Kaarina Sommarström

TEACHERS' PRACTICES OF ENTREPRENEURSHIP EDUCATION IN COOPERATION WITH COMPANIES

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Abstract

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This thesis deals with entrepreneurship education in the 7th, 8th and 9th grades in basic education when it is implemented in cooperation with companies. The research focuses on teachers' practices, and how they view and implement entrepreneurship education in collaboration with an external party. The research question is: How is entrepreneurship education implemented by teachers in interaction with companies?

Entrepreneurship education in basic education is still a somewhat foreign concept. Entrepreneurship education has been more a matter for university studies rather than basic education. The Finnish National Curriculum has recommended schools in basic education to provide students with entrepreneurship and working life skills for more than 20 years.

The purpose of this study is to examine teachers' practices in entrepreneurship education, and how they implement entrepreneurship education in cooperation with companies. This qualitative study uses an abductive approach. The research data was collected through interviews with a total of 35 participants: 11 principals, seven guidance counsellors and 17 teachers.

The study shows that teachers face a challenge to move from traditional teaching to a new kind of teaching in cooperation with companies as a third party. Teachers have to move from their own comfort zone to something new that they do not know. Teachers are not experts in the area being taught, but special expertise is transferred to students from company assignments in which students participate.

In conclusion, it can be argued that it is difficult for teachers to implement entrepreneurship education if they do not receive support from school management. If entrepreneurship education is adopted and adapted by the whole school, it will be easier for teachers to identify with it and the workload will not increase for an individual teacher. If a teacher tries to collaborate with companies alone but does not receive support from the school, the project will probably fade and end altogether.

Keywords: entrepreneurship education, cooperation with companies, teachers' practices

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Kaarina Sommarström
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To Emilia, Sofi, Saga, Gustaf and Ludvig

*The world is full of great and wonderful things for those who
are ready for them.*

-    Moominpappa

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List of abbreviations

ADB	Asian Development Bank
APS	American Psychological Society
BMJ	British Medical Journal
CA	California
CD	District of Columbia
CEDEFOP	European Centre for the Development of Vocational Training
CIRIEC	International Centre of Research and Information on the Public, Social and Cooperative Economy
ENRI	Eastern Norway Research Institute
ENTREDU	Entrepreneurship Education and Training
EU	European Union
FQS	Qualitative Social Research
FSF	Forum för småföretagsforskning
JA	Junior Achievement
ICALT	International Conference on Advanced Learning Technologies and Technology-enhanced Learning
ICSB	International Council for Small Business
ICT	Information and Communications Technology
IEEE	The Institute of Electrical and Electronics Engineers
IEEP	The International Entrepreneurship Educators' Programme
IZA	Institute of Labor Economics
LUMAT	International Journal on Math, Science and Technology Education
NC	North Carolina
NFF	Northern Future Forum
NJ	New Jersey
PISA	Programme for International Student Assessment
RAND	Research and development
RCEE	The Regional Conference for Engineering Education
UK	United Kingdom
SABER	System Assessment and Benchmarking for Education Results
SLO	Netherlands institute for curriculum development
WA	Washington

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1 Introduction

> *The students in a school in the 8th grade in basic education, guided by their teacher, had asked a software company for an opportunity to visit them and received an affirmative answer. The operation area of the company was the production of electronic games. When the teacher and the students arrived at the company, they were kindly received by the company representatives. After the welcome ceremonies and the company presentation, the students had the opportunity to take a walk and have a look around the working rooms. Among other things, the company was finishing up a product prior to release. The students were asked to test that new product, a simple number game for young children. It was a pleasure for the students, and they tested the game and even gave some suggestions on how to improve the product. It was a very pleasant experience for the students and the company got valuable suggestions on how to improve the product. The teacher, the students and the company representatives had a feeling of it being a successful visit.*

The example above is my own experience of a company visit. The purpose of the visit was to get acquainted with the company activities in general, but it turned out to provide an opportunity to participate in product development. Students were exposed to entrepreneurship activities and the testing of the product proved to be a positive experience.

Entrepreneurship education in cooperation with companies offers students the opportunity to experience an entrepreneurship atmosphere in a real company environment. By participating in the activities of a company, students learn entrepreneurship through their own experiences, a small part of a business, or even a larger entity. What is significant is that students are involved in doing what the company staff do while learning about entrepreneurship, and not through a one-way delivery of information provided by the teacher.

There are many different approaches in terms of content and extent of entrepreneurship education. Entrepreneurship education in cooperation with companies opens up the opportunity for new variations while the company is involved in the entrepreneurship education process. On the other hand, it may bring some challenges for teachers in implementing entrepreneurship education with companies, since the interests of teachers and companies may differ and they have to find some kind of balance between them.

1.1 Entrepreneurship education in cooperation with companies

In this study, entrepreneurship education is approached from the aspect of interaction between companies and school classes in the 7th, 8th and 9th grades in basic education. The focus is on teachers' practices to involve a company that is an outside partner in entrepreneurship education. This study utilises a qualitative approach and the conceptual

framework is based on studies on the teaching and learning entrepreneurship education in cooperation with companies.

The study uses the concept of entrepreneurship education in the context of introducing entrepreneurship to students in the 7th, 8th and 9th grades of basic education, whether used as an embedded theme in the school programme, a single subject or a single event. The Finnish national core curriculum (Finnish National Agency for Education, 2016) encompasses entrepreneurship education. The message of the Finnish curriculum is that schools should adopt entrepreneurship education in their programmes.

Besides entrepreneurship education, this study builds on the concepts of experiential learning and entrepreneurial learning. There is no appropriate definition of experiential learning, since the term experiential is a subjective concept (Illeris, 2007). The limits of experiences are individual and therefore cannot be inserted in a certain frame. Illeris (2007) states, however, that experiential learning includes the learning dimensions of content, incentive and interaction. Thus, experiential learning points to the necessity of considering the connection between the student and the content that should be learnt. According to Illeris (2007), involvement in the learning process and individual acquisition of knowledge are entrepreneurial learning. In this thesis, the emphasis is on entrepreneurship education in cooperation with companies, which obviously offers students experiential learning of entrepreneurship education.

Entrepreneurship education originates from the analysis of how entrepreneurs learn and how they learn best (Cope & Watts, 2000; Pittaway & Cope, 2007). Fayolle (2006) evaluates the terms 'entrepreneurship teaching' and 'entrepreneurship education'. He argues that teaching refers to delivering knowledge by implying a certain passivity of the student. Fayolle (2006) continues that in the entrepreneurship education context, the term 'education' would be more appropriate, especially when it comes to entrepreneurship education in cooperation with companies. The term 'education' relates to the evolution of the learning process from a didactical mode towards an entrepreneurial mode (Fayolle, 2006; Gibb, 1996). According to Gibb's (1996) entrepreneurial model, the learning occurs by doing and solving problems, through interpersonal exchanges, discussions and guided discovery. Furthermore, the learning may occur in an informal environment.

Entrepreneurship education in a company environment can be briefly described as learning by doing (Dobson et al., 2017; Illeris, 2007; Pitz, 2014). Bell & Bell (2020) present the roles of the teacher and the student in experiential learning, according to which the teacher is responsible for organising facilities for experiential learning and the student's obligation is to actively participate in the education process. Pitz (2014) argues that learning through experiences is useful when identifying and growing personality traits toward entrepreneurial knowledge.

For the purposes of this study, interaction is used as a general expression for all kinds of communication between school classes and companies, from standalone visits to extended cooperation containing several visits or meetings. The expression 'interaction'

is used if it is done reciprocally, although a short visit does not offer very much space for interaction. The term 'cooperation' is used in this study to describe closer interaction when the partners develop a joint project or collaborate with each other. According to Webster's Third New International Dictionary (1993), cooperation is just joint operation, or common effort or labour, which occurs in long relationships between classes and companies. In this study, the cooperating companies can range from small companies with a few employees to large companies that employ thousands of workers.

In summary, this thesis focuses on entrepreneurship education in the 7th, 8th and 9th grades in basic education in cooperation with companies. The study includes teachers' implementation of entrepreneurship education, perceptions of interactions with companies and teacher autonomy to create approaches of entrepreneurship education in cooperation with companies. It means education both in and outside the classroom, depending on the form of interaction and the agreed forms of actions between the partners.

1.2   Demand for company involvement in entrepreneurship education

The intention of entrepreneurship education in basic education is to provide students with entrepreneurship and working life skills. Entrepreneurship and working life skills are one of the transversal competence areas in the Finnish core curriculum. The core curriculum recommends schools provide students with entrepreneurship education (Finnish National Agency for Education, 2016). Nevertheless, the schools have the possibility to decide to what extent they will include entrepreneurship education in their teaching programme. This chapter takes a closer look at the recommendations of the core curriculum and needs for entrepreneurship education in general and in particular in cooperation with companies.

1.2.1   Reference to the national core curriculum

Entrepreneurship education has been a part of the Finnish core curriculum since 1994. Although the national core curriculum has been reformed, it has continuously included the call to familiarise students with working life. The latest reform of the Finnish core curriculum that took effect in 2016 featured seven transversal competence areas, with one of them being working life competence and entrepreneurship (Finnish National Agency for Education, 2016; Finnish National Board of Education, 2004). The national core curriculum advocates interdisciplinary learning across subjects by embedding at least one of the transversal competence areas in several subjects. The European Commission (2013) recommends a stronger connection between schools, commerce and industry. However, municipalities and schools have the freedom to plan and implement their education according to local needs and interests (Finnish National Agency for Education, 2016). Schools may have their own local version of the national curriculum with a special emphasis on local businesses, for example.

The message of the core curriculum is that schools should provide students with working life skills and entrepreneurship. Students should also have an opportunity to gain experience of working life and cooperation with companies in the community.

