that the score on a test, particularly when compared to scores of other countries whose societies require vastly different skillsets to succeed, should not be the (only) acknowledged metric within school.

> **Students should learn for life, not for a test.**
>
> *- Jan Persson, Arts teacher at Lindeborgskolan, Malmö*

A second conflict that exists within the same CC concerns the increase in the number of different subjects, and the stricter guidelines on the number of hours that should be devoted to each subject. "Since 2011, there are 17 different subjects," says Jan Persson, "which each should be allocated a specific number of hours." This directly affects the possibilities of implementing EE. As discussed in Section 2.2.1, EE in compulsory schools is argued to follow a cross-curricular approach, and Section 2.2.3 shows that inter-disciplinary projects under a common theme are said to be a great way to implement EE. However, the strict distribution of hours over subjects complicates this approach, with testimonies ranging from the hassle of rearranging the weekly schedule to teachers refusing to give away *their* hours.

Again, the majority of schools and teachers indicate that this strict subject-based division of the school, which is clearly directly related to the increased pressure on grades, ultimately has an adverse affect on the quality of teaching. They argue that life itself is also a hodgepodge of all different subjects, and that the strict division inhibits the kind of collaboration among teachers that is paramount to fruitful development of entrepreneurial teaching methods.

Finally, an impediment that is not immediately caused by a conflict in the CC, but rather by societal factors, is that it is simply easier to stick with traditional teaching methods. At the end of the year, teachers are expected to have covered a range of different topics, and produced individual grades for each student based on the criteria in the curriculum. Given that teachers are busy enough as it is, this goal is simply easier to obtain by closely following a predetermined lesson plan from a book, than by investing the time to develop new (cross-curricular) entrepreneurial teaching methods. In itself, this is a personal impediment on the level of an individual teacher, but combined with the projected alarming national shortage of teachers, which causes the bargaining power to be entirely in the corner of the teachers, it becomes a societal impediment.

Overcoming the obstacles

All in all, the effects of these major impediments to EE are not to be underestimated. In fact, numerous interviewees have pointed out that for these reasons, if they are honest, there was actually

considerably more entrepreneurial learning going on before 2011, when the term EE was not even mentioned in the CC.

However, several cases show creative ways to overcome these obstacles, and successfully implement EE regardless. The lack of clarity of the purpose of EE and the difficulty of the strict subject-based division can be overcome by a clear vision throughout the school, and a strong collaboration among teachers. Ingrid Tidvall from Fäladsgårdenskolan dismisses claims about the difficulties of cross-curricular projects as excuses. "Sure, it requires some creative shuffling with hours and perhaps a little bit extra time investment from the teachers here and there," says Ingrid, "but it's certainly possible; and ultimately it also creates a better working atmosphere for the teachers."

Moreover, numerous interviewees report clever ways to overcome the conflict between (collaborative) entrepreneurial learning and grading. First of all, following up group assignments with individual reflections is a great way of individually assessing students whilst still benefiting from the advantages of group work. "This makes it easier to present support for individual grades on group assignments, also towards parents," says Sofia Nordberg from Bergaskolan, and it enables students to connect the assignment with previous knowledge and skills, and transform their experiences into long-lasting knowledge, much like Kolb's learning theory (Kolb, 1984). But even the group work dynamics themselves can be individually graded. The key, as suggested by Fayolle and Gailly (2008), is technology. For example, Ann Stjernqvist from Fäladsgårdenskolan uses a chat with live replay functionality for her language exams so that she can see the students attempting to correct themselves while they're chatting with each other. And through the use of Google Apps for Education, teachers can closely follow the group process of creating a document, while following each individual student's contribution to the group effort.

Surely, these mitigation strategies are non-exhaustive, but they provide some first insights into the ways of conquering the challenges of implementing EE.

6 Conclusion

This study concludes that the perceptions and implementations of EE at Swedish compulsory schools vary substantially, despite the 2011 modification of the CC. In this conclusion, we recap the answer to our research question, discuss some limitations to our research, and present the specific implications of our study for academic research, policymakers, and practitioners.