Schoolwork should include activities that provide an opportunity to get to know different professions and fields of work and businesses. This could happen through visits to companies and organisations, or visits from companies to schools, project work with companies and internships (Finnish National Agency for Education, 2016; Finnish National Board of Education, 2004).

Further, learning situations ought to involve training to plan work processes, experiment with alternatives, draw conclusions, and find new solutions to emerging challenges. The purpose of that is to help students show initiative, anticipate any difficulty in working, assess and take risks that they manage, face failures and disappointments, and finish the job meaningfully. Hence, students can learn the entrepreneurial mindset, and the importance of entrepreneurship in the community and society from their own experiences through work. Students should be instructed to recognise study and work opportunities and career choices according to their strengths and interests (Finnish National Agency for Education, 2016; Finnish National Board of Education, 2004).

1.2.2   Reference to the entrepreneurship education literature

There is little uniformity in the implementation of entrepreneurship education (Kassean et al., 2015). In traditional classroom teaching discussions, games and writing exercises dominate (Berglund & Holmgren, 2007; Matlay & Carey, 2007; Neck & Greene, 2011; Solomon, 2007), whilst outside the classroom the approaches of entrepreneurship education can take interactive forms, such as visits to companies, visits from a company to schools, joint projects and partnership (Fuchs et al., 2008; Hytti & O'Gorman, 2004; Leffler & Svedberg, 2005; Luecking et al., 2015; Markom et al., 2011; Shepherd, 2004; Solomon, 2007).

The literature on entrepreneurship education in cooperation with companies references positive effects, since entrepreneurship education is carried out together with a company or an outside partner connected to working life (Cooper et al., 2004; Jones & Iredale, 2010; Kickul et al., 2010; Löbler, 2006; Seikkula-Leino et al., 2010; Smith et al., 2006). The teaching situation changes when students participate in company activities. They may not recognise the operations of the company and the pursuit of profit at first glance, but they gain insights into the different forms and operational principles of entrepreneurship (Ministry of Education, 2009). Research shows that interaction with companies first and foremost provide an opportunity to see, touch and feel. It may also provide incentives to become an entrepreneur (Cooper et al., 2004; Gibb, 2011; Jones & Matlay, 2011; Pittaway et al., 2009; Shepherd, 2004).

'Learning by doing' is the statement that often appears in articles about entrepreneurship education (Gibb, 2011; Heinonen & Poikkijoki, 2006; Henderson & Robertson, 2000; Jones & Iredale, 2010). Heinonen & Poikkijoki (2006) state that students gain experience through participation and illustrate entrepreneurial learning as having three steps, namely: learning to understand entrepreneurship, learning to become entrepreneurial, and learning to become an entrepreneur. Thus, the first step is to understand the element and the

essence of entrepreneurship, in the second step the individual has begun to behave in an entrepreneurial way, and in the third step education and experience may influence the process of becoming an entrepreneur.

Henderson & Robertson (2000) argue that students need support and positive feedback in their experiments. They point out the lack of encouragement from teachers, including career guidance specialists for students. Kuratko (2005) shares this opinion when he claims that educators must have innovative drive. The teacher plays a key role in the development of teaching together with companies (Leffler & Svedberg, 2005). Hytti & O'Gorman (2004) suggests that the teacher in the teaching situation of a company environment acts as a coach or facilitator who can stay in the background but is ready to help and support their students in tasks that may be foreign to the student when the situation so requires (Kim & Schallert, 2011). Leffler & Svedberg (2005) claim that teachers feel uncertain about what is expected of them. Most research on entrepreneurship education concerns secondary and higher levels of education, while research on entrepreneurship education at the basic level of education is overlooked (Gessler, 2017; Gibb, 2002; Gosling & Mintzberg, 2004; Kuratko, 2005; Markom et al., 2011; Matlay & Carey, 2007; Pittaway & Cope, 2007; Pittaway & Hannon, 2008; Solomon, 2007). However, it is also applicable to lower levels, such as basic education, and this is also utilised in this study.

Pepin (2012) argues that in connection to visits or cooperation, students have the possibility to be active and ask questions that they cannot easily do in a classroom setting. This statement is also supported by Pittaway & Cope (2007) and Ruskovaara (2014). Jones & Iredale (2010) go a step further by arguing that students can even participate in problem solving in closer collaboration with a company.

1.2.3   Need for research on entrepreneurship education

The aim of this chapter is to recognise the need for research on entrepreneurship education connected to business and real company activities. At present, the practice of interaction with companies in the field of entrepreneurship education appears sporadic and fragmented.

The literature on entrepreneurship education also takes the viewpoint of students' benefits. Leffler & Svedberg (2005) argue that teachers should allow students to take responsibility for their activities and manage the projects to gain entrepreneurial knowledge. Jones & Iredale (2010) add that students learn by doing and they may also make mistakes that can be considered positive, as they are making them in a safe environment and can learn from those mistakes. Neck & Greene (2011) emphasise the importance of hands-on learning by saying that students have the possibility to do and then learn instead of learning and then doing, since it may be difficult to learn something when one does not know what it is about. Teachers' practices regarding the planning and implementation of cooperating with companies need to be researched and new knowledge on the matter is required.

1.3   Setting the research objectives

The aim of this chapter is to present the research gaps for this research, the purpose and the research question, and the limitations of the research.

1.3.1   Identifying the research gaps

There is no consensus on best practices in entrepreneurship education (Jones & Matlay, 2011; Kassean et al., 2015; Ruskovaara & Pihkala, 2013). There are a number of approaches to entrepreneurship education that vary according to their intent, content and goals (Béchard & Grégoire, 2005; Vanevenhoven, 2013). Teachers try to find their own way to carry out their entrepreneurship education. Making choices, and their own personal interests and abilities set teachers' limits for implementing entrepreneurship education.

Challenges and obstacles regarding entrepreneurship education have, in general, been noted in studies (Leffler, 2009; Leffler & Svedberg, 2005; van Dijk & Mensch, 2015). Chiu (2012) describes entrepreneurship education implemented in Nordic countries and has found several obstacles in adopting entrepreneurship in the teaching programme. According to him, a lack of resources and teacher motivations are the main barriers to entrepreneurship education. Resources can consist of several factors, such as financial resources, human resources, time resources, and information and communication resources (Usman, 2016). Chiu (2012) argues that action-oriented teaching, for example in cooperation with companies, is labour-intensive and costly. Van Dijk & Mensch (2015) argue that teachers struggle to cover the required topics for the school year, and in this context, the adapting of entrepreneurship education in a teaching programme would cause even more challenges. Furthermore, teachers also want students to cope with the tasks in the best possible way in the annual national and international tests, which supports focusing on traditional in-school teaching for offering the content of basic knowledge in school subjects and thereby ignoring the theme of entrepreneurship education (Erss & Kalmus, 2018).

The curricula are country-specific and can differ from each other, though they also have similar viewpoints regarding education. Earlier research suggests that the curricula of basic education describe the very general goals and then more specific learning activities and objectives (Levin, 2008; Su, 2012). The curriculum also reflects the expected needs of society in working life, which means the important civic skills that learners need as adults (Leask, 2009; Sahlberg, 2011a; Salonen-Hakomäki et al., 2016; Seikkula-Leino, 2011). Levin (2008) also argues that various industries want to influence school programmes that would support their labour market needs. Leask (2009) adds that schools should respond to a rapidly changing world as well as globalisation. Subsequently, the curricula are likely to reflect the needs of society as well as cultural beliefs, traditions and values related to cultural activities (Erss et al., 2016; Ministry of Education, 2005; Su, 2012).

The Finnish core curriculum comprises seven transversal competence areas and one of them is working life skills and entrepreneurship. The core curriculum exhorts schools to invite local companies to interact.

Sahlberg's (2011a) and Lüdemann's et al. (2009) research results show that school autonomy is conducive to student achievement in well-developed systems. At the same time, however, some studies suggest that school autonomy is narrowing in several European countries (Erss & Kalmus, 2018; Jeong & Luschei, 2018). The reason for the change towards narrowing curricula is believed to depend on international tests, competitions, and comparisons between schools, which cause national governments to direct schools to focus on issues that will be compared in such tests (Erss & Kalmus, 2018; van Dijk & Mensch, 2015).

Chiu (2012) indicates a dilemma in the system of school autonomy though it works well in well-organised communities. The findings of his study show that recommendations may not be enough since there is no follow-up of the implementation process whether schools have taken entrepreneurship education into consideration or not in their curriculum. At present, Finnish schools can make their own decision whether entrepreneurship education is appropriate for their school strategy and there are no follow-up systems. Entrepreneurship education can be as embedded in the whole system across the subjects or an optional subject that students have the possibility to choose during a certain year, as schools decide the extent of the matter. The involvement of local companies and interaction with them seem to depend on schools' learning strategies and ultimately on teachers' individual endeavours to organise extra learning opportunities in connection with businesses or companies in the community (Smith & Sobel, 2010).

Educational autonomy refers to teachers' ways of working and thus is also termed in the literature as work autonomy (Parker, 2015). Within educational autonomy, as teachers are responsible for the subjects they teach, they can choose suitable textbooks and teaching materials, topics to be taught, and prepare their lessons according to their own preference (Jeong & Luschei, 2018; Vangrieken et al., 2017). Using their pedagogical autonomy, teachers in entrepreneurship education have the possibility to invite companies to cooperate, including visits or joint projects. Nevertheless, in the 7th, 8th and 9th grades in basic education when students have many teachers and subjects, teachers have to collaborate with each other in order to achieve successful goals (van Dijk & Mensch, 2015).

To summarise, the core curriculum recommends schools interact with companies and organisations in conjunction with entrepreneurship education and allows schools to operate autonomously regarding their strategy and activities. Beyond that, teachers are seen as having advanced autonomy to plan and implement their teaching in the best way they feel comfortable to teach and help students enjoy their learning.

The combination of what the core curriculum exhorts, what school autonomy means and how teachers themselves experience their abilities to teach effectively leads to the first research gap:

> **There is a need to understand how teachers implement entrepreneurship education with companies.**

Many studies on entrepreneurship education have argued for the importance of entrepreneurship education in a real company environment (Cooper et al., 2004; Henderson & Robertson, 2000; Jones & Iredale, 2010; Kickul et al., 2010; Leffler & Svedberg, 2005; Pittaway et al., 2011). Entrepreneurship education in a real company environment provides connection to real-life cases and acts as a complementary factor to theoretical studies (Löbler, 2006; Pittaway & Cope, 2007). Kickul et al. (2010) argue that students have an opportunity to 'go real, go deep, get feedback' in a real company environment. Neck & Greene (2011) suggest that students benefit from doing entrepreneurial activities first and then learning rather than first learning and then doing. As an argument of first doing and then learning, they claim that young students may lose interest in entrepreneurship education when they must study concepts unfamiliar to them.

The literature on entrepreneurship education highlights a wide range of entrepreneurship education approaches (Hytti & O'Gorman, 2004; Neck & Greene, 2011; Solomon, 2007). However, there is limited empirical research about these approaches. Company visits, guest speakers in classroom, joint projects and students' mini companies with a support company are suggested to be an effective way to introduce entrepreneurship education to students (Kassean et al., 2015; Neck & Greene, 2011; Solomon, 2007). However, Gibb (1993) is of the opinion that company visits are based more on curiosity than pedagogical objectives of entrepreneurship education.

In their study, Cooper et al. (2004) came to a conclusion that even a single company visit is useful for entrepreneurial learning. Nevertheless, they emphasise that long-term cooperation provides students with the opportunity to participate in the company's operations. Hence, long-term collaboration allows for deeper learning. Roehl et al. (2013) argue that students should be able to actively participate in the company's activities and at the same time in their own learning process (Roehl et al., 2013).

Teachers face a set of challenges to meet the requirements of entrepreneurship education in cooperation with companies. Teachers should create a teaching and learning environment that trains students to increase self-confidence, decision-making, and risk-taking skills (Hynes & Richardson, 2007). Hynes (1996) calls for a learning environment that allows students to develop their economic, social, and technological skills for the future. Roehl et al. (2013) claim that a learning environment should allow students to participate actively in the learning process. Nevertheless, the learning environment should also be a comfortable environment for students to fail in (Smith et al., 2006).

Teachers are in a key position to provide students with adequate learning conditions. Teachers need to adopt new roles in their teaching (Higgins & Elliott, 2011). When students are at the centre of the learning process, teachers should take the role of an encouraging and questioning coach (Draycott & Rae, 2011). The new roles may also be defined as a promoter, mentor, advisor, and manager when changing from traditional teaching to the new role (Haase & Lautenschläger, 2011; Powell, 2013). Powell (2013) points out that teachers do the planning and prepare materials in traditional teaching, and they have still more to do in entrepreneurship education in a real company environment. Teachers should be able to provide the freedom for students to learn the necessary skills for the working world.

To summarise, teachers should plan their teaching and prepare materials keeping in mind that these activities also involve external partners. When students participate actively in their learning process, teachers should be able to stay in the background and allow students to be responsible for their learning. At the same time, teachers should be ready to help students when they need support and guidance (Kim & Schallert, 2011).

The combination of teachers' tasks in entrepreneurship education and companies' involvement leads to the second research gap:

> **There is a need to examine teachers' practices in entrepreneurship education in cooperation with companies.**

1.3.2   The purpose of the study and the research question

The purpose of this study is to increase understanding of teachers' practices in entrepreneurship education when it occurs with companies. As collaboration between school and companies, entrepreneurship education takes other forms than in traditional classroom settings. Subsequently, teachers are obliged to face and collaborate with people working in business life. Furthermore, entrepreneurship seems to be a rather poorly understood theme in the school world, forming another new element for teachers in educating work. The aforementioned factors are the focus of this thesis, which looks at teachers' activities, practices, and possibilities to face new elements in teaching, as well as drawbacks in organising cooperation with companies, whether that be short-term or long-lasting cooperation with big companies or single entrepreneurs. Accordingly, this leads to the core of the research.

The research question of this research is:

> **How is entrepreneurship education implemented by teachers in cooperation with entrepreneurs and companies?**

To be able to answer the research question, a detailed picture has to be examined regarding entrepreneurship education in basic education. First, the concept of entrepreneurship education in general and the concept of entrepreneurship education in interaction with companies need to be clarified. Second, teachers' practices of

entrepreneurship education in interaction with companies are analysed in terms of how implementation is organised in and across subjects in schools. Third, the study seeks to investigate teachers' possibilities, perceptions, and assumptions to adopt entrepreneurship education in their teaching work, which includes opportunities, challenges and drawbacks in the process of collaborative interaction with companies.

The main research question and the aforementioned objectives of the research lead to the following sub-questions:

1. How do teachers experience school/company interaction and the organisation required for school/company cooperation?

2. What kinds of complexities do teachers come up with in the implementation of entrepreneurship education?

3. How can cooperation with companies create learning opportunities for entrepreneurship education?

4. How do schools and teachers use their autonomy in the implementation of entrepreneurship education in cooperation with companies?

The sub-questions will be used as guidelines for the empirical study and for structuring articles of the research.

1.3.3   Scope and limitations of the study

The teachers who are informants in this study work in schools in basic education. They are subject teachers, which means that they have one or more subjects they are responsible for. The study does not make any difference between the subjects that teachers are teaching. In summary, teachers of all subjects are represented in the study. Teachers' work consists of teaching students aged 13–16. Students are in the 7th, 8th and 9th grades, which are the last three years in basic education.

The study investigates Finnish teachers, and the entire research material has been collected from teachers who work in schools in Finland. The informants work in schools in basic education, both in cities and rural areas, in different parts of Finland. Basic education settings are country specific. Basic education in Finland differs from basic education in other countries, which is why only teachers from schools in Finland have been included in this study.

Since the study focuses on teachers' practices in entrepreneurship education with companies, the intention is not to investigate the success of student learning. It does, however, concern learning opportunities and students' role in the learning process in cooperation with companies alongside teachers' practices.

1.4   **Research strategy**

In choosing the strategy, I considered the nature and purpose of the research. I aim to examine teachers' practices and choices in the implementation of entrepreneurship education. Literature research shows that entrepreneurship education can employ various methods depending on teachers' interests and possibilities. That contributed to the selection of the research strategy. In this chapter, I present the research design and the factors that support my choice.

This research takes a qualitative research method approach (Bengtsson, 2016; Gioia et al., 2012). Qualitative research strategies are suitable when interpreting and revealing concepts and meanings rather than generalising accidental relationships (Toloie-Eshlaghy et al., 2011). The advantage of qualitative research is the richness of data (Elo & Kyngäs, 2008) and it provides an understanding of the phenomena and points of view as seen by the participants (Lacy et al., 2015; Oppliger & Davis, 2016). From this point of view, the qualitative method is the best option to attain knowledge about teachers' daily work. The data was gathered using semi-structured interviews (Adams, 2015), a method that was chosen considering that they allow an informant to explain their thoughts and highlight areas of particular interest and expertise they have (Horton et al., 2004; Leech, 2002).

In their survey, Blenker et al. (2014) examine what research methods had been used in entrepreneurship education. Qualitative methods seem to dominate, since about half of the studies in their survey used them, and the data is collected mostly through interviews. This is understandable when research focuses on understanding phenomena of interpersonal activities and behaviour in educating for entrepreneurship (Lacy et al., 2015; Oppliger & Davis, 2016). According to the survey by Blenker et al. (2014), quantitative studies are used rather frequently, and surveys are most used in data collection. In addition to these methods, mixed methods are quite common in the field of entrepreneurship education research (Blenker et al., 2014).

For the interviews, a suitable framework of themes was constructed with the view that the interviewees could give their own explanation for the cooperation with companies (Table 1). The framework of the themes in semi-structured interviews is based on previous knowledge of the subject (Kallio et al., 2016). By following the framework of the themes, it was ensured that all relevant details were asked and, most importantly, that in every interview the themes were asked from the same viewpoints and considering the same questions. The framework of the themes for the interviews and the purpose of the themes are presented in Table 1.

Table 1: Theme questions

	Theme question	**Purpose of the theme**	**Sources**
1.	How many company visits do you make per school year? How many other	Leading the interviewee into a discussion. Creating a comfortable feeling for them to explain and a	Adams (2015), Kallio et al. (2016)

	visits to museums, science centres or other destinations, for instance?	relaxed environment. The number of visits to companies and other places and the degree of interaction.	
2.	What other kind of cooperation takes place with outside actors?	The interviewee has an opportunity to explain interaction and cooperation with any partner. Broadening entrepreneurship education by means of interaction with companies.	Cooper et al. (2004), Markom et al. (2011), Neck & Greene (2011), Solomon (2007)
3.	How do you get in touch with companies? Who takes an active role in arranging cooperation or visits?	Initiating interaction with an entrepreneur or a company, opportunities, and challenges to get a partner. Possible existing channels and networks. Continuity of interaction.	Luecking et al. (2015), Seikkula-Leino et al. (2010)
4.	What are the practical arrangements for the visits?	Practices in daily routines when organising an event with an entrepreneur or a company, considering students' other lessons, teacher's schema and other practicalities.	Berglund & Holmgren (2007), Chiu (2012), van Dijk & Mensch (2015)
5.	What is the purpose of the visits? How interested is the teacher in that kind of teaching?	Contribution of experiential learning. The purpose of the visit can be part of long-lasting interaction, or it can be a standalone visit.	Fuchs et al. (2008), Henderson & Robertson (2000), Kickul et al. (2010), Löbler (2006)
6.	How is the schoolwork connected to the visits?	Complementary to traditional education. Connection to the informant's subjects and across other teachers' subjects.	Ruskovaara (2014)
7.	Which companies are in the vicinity?	Availability to interact with companies and school/company networks. Community-based education.	Powell (2013), Smith & Sobel (2010)
8.	How do the classes plan the visits in advance?	Planning of experiential entrepreneurship education, meetings, and schoolwork in school between meetings.	Frank (2007), Ozawa & Seltzer (2016)
9.	How do the classes process the visits afterwards?	Learning process through reflecting. Processing the collaboration after a meeting; may be connected to the next meeting.	Barraket (2005), Cincera et al. (2018), Seikkula-Leino et al. (2010)
10.	What are your attitudes to and thoughts about interaction with companies in general?	Teachers' interest and motivation. At the end, the interviewee has an opportunity to explain their own thoughts, perceptions and desires	Chiu (2012), Pittaway & Cope (2007)

		about what interaction is like or how it could be if any components of interaction were changed.	