Surprisingly, our findings generally agree with conclusions made by Mahieu (2006) and Leffler (2009) - whose investigation took place before the inception of the new EE paragraph in the CC - confirming that there are still very diverse perceptions about EE across as well as within schools. Unlike previous research - and beyond merely pointing to diverse perceptions - we have explicitly categorized these perceptions along the streams of EE, and mapped them to corresponding learning outcomes, thereby answering the question of *how* EE is perceived. We conclude that those schools that have managed to align the perceptions of EE of all teachers typically perceive EE as Entrepreneurial Mindset Education, and link it to attitudes- and skills-based learning outcomes that strongly overlap with those mentioned in the CC. On the other hand, many schools still show disparate perceptions among their teachers and principals, ranging across the entire spectrum of EE streams. Typically, those teachers that perceive EE as Small Business Education have a negative association with EE, and dismiss it as inappropriate for compulsory schools. In terms of teaching activities, we outlined which concrete activities are linked to EE and the corresponding learning outcomes that these activities intend to accomplish, thereby answering the question of *what* teaching methods are implemented to promote entrepreneurship for compulsory school students.

Limitations

As discussed in Section 4.6, the main limitation of this research lies in the self-selection bias in our sampling procedure, through which we expected to find principals and teachers with a predominantly positive attitude towards EE. However, our findings show a diverse distribution in terms of positive and negative associations, suggesting that practical criteria such as teacher's availability and their ability to speak English balanced out - to some extent - the assumed preference of principals to select teachers with a merely positive attitude towards EE. This quite balanced sample of differing opinions contributes to our findings' validity. Yet, by no means can we claim statistical generalizability of our results to all compulsory schools in Sweden, both because of the small sample size and the regional focus of our research. Therefore, further research needs to be conducted to assess whether similar research approaches in other regions show the same results.

Lastly, the lack of consensus on what EE actually implies affects the responses regarding entrepreneurial teaching activities. That is, because we let the interviewees describe activities which they consider entrepreneurial learning, we may wrongfully exclude activities that fit entrepreneurial learning according to other perceptions. Moreover, the teaching activities presented throughout this thesis do not exclusively reflect entrepreneurial learning, because the concepts that

are labeled as entrepreneurial learning outcomes are - to some extent - repackaged pre-existing concepts. In particular, the entrepreneurial learning outcomes in the Swedish 2011 CC show major similarities with objectives in the 1994 CC, even though the concept EE was not explicitly coined then (Leffler, 2009). It is worthwhile to note that we, therefore, do not claim to define entrepreneurial teaching activities or pedagogies as a concept, but rather depict what educators perceive as entrepreneurial teaching.

Academic Implications

The academic implications of this study are manifold. First of all, we explicitly build on studies by Mahieu (2006) and Leffler (2009), who investigated the landscape of EE in Swedish compulsory schools before the change in the CC in 2011. Other than expected, the new curriculum has not brought more consensus among teachers and principals about EE, due to a number of reasons discussed in Section 5.

Second, we propose an alternative classification of the streams of EE to the ones proposed by Gibb (1993); Leffler (2009); Jones and Iredale (2010); Hannon (2005); Pepin (2012), and Moberg (2014) (see Section 2.1.1). Our findings suggest a distinction between Small Business Education, External Entrepreneurial Mindset Education, and Internal Entrepreneurial Mindset Education. Similar to Hannon (2005) and Moberg (2014), our classification is three-fold, but more closely resonates with compulsory school education. As suggested by Jones and Iredale (2010); Leffler (2009); Pepin (2012), and supported by our findings, Entrepreneurial Mindset Education is more popular in compulsory schools, which reveals an important distinction between internally oriented and externally oriented Entrepreneurial Mindset Education. Our classification may serve for further deductive research approaches which aim to test our findings with larger samples and different regional focus. Thereby, we hope to stimulate more extensive research in this highly under-researched academic field.