The first theme involves a company visit and other field trips from school in general, and this was designed to activate the interviewee to start explaining their practices. This had the function of opening the discussion in the form of an interview. Depending on the complexity of the respondent's answer, various follow-up questions were used (Adams, 2015). In the framework of the themes, the expression 'company visit' was used throughout without further specification of or allusion to a particular form of interaction.

The study uses an abductive approach that is closely connected to explanation-seeking questions (Paavola, 2016). Paavola (2016) states that abduction is a suitable approach by examining perception and practices. Abduction combines theory and empirical data by allowing inferences of observed phenomena. Abductive inferences use guiding principles as research ideas (Grönfors, 2011). School/company interaction and implementation of entrepreneurship education were guiding principles for abductive inferences at the beginning of this study. In line with abduction, new guiding principles emerged during the study regarding teachers' practices in entrepreneurship education with companies.

In content analysis, the data in the form of explanations and claims is condensed and categorised according to short codes (Erlingsson & Brysiewicz, 2017). Codes are descriptive labels for condensed meaning units or categories that would be developed as near as possible to the material and formulated in terms of the material (Mayring, 2000). In this research, the categories represented aspects of interpretations within school/company interaction regarding the form of interaction, purpose of interaction, curricula, teachers, principals, facilitators, time, and financial resources, learning environment, opportunities and challenges. Some of the codes that were created in the beginning changed during the research process and some of the categories that seemed clear in the beginning became obscured.

The categories were divided into subcategories to obtain accurate information about teachers' practices in terms of interaction with companies within entrepreneurship education. Subcategories can be facilitated by including relevant examples from the focus group (Moretti et al., 2011).

Although qualitative content analysis is an excellent tool for increasing understanding of people's perspectives and experiences (Moretti et al., 2011), it also has limitations. Moretti et al. (2011) highlight some risks in qualitative content analysis. One of them is strong interference from the researcher who may unintentionally interpret the research material or findings. Another risk could be overestimating participants' contributions and subsequently the lack of generalisability. Mayring (2000) notes that risks may appear if the research question is very open-ended, exploratory, or if a more holistic ongoing analysis is planned.

1.4.1   Data collection

To ensure trustworthiness of content analysis, the researcher has to be careful about the selection of the most suitable data collection method (Elo et al., 2014). In most studies where content analysis is used the data is collected from unstructured or semi-structured interviews, written documents, and observations (Elo et al., 2014). An unstructured interview is more like a conversation, and it can go in many directions, since the interviewer has little control over the responses (Harrell & Bradley, 2009). In semi-structured interviews, a guide to topics and themes is used and the interviewer has some discretion about the order in which the questions are asked and how the researcher covers the correct material (Harrell & Bradley, 2009).

To attain new knowledge about interaction between teaching personnel and companies, semi-structured interviews were chosen. The advantage of semi-structured interviews in qualitative research is the richness of the data without delimiting a certain area of activities.

The interviewees were chosen to cover the whole of Finland and to represent municipalities of different sizes. Originally, the total number of interviewees was thought to be between 30 and 50 to provide a sufficient number of informants for the study, a total of 41 people were interviewed. Most interviewees worked with the 7th, 8th and 9th graders, while there were some teachers who worked with lower year groups in basic education. After the analysis of the first article, the focus of the study was redefined to consider teachers in the 7th, 8th and 9th grades, which meant that the total number of informants became 35 for the later analysis. Table 2 presents the 35 informants, 11 of whom work as principals, seven as guidance counsellors and 23 as subject teachers.

Among the subject teachers in this research, five were responsible for entrepreneurship education in the schools that had adopted entrepreneurship education in their teaching system. All the informants explained that they teach students; however, the principals and guidance counsellors do less teaching than the subject teachers. The informants work in 23 schools in different parts of Finland, both in urban and rural areas. The dates of the interviews and locations of the schools of the informants are presented in Table 2. The schools use Finnish or Swedish as the language of instruction, and the interviews were conducted in their own school language. The interviews were conducted in 2014–2015, as shown in Table 2. All the interviews were recorded and transcribed in text form. The duration and the record size of each interview are also presented in Table 2. The locations of five respondents were hidden for purposes of respondent anonymity.

Table 2: The dates and locations of the interviews

	Date	Location	Interviewee	Duration			Recording size / MB
				h	min	s	

1	13.06.2014	Helsinki	teacher		43	37	19.89
2	17.06.2014	Helsinki	teacher		57	47	26.40
3	17.06.2014	Helsinki	principal		17	28	8.00
4	18.06.2014	Helsinki	principal		16	32	7.57
5	24.06.2014		principal		24	22	11.10
6	02.09.2014	Helsinki	teacher		28	29	13.03
7	04.09.2014	Helsinki	guidance counsellor		24	16	11.10
8	15.09.2014	Joensuu	principal		55	55	25.50
9	15.09.2014	Joensuu	teacher		22	10	10.17
10	15.09.2014	Joensuu	guidance counsellor		23	43	10.86
11	09.10.2014	Pedersöre	teacher		17	32	8.02
12	09.10.2014		guidance counsellor		33	23	15.20
13	09.10.2014	Pedersöre	teacher		16	50	7.70
14	27.01.2015	Espoo	principal		30	40	14.00
15	18.02.2015	Kauniainen	teacher		37	41	17.18
16	13.03.2015	Seinäjoki	principal	1	21	30	37.30
17	13.03.2015	Seinäjoki	teacher		32	11	14.70
18	20.03.2015	Parainen	teacher		31	39	14.40
19	20.03.2015	Parainen	teacher		24	18	11.10
20	26.03.2015	Naantali	teacher		21	38	9.90
21	05.05.2015	Sipoo	teacher		35	16	16.10
22	06.05.2015	Espoo	teacher		23	21	10.68
23	07.05.2015	Oulu	principal		36	45	16.80
24	08.05.2015	Helsinki	guidance counsellor		36	38	16.73
25	15.05.2015		principal		31	29	14.41
26	15.05.2015	Kajaani	principal		31	06	14.20
27	18.05.2015	Porvoo	teacher		29	20	13.40
28	22.05.2015	Vaasa	guidance counsellor		35	42	16.30
29	22.05.2015	Vaasa	teacher		32	00	14.60
30	26.05.2015	Turku	guidance counsellor		38	53	17.80
31	27.05.2015	Kirkkonummi	teacher		16	09	7.39
32	02.06.2015		principal		21	58	10.00
33	04.06.2015	Helsinki	teacher		40	15	18.40
34	08.06.2015		principal		49	05	22.40
35	16.06.2015	Helsinki	guidance counsellor		17	52	8.18
In total:				**18**	**37**	**40**	**510.51**

The interview lengths vary from 17 to 81 minutes making a total of 18 hours, 37 minutes, and 40 seconds. The size of the recorded interviews is 510.51 megabytes.

Table 3 shows the duration and recorded size of each group of informants: principals, guidance counsellors and subject teachers. Their expertise differs from each other, although all of them belong to the teaching personnel. The principals represent the administration in the school, which takes up a large part of their working time. For this reason, the principals take fewer teaching lessons than subject teachers. However, the

principals play a major role in decision-making regarding the resources for entrepreneurship education. The guidance counsellor keeps a connection to schools that may be the next schools for the students. Their special expertise is to teach and guide students to further studies, leading to different degrees and professions. Their teaching consists of giving instruction on the orientation of students in society. In addition to these tasks, the guidance counsellors are responsible for the link between the schools and companies, as their task is to help students apply for internships in companies. The subject teacher is responsible for the subjects to be taught, such as mother tongue, mathematics, physics, chemistry, foreign languages, music, religion, handicrafts, art and gymnastics. One teacher may have one or more subjects to teach. A teacher's role in entrepreneurship education may vary strongly depending on their principal's decisions and the internal division of tasks in the school.

Table 3: The total duration and the size of recorded interviews of each of the informant groups

Informant group	Interview duration			Recording size / MB
	h	min	s	
Principals	6	37	0	181.28
Guidance counsellors	3	30	27	96.17
Teachers	8	30	13	233.06

The duration of the interviews with the 11 principals totalled 6 hours and 37 minutes and the size of the recorded files is 181.28 megabytes. The number of guidance counsellors was seven, making the interview duration a total of 3 hours, 30 minutes, and 27 seconds, which corresponds to a recording volume of 96.17 megabytes. The subject teachers constitute the biggest group, with their total interview time being 8 hours, 30 minutes, and 13 seconds, corresponding to a recorded size of 233.06 megabytes.

According to Horton et al. (2004), a semi-structured interview provides a valuable means to allow researchers to reflect on their theoretical prior knowledge. The details, such as contents of visits, how visits were organised, responsibility details and other aspects that belong to interaction with companies were not so well known. Based on this, the intention was to deepen the knowledge of teachers' practices and experiences of cooperation with companies.

Elo et al. (2014) warn the interviewer to be careful and not to steer the interviewee towards answers to obtain data. In line with this, Leech (2002) emphases the importance of listening and not steering the respondent. These aspects were taken into account in the way that the explanations before the interview itself did not include any viewpoints of the research object from any particular point of view. Instead, the interviewees were asked only to explain their own activities, practices, and experiences. The responses to the opening question indicated the extent of connection to companies and organisations outside school.

Some interviewees appeared to be modest and underestimated their actions, suggesting that they had little to contribute to the research. The subsequent questions included any other connection or visits that were made by the teacher and the students. That question was asked to encourage the interviewee and to avoid the omission of any important information about teaches' activities with external actors (Horton et al., 2004). All the interviewees had some visits or field trips in their teaching programme. According to them, the visits were designed to support the subjects that the teachers were teaching, and they were approved by the entire college when planning for the school year (Frank, 2007; Ozawa & Seltzer, 2016). Surprisingly, after a little explaining, some of the interviewees remembered doing a company visit as well, which led the interview to continue according to those activities. Thus, the interviews taught me not to hesitate to broaden the area and ask about issues close to the topic, which in turn could encourage the interviewee to explain further.

1.4.2   **Analysing the data**

Erlingsson & Brysiewicz (2017) state that analysing qualitative research is a reflective process. They argue that there are no linear steps by which an analysis can be made. They suggest that content analysis involves complex phases of reading the texts, dividing the texts into meaning units, condensing those meaning units, coding, and categorising the codes. In this research, the interviews were read and re-read several times to gain a general understanding of what the interviewees have explained.

When the meaning units were condensed and coded, the data could be reflected on. After reflection, the texts were recoded and categorised. In analysis, the interviewees were divided into two groups: teachers and principals. The guidance counsellors were included in the teacher group. Further, the teachers were divided into two subgroups: teachers in entrepreneurship education and other subject teachers. That was done because within the group of teachers in entrepreneurship education, more codes emerged than among the group of other teachers. Nevertheless, there were similar codes in the analysis of the entrepreneurship teachers' answers and the other teachers' answers. The categories were divided into subcategories. These categories and subcategories are shown in Table 4.

Table 4: Categories and subcategories

Categories	Subcategories
The approximate number of visits or contacts per school year	Visits to companies
	Visits to science centres
	Cultural visits
	Visits to organisations and associations
Yearly changes in practices of interaction and collaboration	The same pattern from year to year
	Systematically changed
	Dependent on diverse factors
Planning of visits	Pre-planned, embedded in the system
	Planned some time before

	Ad-hoc visits, resulting from opportunities
Teachers' arrangements	Arrangements before visits
	The role of teacher during of visits
	Processing and hearing about visits
Students' participation	Teacher-centred
	Student-centred, active participation in planning and interaction
The role of the principal	Principal supports and encourages
	Not interested
The role of the guidance counsellor	Cooperation
	Not interested
Curricula	The national curriculum
	The school curriculum
Cooperative work with other teachers	
Teacher's awareness of the programme	
The purpose of visits	Part of long-term cooperation
	Across subjects
	Within a subject, a certain phenomenon linked to theory
	Cultural experience
Forms of interaction	Long-term interaction with the same company
	Company projects
	Companies as advisors to mini companies
	Company visit, field trip
	Entrepreneur in classroom
	Online session
Assumption of learning	Feedback from students
	Observations during interaction
Ways of obtaining company contacts	Direct contacting
	Via students' parents
	Via teacher's relatives and friends
	Companies take the initiative
Keeping in touch with companies between cooperation	
Location of companies	In the vicinity
	Further away
Cost impacts on cooperation	
	Due to scarcity of time or human resources
	Individual assumptions

Obstacles and reasons for not interacting with companies	General policy in the school
	Lack of knowledge about interaction
	Priority of school and exams
	Lack of energy
Teacher's thoughts and improvements	

The themes in categories and subcategories were organised according to their similarities between informants' statements (Graneheim et al., 2017). By categorising it is possible to find and point out different statements from others. That enables the researcher to determine similarities and differences and thus provide new insights (Elo & Kyngäs, 2008). Each of the articles includes categories that belong to the article and the new insights derived from the similarities are also described.

1.4.3 Validity and reliability

Validity and reliability are fundamental concepts used to evaluate the quality of research. They set the guidelines for the research to be successful and the results to be credible and reliable. Validity is the extent to which the results really measure what they are intended to measure or how truthful the research results are (Golafsani, 2003). Bashir et al. (2008) argue that validity means credible and trustworthy research data and the research results can be defined when challenged. Reliability is the extent to which the results are the same when the research is repeated in the same conditions (Cypress, 2017).

Validity and reliability in qualitative research have been criticised in the literature as the measures used to ensure quality in quantitative research cannot be applied to qualitative research (Cope, 2004; Noble & Smith, 2015). Noble & Smith (2015) suggest alternative terminology for validity and reliability, according to which validity can be termed true value and reliability consistency. They argue that true value recognises multiple realities exist and the participants' perspectives are clearly presented. Furthermore, reliability describes consistency that relates to trustworthiness, and an independent researcher would obtain identical findings when undertaking corresponding research.

Qualitative research involves methodological strategies that ensure the trustworthiness of the findings. Prescribed good strategies are worth considering to ensure validity and reliability. Strategies in qualitative research ensuring rigour must be included at the beginning of the research and maintained throughout the whole process (Bengtsson, 2016; Cypress, 2017). One of these strategies is acknowledging biases and ongoing critical reflection of methods, which has been an essential part of this research (Noble & Smith, 2015). Experienced researchers have reviewed and monitored the progress of the study. Valuable comments have been given and the details of the current stage of the research have been discussed.

Noble & Smith (2015) list a few more strategies that ensure rigour in qualitative research. Record-keeping in all phases of the research helps the researcher to keep the progress of research clear. Interpretations of data are thus kept consistent and transparent and thought processes are demonstrated to ensure clarity, which helps to maintain consistency and trustworthiness in the research. Interpretations of the data could include rich verbatim descriptions of interviewees' accounts to support findings. In analysis, it is worth establishing a comparison and seeking out similarities and differences across the data to clarify the findings.

Cypress (2017) warns of researcher bias as a potential threat to validity. Researcher bias emerges when selective observation or information is used in interpretations and when a researcher allows one's own perspectives to affect interpretation of the data. Thus, the researcher should be aware of one's own perceptions and keep them separate from the research. Bengtsson (2016) argues that preconceived knowledge of the research subject can be an advantage, as long as it does not affect the interviewees or the interpretation of the research outcomes. These risks were noted in this research. All past experiences and knowledge were brought into the research, but my own perceptions and opinions were set aside. The research team also helped in this regard by questioning and commenting during the research process.

Cypress (2017) suggests reflexivity as a tool to understand researcher bias, which means that the researcher actively uses critical self-reflection in relation to the biases. During the research process, self-reflection was applied in the phases of design, data collection, analysis, and interpretations of the data. Reflection was also used in terms of the corresponding available literature.

1.5 Outline of the study

This thesis consists of two parts: the first part includes the theory, research gap, research question, and research strategy of the thesis, and the second part includes the publications belonging to the thesis.

The first chapter introduces the study by describing interaction between school classes and companies and explaining the theme of the study. It is divided into five sections. The first section gives an overview of entrepreneurship education in cooperation with companies. The second section discusses the demand for research into entrepreneurship education in cooperation with companies. The third section explains the research gap and objectives of this study. The fourth section describes the research strategy, including the data collection and analysis of the data, while the fifth section gives an outline of the study.

The second chapter deals with the current research on entrepreneurship education and is divided into four sections. The first reviews recent research on entrepreneurship education. The second section describes the teacher's role in entrepreneurship education with company cooperation by considering student-centred education. It also presents

teacher autonomy and the recommendations of the core curriculum. The third section presents the recent implementation of entrepreneurship education. It also describes learning possibilities in company activities and looks at the relevant approaches. The fourth section presents a summary of the chapter.

The third chapter is divided into five sections and contains introductions to the four research publications. The first section presents the publication on how interaction with companies creates opportunities for entrepreneurial learning. The second section presents the publication on the complexities that teachers come up against in the implementation of entrepreneurship education. The third section presents the publication about teachers' experiences of school/company interaction and what is required to organise it. The fourth section presents the publication on the use of school and teacher autonomy in the implementation of entrepreneurship education, while the fifth section presents a summary of the publications and their contributions to responding to the research question.

The fourth chapter provides a conclusion to the research and is divided into three sections. The first presents theoretical implications. The second section presents practical implications of the study. Finally, the last section explains the limitations and suggestions for further research in the field.

The second part of the study includes the four publications as they have been published in scientific journals.

2 Research on implementation of entrepreneurship education

This overview begins by looking at research on and the directions of development for entrepreneurship education. The first section looks at the aims, goal and outcomes of entrepreneurship education, but is also related to the teachability and learnability of entrepreneurship education. The overview continues with a review of the literature on entrepreneurial learning when entrepreneurship education is carried out in cooperation with companies. In addition to the general review, entrepreneurship education in the 7th, 8th and 9th grades with companies receives special attention.

The second section concerns teachers' role in entrepreneurship education in cooperation with companies. Teachers have autonomy in terms of being able to decide their teaching methods, to a certain extent. Nevertheless, the work of teachers is affected by the curriculum, municipal decisions, and the school administration. Cooperation with companies demands a change in the role of the teacher, as they are not the only source of knowledge.

The third section examines the implementation of entrepreneurship education. It includes a literature review of methods and approaches that can be used in entrepreneurship education with companies. It also looks at teachers' practices in the implementation of entrepreneurship education, with challenges that teachers may face during implementation entrepreneurship education in cooperation with companies. Challenges in implementing entrepreneurship education with companies may be caused by non-traditional teaching since companies, with their entrepreneurial knowledge of the phenomenon, are involved in education.