Additionally, we explicitly map the perceptions on EE of individual educators in terms of learning outcomes with their teaching activities. In doing so, we combine the original template by Gibb (2002) with the elaborations of numerous other scholars to propose an alternative list of entrepreneurial teaching activities that is more apt for compulsory school education.

Generally, our framework of EE streams, learning outcomes, and corresponding entrepreneurial teaching activities provides a good basis for further longitudinal research. Further longitudinal studies to the effect of these teaching pedagogies can determine to what extent the activities in Section 5.2 actually produce the intended learning outcomes, and can give a decisive answer on which of the three EE streams for compulsory schools achieves the best results. Moreover, our exploratory approach revealed some interesting insights beyond those used to explicitly answer our research question. In particular, we touched upon some explanatory factors for the differences in implementation of EE across schools, as well as the major impediments to successfully incorporate EE in Swedish schools. Further research has yet to shed more light onto the variety of possible explanatory factors, and can build upon this fundament to find further empirical evidence for the

insights we introduce. Examples of research questions that can build on this research include

- Which entrepreneurial teaching activities are most effective in cultivating specific learning outcomes for compulsory school students?
- How do factors such as the students' socio-economic background affect the school's ability to implement EE?
- How do educators impact the development of their students' enterprising qualities?

Implications for Policymakers

For policymakers, specifically the Swedish Ministry of Education, our results reveal that the 2011 CC has not had the intended effect when it comes to EE. Implementation of EE varies substantially among schools and within schools, both in nature and intensity. In part, this is due to the novelty of the concept and the vagueness of the paragraph in the CC, which leads to a difference in perceptions on how EE should be implemented. Additionally, our findings suggest numerous factors that impede a successful implementation of EE. Most notably, there is a critical conflict between entrepreneurial learning on the one hand, and the stricter subject-based division and increased pressure on grades and national tests on the other hand. In fact, this conflict is so severe that numerous schools reported to have actually reduced their so-called entrepreneurial teaching since the 2011 CC.

In short, if policymakers want to further enhance the EE in compulsory schools, they are advised to provide educators with support on concrete implementation strategies of EE into their lesson plans, to loosen the subject-based division of hours, and to reduce the enormous pressure on achieving good results in merely knowledge-based tests.

Implications for Practitioners

For principals and teachers, our research provides some support in understanding the different possible interpretations of EE and the corresponding implementations. Most notably, the school-based discussion on the findings provides several concrete examples of how EE can be implemented, both in a subject-based and a cross-curricular manner. Moreover, our discussion on the impediments to EE outlines an overarching strategy that schools can follow to overcome the presented hurdles and challenges, and achieve a successful school-wide implementation of EE.

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Appendices

Appendix A: Interview Guide

General Questions on Interviewee's Background and School

Principals

- How many years of experience do you have as a principal?
- Do you have any experience as a teacher?
- Have you been working in other schools?
- How would you describe the school (in comparison to other schools)?
- Does your school have a specific pedagogy/ mission / vision?
- How would you describe the student body?
- How would you describe the educator body?
- Do you have any entrepreneurial background?

Teachers

- Which subjects do you teach?
- Which grades are you teaching in?
- How many years of experience do you have as a teacher?
- Have you been working in other schools?
- How would you describe the school (in comparison to other schools)?
- Does your school have a specific pedagogy/ mission / vision?
- How would you describe the student body?
- How would you describe the educator body?
- Do you have any entrepreneurial background?

Questions on the Perception, Importance and Awareness of Entrepreneurship Education

- What do you think is Entrepreneurship Education? What do you think of if you hear the term Entrepreneurship Education?
- Do you think Entrepreneurship Education is important in lower-level education and should be taught already in compulsory school? If so,why? If not, why not?
- Are you aware of the 2011 revision in the Swedish national curriculum with the paragraph on promoting entrepreneurship in compulsory schools? If so,why? If not, why not?
- Do you believe that this new inclusion of the entrepreneurship paragraph impacted the school's general working and teaching? If so,why? If not, why not?
- Do you believe that this new inclusion of the entrepreneurship paragraph impacted your general working and teaching? If so,why? If not, why not?