2.1 Research on entrepreneurship education

The purpose of entrepreneurship education is to equip students with self-confidence, decision-making, and risk-taking, and operational readiness, which are valuable skills later in working life (Gibb, 2011; Higgins & Elliott, 2011; Honig, 2004; Hynes, 1996; Hynes & Richardson, 2007; Pittaway & Cope, 2007). Entrepreneurship courses have mostly belonged to higher education and business schools, with the first courses held as early as the 1940s (Katz, 2003). Since then, the scope and size of entrepreneurship courses have largely widened, and they gained a proper foothold in education systems at all levels in the 1970s (Hoppe, 2016).

Hoppe (2016) states that the content of the early courses in the 1970s up until the mid-1980s was not very varied, as the intention was to give students a traditional theoretical understanding of entrepreneurship. Since the 1980s, the content of entrepreneurship courses started changing due to students' criticism of the courses, which did not correspond to what happened in reality (Hoppe, 2016). In the early days of entrepreneurship education, there were considerations about whether entrepreneurship could be taught or whether individuals were born entrepreneurs (Neck & Greene, 2011).

After reflection and approval by many scholars that entrepreneurship can be taught, attention turned to how it could be taught (Drucker, 1985; Neck & Greene, 2011; Vesper & Gartner, 1997). A range of qualities and characteristics were highlighted that are important in connection with entrepreneurship education. The characteristics were mainly divided into those that concern running a business, such as innovation, risk-taking and decision-making, or those that refer to individual attitudes to work, such as diligence, responsibility and ambiguous (Klofsten & Spaeth, 2004; Plaschka & Welsch, 1990).

At the turn of the 1980s and 90s, different approaches to entrepreneurship education were reconsidered regarding societal expectations and needs. Thoughts and assumptions appeared around practical applications in entrepreneurship education, in addition to theory-based courses (Kent, 1990; Plaschka & Welsch, 1990). During the last few decades there has been increasing interest in interaction with companies as a complement to traditional teaching (Eshach, 2007; Falk et al., 2007; Gibb, 2011; Heinonen & Poikkijoki, 2006; Jones & Iredale, 2010; Jones & Matlay, 2011; Kassean et al., 2015; Kickul et al., 2010; Leffler & Svedberg, 2005; Solomon, 2007).

In Finland, entrepreneurship education did not appear on the curriculum or in learning materials until the 1970s (Peltonen, 1987). The first signs of teaching entrepreneurial aspects appeared in the 1970s when Finnish society started to become more entrepreneur friendly (Möttönen, 2019).

In the 1980s, the Union of Industrial and Employers' Confederations of Finland published pamphlets on the need for education of working life skills and one of them, published in 1984, focused on education and entrepreneurship (Lindström, 2019). In its current form, entrepreneurship education started at the beginning of the 1990s when the Finnish Board of Education set up a working group to develop various models to promote entrepreneurship education (Möttönen, 2019). Entrepreneurship education was included for the first time in the Finnish national core curriculum in the middle of the 1990s when it was an optional thematic entity, and the purpose was to provide students in basic education with the skills and knowledge that are needed later in adult life (Rokka, 2011). About one decade later, in 2004, entrepreneurship was included in the thematic entity of citizenship and entrepreneurship in the national core curriculum (Ministry of Education, 2005). The purpose of entrepreneurship was initially to educate students in entrepreneurial attitudes and aspects, such as flexibility, innovation, creativity, risk taking, self-help, cooperation skills and motivation, but also in how to run a business (Jones & Iredale, 2010).

Research on entrepreneurship education was very pragmatic in the beginning. At the turn of the 1970s and 80s, it focused on those who were unemployed or at risk of unemployment (Kyrö, 2001). The purpose of learning was on one hand to strengthen existing entrepreneurs' business knowledge, and on the other hand to create capacity for the unemployed to start a business (Kyrö, 2001). Kyrö et al. (2007) divided the research on entrepreneurship education into four periods according to their characteristics. Research during the first period, at the turn of the 1980s and 90s, focused on the question

of whether one is born an entrepreneur or whether one is capable of learning entrepreneurship. Research during the second period, at the turn of the 1990s and the 2000s, concentrated on the question of growing into and learning about entrepreneurship. Research during the third period at the beginning of the 2000s dealt with how entrepreneurship could be taught. Research during the current fourth period enquires about teachers' activities and the learning environment that would be beneficial in entrepreneurship education.

The literature on entrepreneurship education reveals that there were a few articles published each year in academic journals during the period from the 1980s to the 2000s (Aparicio et al., 2019; Fellnhofer, 2019). After that the number of research articles has grown rapidly, to around 50 articles in 2016–2017 (Aparicio et al., 2019; Bae et al., 2014; Kassean et al., 2015). After the turn of the millennium, entrepreneurship education gained more attention and as a result, research on entrepreneurship education expanded (Fellnhofer, 2019; Kyrö, 2015). Topics such as entrepreneurial learning, entrepreneurial intention, entrepreneurial competencies and entrepreneurial cognition and risk appeared in entrepreneurship education (Aparicio et al., 2019; Bae et al., 2014; Fayolle, 2008). According to Henry & Lewis (2018), the articles published at the beginning of the 2000s were multifaceted, covering topics such as content and pedagogical approaches, learning outcome frameworks, students' attitudes and perceptions, evaluation and effectiveness, and gender.

2.1.1 **The aims and goals of entrepreneurship education**

Entrepreneurship education in cooperation with companies provides students with experiences in their real contexts. In some cases, students and company personnel carry out joint projects and offer students the opportunity to learn from participating in projects, while the company receives project outcomes that may be crucial for their further operations (Jones & Iredale, 2010; Leffler & Svedberg, 2005; Löbler, 2006; Pittaway et al., 2011). These kinds of projects lead to win-win cooperation, which is beneficial for both parties.

Many scholars emphasise the need for entrepreneurship education to be close to the real business culture, to give a real picture of entrepreneurship and business operations (Cooper et al., 2004; Hytti & O'Gorman, 2004; Jones & Iredale, 2010; Leffler & Svedberg, 2005; Ruskovaara, 2014; Smeets & Mooij, 2001; Solomon, 2007). Classroom instruction cannot provide the atmosphere of a company and offers limited possibilities to enable students to experience work as it is done in companies. A relatively frequently mentioned argument for school/business cooperation is to introduce students to company activities, participate in them, and gain knowledge and skills through seeing and experiencing how tasks are performed in a company (Kassean et al., 2015; Kickul et al., 2010; Pittaway et al., 2011).

The aims and practices seem to cause confusion and have even been used interchangeably among teaching personnel (Leffler & Svedberg, 2005). According to Seikkula-Leino et

al. (2010), teachers mix the perspectives of teachers and students when explaining the aims and practices of entrepreneurship education. Based on their study, Seikkula-Leino et al. (2010) argue that practices are kept separate by teachers from aims and results. Hence, practices of entrepreneurship education are implemented without further consideration of the aims or desired outcomes (Seikkula-Leino et al., 2010). Likewise, van Dijk & Mensch (2015) note that entrepreneurship education goals and entrepreneurial learning outcomes have been used interchangeably in the literature on entrepreneurship education. They point out that entrepreneurship education goals refer to economic wealth through new business creation, and effects appear at a societal level.

When interacting with companies regarding entrepreneurship education, one of the most significant aims should be smooth communication between schools and companies. They have different day routines, but they could with good communication find suitable ways to interact and develop joint projects, come up with solutions to problems regarding timetables, interaction rules and other relevant measures that would have to be taken into account (Tzanakaki, 2010). Communication skills are already needed in the planning stage when coordinating collaboration and sessions needed in interaction.

Company visits give students an opportunity to familiarise themselves with a business atmosphere, though they may not allow students to participate in company activities (Kickul et al., 2010; Markom et al., 2011; van Dijk & Mensch, 2015). Cooper et al. (2004) argue that long-term partnership between students and companies provides better learning opportunities than short temporary events in a company setting. One of the aims of entrepreneurship education in cooperation with companies is the intention to deepen the relationship between schools and companies. When entrepreneurship education is embedded in the teaching system so that all classes collaborate with one or more companies, it provides a comprehensive ongoing interaction, allowing each student to become acquainted with entrepreneurship.

Alberti et al. (2004) illustrate the goals of entrepreneurship education by placing entrepreneurship between entrepreneurship education and the intended goals. The function of entrepreneurship in between entrepreneurship education and entrepreneurship education goals is to provide the skills to become new entrepreneurs, create new firms, and develop welfare and wealth in society. Entrepreneurship also serves as a platform for entrepreneurship research that gives signals back to entrepreneurship education for making improvements in education.

Kuckertz (2013) divides the goals of personal development into two: educating a better entrepreneur and raising entrepreneurial attitudes. Entrepreneurship education is rather easy when students are motivated and orientated in entrepreneurship compared with non-motivated students who are resistant to entrepreneurial learning. The motivated students just want to know more about entrepreneurship and entrepreneurial competencies. In the opposite case with non-motivated students, raising entrepreneurial attitudes causes a teaching challenge for the teacher. In this case, the teacher faces the challenge of changing students' mindsets and attitudes towards entrepreneurship, which takes time and effort

(Kuckertz, 2013). The most preferable case is to organise it so that students can have the possibility to build a long-term relationship with businesses to experience the relevant conditions.

Entrepreneurship education goals are important regarding entrepreneurship education. They show the way towards entrepreneurship as a personal and societal concept. Research on entrepreneurship education goals and positive achievements of the goals in terms of venture creations supports the argument that entrepreneurship can be taught (Alberti et al., 2004; Albornoz Pardo, 2013; Kuckertz, 2013; Rasmussen & Sørheim, 2006).

2.1.2 Outcomes of entrepreneurship education

The entrepreneurial learning outcomes in terms of skills is a broad area and includes many kinds of skills needed in the business world. Van Dijk & Mensch (2015) divide entrepreneurial skills into three distinct categories: technical skills, business management skills and personal entrepreneurial skills. Technical skills refer to the daily routines of an organisation or a company and concern organisational activities and communication between individuals in an organisation. Management skills refer to business leadership and comprise financial skills, planning and project management skills, decision-making, problem-solving, presentation skills and marketing (Birdthistle et al., 2016; van Dijk & Mensch, 2015). Personal entrepreneurial skills relate to people's ability to work smoothly and effectively in an organisation, which means having qualities, such as creativity, innovation, persistence, and negotiation ability.

The above-mentioned entrepreneurial outcomes, knowledge, and skills, provide the basis for starting and running a business and thereby striving for the goals of wealth and growth at a social level (Alberti et al., 2004; Hahn et al., 2017; van Dijk & Mensch, 2015). In addition to these two outcomes, knowledge and skills, there is the third entrepreneurial outcome – attitudes toward entrepreneurship and business – which is linked with the goal of personal development and comprises attributes, such as curiosity, open-mindedness, self-confidence, and self-efficacy (Hietanen & Järvi, 2015; Santos & Liguori, 2020; van Dijk & Mensch, 2015). In other words, personal development helps an individual to believe in their own abilities, strengths, and resources (Birdthistle et al., 2016). At the same time, security, and the courage to cope with future challenges are formed with the outcomes (Lackéus, 2013; Santos & Liguori, 2020).

Birdthistle et al. (2016) emphasises practice and cooperation with companies to achieve the outcomes of knowledge, skills, and attitudes. In their study, they show positive results from measuring attitude change in entrepreneurial attitude improvements towards entrepreneurship. For example, students have improved self-discipline, greater ability to work as part of a team, and more knowledge and understanding of what starting a new business is about. According to Birdthistle et al. (2016), these three outcomes serve an aim for experiential entrepreneurship education and provide students with the ability to face the challenges of entrepreneurship or work later in adult life.

Hytti et al. (2010) argue that using teams in entrepreneurship education generates positive outcomes for students. The difference appeared between motivated and non-motivated students in the creation of their own business idea. According to Hytti et al. (2010), the motivated students should have the possibility to build their own teams, because they seem to have clear thoughts about how to start and proceed with their business ideas and reach the outcomes. In contrast, it takes more time and effort for a teacher to educate students, who are not motivated from the beginning, to help them overcome their fears and change attitudes.

To achieve outcomes in entrepreneurship education, Santos & Liguori (2020) suggest that a teacher or instructor should create appropriate exercises that help students strengthen their entrepreneurial self-efficacy. Such exercises include an interview with an entrepreneur or a joint project with a company that help students to achieve their goals in entrepreneurship education. Santos & Liguori (2020) further add that students should be provided with the most realistic picture of what can happen to their start-up activities.

2.1.3   Teachability of entrepreneurship education in cooperation with companies

In his survey, Mwasalwiba (2010) enumerates major objectives in entrepreneurship education, such as creating or increasing entrepreneurial attitudes, spirit and culture among individuals, venture creation and job creation, contribution to the community by helping local entrepreneurs to form and grow and imparting entrepreneurial skills to individuals. These objectives are listed at a general level in society and in turn contain the desired elements of teaching. Henry & Lewis (2018), echoed by Solomon et al. (2002), present the necessary elements that entrepreneurship education should include. According to them, entrepreneurship education should provide students with skills and knowledge, such as creative thinking, leadership, negotiation, new product development, idea protection, financing, and new venture development. Hence, regarding what needs to be taught and, in an effort to achieve these diverse objectives, many scholars have discussed whether entrepreneurship can be taught (Hytti & O'Gorman, 2004; Kuratko, 2005; Mwasalwiba, 2010; Neck & Greene, 2011; Vesper & Gartner, 1997).

In his study on the emergence of entrepreneurship education that draws on many scholars, first and foremost on Drucker (1985), Kuratko (2005) states that entrepreneurship education can be taught or at least encouraged. Vanevenhoven (2013) states that entrepreneurship education is a broad concept and there can be several factors that are to be taken into account when organising the teaching of entrepreneurship. According to him, students are different, learn at different rates, have different motivations and prior knowledge, and have different resource networks. He adds that educators are also different. They have different backgrounds, discipline specialities, levels of capability and resource networks.

Neck & Greene (2011) concur that entrepreneurship education is a broad and complex concept, but at the same time they advocate education for entrepreneurship. According to them, entrepreneurship has been taught in the past as a process. They add that

entrepreneurship is a method that is teachable and learnable but not predicable. This method means teaching a way of thinking, acting, and using techniques to encourage creating learning opportunities. Students are required to go beyond understanding, knowing, and talking. This method requires continuous practice, doing and then learning instead of the other way round. Furthermore, there is unpredictability as the business world is constantly changing, but this teaching method can be creative. Consequently, students need to practise entrepreneurship to gain the skills and knowledge needed in the real business world (Neck & Greene, 2011).

Haase & Lautenschläger (2011) in their article argue that traditional teaching still dominates. It is teaching-oriented with a focus on theoretical and specialist knowledge, but it is not satisfying enough. Hence, they promote experiential entrepreneurship education where students participate in company activities and at the same time learn by doing. According to them, learning should take place close to reality and preferably in environments with entrepreneurs. In this way, students should experience the spirit and activities of entrepreneurship.

Teaching entrepreneurship with entrepreneurs and companies presents a challenge for teachers, as the conditions change from traditional teaching to experiential teaching. Teachability would become coachability, since teachers should act as promoters, facilitators, and managers instead of being simply teachers (Haase & Lautenschläger, 2011). It is important for the teacher to be able to take a different approach of teaching, allowing the students themselves be active and take part in the learning process without forgetting their own role as the person who is responsible for education.

Experiential education is relevant for students in basic education as many researchers advocate (Cooper et al., 2004; Falk et al., 2007; Fuchs et al., 2008; Leffler & Svedberg, 2005; Löbler, 2006). Teachers have a key role in organising interaction with companies to let students experience company atmosphere and activities, which in turn decreases the amount of classroom teaching. Nevertheless, lesson time remains at the predominated level.

This study focuses on teachers' ability, willingness, and possibilities to create conditions for entrepreneurship education in cooperation with entrepreneurs and companies that contribute to students' opportunities to participate in experiential learning. Hence, it is interested in schools' and teachers' interaction with companies and teachers' practices that allow the opportunity for experiential learning. The challenges that teachers encounter in entrepreneurship education in cooperation with companies is dealt with later in this research.

2.1.4 Learnability in entrepreneurship education in cooperation with companies

In experiential learning, knowledge is created through participating in experiences (Bell & Bell, 2020; Illeris, 2007; Pittaway et al., 2015). Mi Dahlgaard-Park & Dahlgaard (2010) argue that the focus on business issues, such as barriers, mistakes, costs of poor quality

and the like, will increase learnability of entrepreneurship education. Learning through experiences in cooperation with companies typically involves project-based activities that refer to the real business world and can be reflected (Pittaway et al., 2015). Reflection is an essential part of experiential learning, since new experiences will be transformed into learning (Tomkins & Ulus, 2016).

Learning through experiences is expressed more commonly as learning by doing (Dobson et al., 2017; Gibb, 2011; Heinonen & Poikkijoki, 2006; Henderson & Robertson, 2000; Jones & Iredale, 2010). In other words, students participate in company activities and learn from actions and experiences (Kassean et al., 2015; Pittaway et al., 2015). Kolb's (1984) learning cycle regarding experiential learning consists of four phases: first, concrete experience that is doing or having an experience; second, reflective observation that includes reviewing or reflecting on the experience; third, abstract conceptualisation that assists with concluding or learning from the experience; and fourth, active experimentation that encompasses planning or trying out what has been learnt.

Experiential learning in cooperation with companies occurs through discontinuous events during interaction with an entrepreneur or a company. Cope (2003) argues that the management of a small enterprise is a non-linear process with many turns, and the events that could serve as participating and learning events do not remain unchanged. Nevertheless, he adds that the discontinuous events build a learning mechanism that involves more than the gradual accumulation in traditional teaching. According to him, experiential entrepreneurship education in cooperation with companies provides excellent learnability in entrepreneurship education. Further, experiential learning puts students in the centre to participate actively in the learning process (Tomkins & Ulus, 2016).

Regarding assessment of entrepreneurship education in cooperation with companies, Pittaway & Edwards (2012) suggest a change in assessment depending on the teaching and learning approach. In entrepreneurship education in cooperation with companies, the traditional summative assessment is not sufficient as students learn through their distinctive experiences (Coulson & Harvey, 2013). They argue that students need formative feedback during their learning processes in joint projects, since the aim of such feedback is to indicate the student's development and progress. Hence, the formative feedback is preferable and provides the student with a more comprehensive overview of the learning process. It does not supersede summative assessment, but the summative assessment can be done after the learning process (Coulson & Harvey, 2013).

Knowledge about entrepreneurship concerns the business world in general, such as self-employment or a career choice (van Dijk & Mensch, 2015). It can be associated with learning processes when using the method to learn 'about entrepreneurship', while students obtain a picture about being an entrepreneur or gain knowledge of business organisations and processes. Knowledge about business organisations includes factors such as marketing, leadership, human capital and resources, and economic capital, referring to how to run a business.

2.1.5 Entrepreneurship education in cooperation with companies

Traditional teaching offers learning in a classroom setting, with books and other materials required. Studies are planned beforehand and the implementation of lessons is structured (Colardyn & Bjørnåvold, 2004). School routines change when the students interact with an outside actor, an entrepreneur, or a company. Interaction between school classes and companies can take different forms of cooperation and the tasks assigned to students can be very different (Hytti & O'Gorman, 2004; Mwasalwiba, 2010). Out-of-school learning can occur in companies, for example company visits, or sometimes in school within a joint project together with a company (Leffler & Svedberg, 2005; Mwasalwiba, 2010; Solomon, 2007).