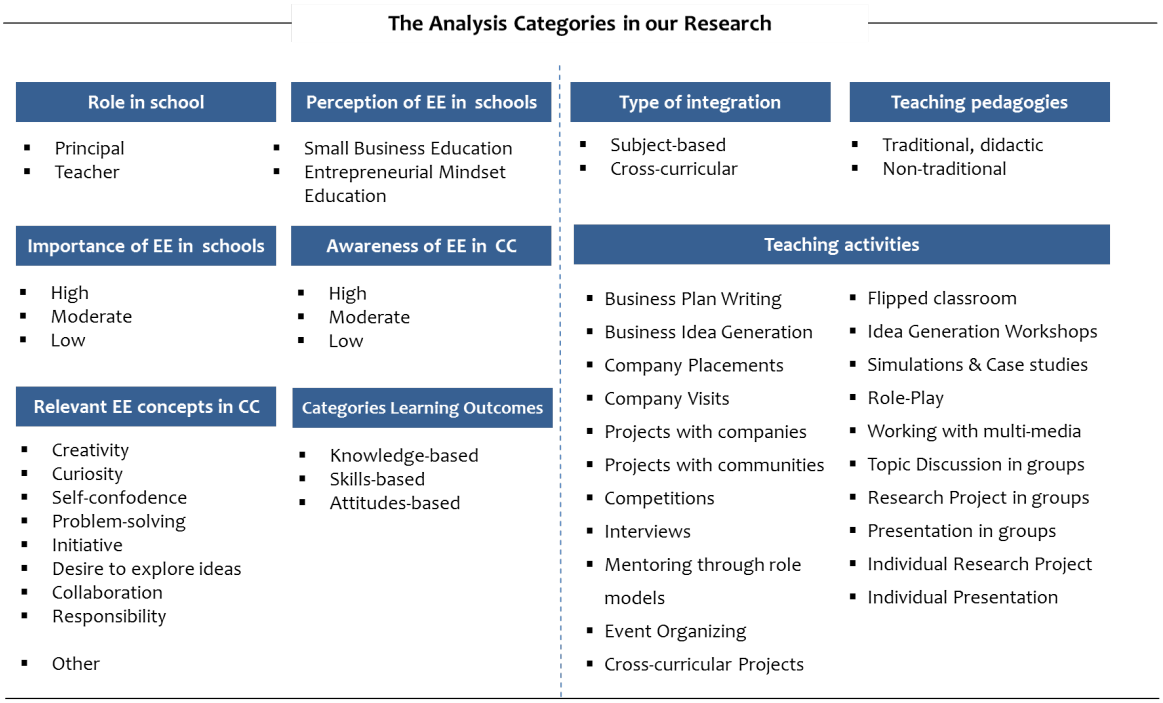
Questions on the Objectives of Entrepreneurship Education

- What kind of learning objectives should we be aiming for with Entrepreneurship Education in schools?
- How does it link with other objectives in the curriculum?
- (If so far not discussed, ask for the remaining concepts mentioned in the CC) What is [e.g., creativity] for you, and how does is relate to Entrepreneurship Education, and why?

Questions on Teaching Pedagogies, Activities, and Techniques

- How do you think that these learning objectives can be accomplished?
- What activities are you conducting to achieve these learning objectives?
- Would you describe any of your teaching methods as entrepreneurial? If so, why?
- In which subjects do you implement these entrepreneurial teaching methods and why?
- How much time do you spend with these entrepreneurial teaching methods?
- How did it work out? Which methods worked best in your opinion and why?
- Did you encounter any challenges when adopting entrepreneurial teaching methods? If so, how did you react to these challenges?

Appendix B: Categories of Analysis



Categories of analysis for our empirical data analysis.