Thrane et al. (2016) argue that the relatively rapid increase in entrepreneurship education has led to a lack of unified educating for entrepreneurship education. Entrepreneurship education relies on different ontological views of the nature of entrepreneurship and uses a multitude of paradigms (Béchard & Grégoire, 2005; Blenker et al., 2011). Fellnhofer (2019) considers that there is little clarity about what the outcomes of entrepreneurship education should be. This in turn leads to a diversity of inputs, which further contributes to differences in outcomes (Blenker et al., 2014; Pittaway & Cope, 2007). Entrepreneurship education is still rather fragmented, and pedagogical objectives and expected outcomes vary (Fayolle et al., 2016). Fayolle (2013) and Fayolle et al. (2016) argue that entrepreneurship education needs a conceptual framework based on both entrepreneurship and education.

Even more complexity is caused by the fact that the terms 'entrepreneurship education' and 'enterprise education' are mixed by some scholars. Mwasalwiba (2010) presents two applications that appear in the literature. One of the applications states that there is a conceptual difference between the terms, with 'entrepreneurship education' meaning creating an attitude of self-reliance and the other meaning creating opportunity-seeking individuals. The other application argues that the terms are synonymous, but entrepreneurship education is mainly used in the United States and Canada, while enterprise education is used in the UK and Ireland.

Gibb (1993) suggests that standalone company visits in entrepreneurship education are based more on curiosity than pedagogical objectives. However, visits caused by curiosity may be a trigger resulting in an interest in entrepreneurship when students are exposed to working life and the business world. Béchard & Grégoire (2005) emphasise that the educator should be able to choose appropriate approaches for the development of the learner's curiosity and creativity. The student-centred approach to entrepreneurship education provides an opportunity for students to play an active role, perform tasks with close connection to the real world beyond school, encounter real-life cases, and experience an authentic learning environment (Cope, 2005; Cope & Watts, 2000; Draycott & Rae, 2011; Powell, 2013).

Toutain et al. (2017) note that there is little research on the impact of the environment on learning of entrepreneurship education when entrepreneurship education occurs in interaction with companies or takes place in a business environment. Löbler (2006) compares out-of-school learning to in-school learning. One of the findings in this comparison is that with in-school learning, the teacher is transferring knowledge, while the students create their learning in out-of-school learning. Another finding refers to the role of the students, who are passive consumers in in-school learning and active producers in out-of-school learning. Hynes (1996) suggests that entrepreneurship education should be embedded in a variety of educational programmes. In addition, she believes that entrepreneurship education should also be provided to non-business students, since everyone should know about entrepreneurship, even if they do not become entrepreneurs.

Cooper et al. (2004) advocate interaction with companies and note that students benefit from on-site experiences in companies. As the students move from the classroom to the real business environment, learning changes from one-way transformation of knowledge to interactive learning through experience. In their research, they show that collaboration, such as in-company projects and company visits, allows students to be actively involved in the company's operations.

Falk et al. (2007) argue that in general most student knowledge is gathered via out-of-school learning. Kickul et al. (2010) finds the benefit of experiential learning in conveying tacit knowledge when knowledge is difficult to describe in words. Hence, students have an opportunity to see or experience and embrace knowledge. Kassean et al. (2015) promote real-world experiences in entrepreneurship education, finding that classroom activities negatively impact students' entrepreneurial self-efficacy. Berglund & Holmgren (2007) promote entrepreneurship education and suggest that at the very least, entrepreneurship education can be organised in a course over a few weeks, giving students some sense of entrepreneurship, although it remains superficial. They add that the same educational institution can also, if it wishes, organise further courses, which give students the opportunity to become more deeply acquainted with entrepreneurship.

Teachers face challenges when educating entrepreneurship in an out-of-school environment. The role of the teacher changes from controller in the classroom to a facilitator, supporter, or coach (Hytti & O'Gorman, 2004; Löbler, 2006; van Dijk & Mensch, 2015). Löbler (2006) argues that the teacher still is in a key role, when he or she supports the students during learning processes and experiences and plays an important role during the reflection process. Nevertheless, experiential learning in a company environment sets students at the centre (Jones & Matlay, 2011; Smeets & Mooij, 2001). Smeets & Mooij (2001) argue that students are expected to accept greater responsibility for their learning, while the teacher acts as an observer. The challenge for the teacher is to develop a teaching style that encourages students to learn through experimenting, creative problem-solving and positive mistakes (Jones & Iredale, 2010; Jones & Matlay, 2011).

2.1.6   The extent of school/company cooperation in basic education

There is scarce research on teachers' engagement in entrepreneurship education with companies. Leffler & Svedberg (2005) call for more research in this area. According to them, in some countries in Europe, weak steps are being taken towards cooperation with companies in addition to the actual school curriculum. The research on any kind of interaction between schools and companies is scarce.

Folkestad (2006) presents an operating model when entrepreneurship is combined with a single subject area – music – when the students along with their teacher cooperate with music professionals in a real-world environment. Hytti & O'Gorman (2004) argue that entrepreneurship should be integrated into the school's daily programme. They point out that keeping entrepreneurship education as an extra subject or an extra-curricular activity causes extra workload for teachers and students. This is because, for example, when doing a project, students need to prepare before going to a company and the teacher has to prepare the students for the visit beforehand and deal with any relevant issues when they are back in school.

Jones & Iredale (2010) argue that entrepreneurship education is not only a subject. They agree with Hytti & O'Gorman (2004) and add that entrepreneurship education can be integrated into all subjects and are applicable in schools' daily activities. Thus, entrepreneurial thoughts and actions are embedded in the whole school operative work. And with that, students have an opportunity to participate actively in the learning process.

Van Dijk & Mensch (2015) present the extent of entrepreneurship education in European countries. According to the national curriculum of each country, there are a few European countries that have promoted entrepreneurship education as a cross-curricular concept. Some countries use the concept, which includes entrepreneurship education, as a separate compulsory subject or integrated into other compulsory subjects. According to van Dijk & Mensch (2015), in Finland there is a system that includes a partly cross-curricular concept and a partly separate subject. In other words, schools have the possibility to decide the extent of entrepreneurship education.

Hietanen et al. (2014) emphasise that entrepreneurship education should be in line with the general education objectives. It is possible to embed entrepreneurial behaviour with the notion of active and goal-oriented person in and across the subjects (Hietanen & Ruismäki, 2016). Hietanen & Ruismäki (2016) continue that the teacher's task of enhancing and providing learning experiences can be seen as a part of the pedagogy the teacher implements.

2.2   Teacher's role in entrepreneurship education with company cooperation

Teacher's role as an educator in a changed teaching and learning situation outside the classroom is crucial (Blair, 2012; Roehl et al., 2013; Smeets & Mooij, 2001). Kassean et

al. (2015) suggest that entrepreneurship education should be shifted from traditional linear classroom teaching. They add that entrepreneurship education should focus on real-world experiences and reflective processes, because entrepreneurship and entrepreneurship education are complex and nonlinear concepts (Henderson & Robertson, 2000; Jones & Matlay, 2011; Kassean et al., 2015; Neck & Greene, 2011). Consequently, entrepreneurship education in cooperation with companies does not follow traditional teaching procedures, where the teaching and learning processes take place systematically in certain sequences (Bjørnåvold, 2000).

Seikkula-Leino et al. (2010) claim that teachers play a central role in the realisation of entrepreneurship education. They add that teachers' in-depth understanding of entrepreneurship education is insufficient. Entrepreneurship education becomes increasingly challenging when it occurs in cooperation with companies, since the educating and learning process includes an outside party in addition to the normal teacher-student situation. Further challenges may be caused by the physical teaching and learning environment, when the educating and learning process takes place at a company that owns expert knowledge of entrepreneurship activities.

Kickul et al. (2010) argue that entrepreneurial knowledge is tacit and difficult to implement in traditional classroom teaching. Indeed, it requires a change in the teacher's practices and way of thinking to succeed in teaching in the new situation. The role of the teacher is still important, but multidimensional. Solomon et al. (2002) propose entrepreneurship education with consultancy to support teachers in entrepreneurship education in cooperation with companies. Hietanen et al. (2014) argue that the teacher's task is to create the best possible learning opportunities for students so that they can understand and learn what has been taught as effectively as possible.

2.2.1   Teacher's changing role in entrepreneurship education

Fiet (2000a) states that the primary task of a teacher is to win students' trust and willingness to cooperate in teaching and to be able to consider the student's learning needs. The teacher should adopt methods that gain and maintain the student's interest in the learning process. Doing so requires that students have the possibility to take part in education. To achieve those requirements the teacher could delegate some tasks to students that the teacher normally does themselves (Fiet, 2000a). Furthermore, Fiet (2000a) suggests that a solution to the challenge could be to organise students to work in pairs or groups, since those methods enable activity for students (Haapaniemi et al., 2021). In doing so, the teacher could participate in students' work by initiating discussions or asking appropriate questions regarding the ongoing subject of the study. In other words, the teacher gives exercises and informs students how to proceed with the exercises and the follow-up and provides help if needed for each of the students.

Leffler (2009) describes the entrepreneurial teacher as an individual who dares to break traditional teaching patterns and is a driving force for change. The teacher should allow students the freedom that is required for them to be able to develop how they gain their

skills and knowledge (Leffler, 2009). According to Leffler (2009), the teacher should act as a guide by providing good advice while daring to relax and be able to let things go. She continues that schools should emphasise the teacher's ability to dare to think in new ways and let students' activities, motivation and interest emerge.

Teachers may not know everything about entrepreneurship (Fiet, 2000a; Seikkula-Leino et al., 2010) as it is a very broad and complex concept (Kassean et al., 2015), and every entrepreneur or company has specific things to be considered in its business activities (Fiet, 2000a). In interaction with a company the teacher may not need to know everything for preparing every lesson carefully beforehand. Instead, the teacher can take the role of enabler, coach or facilitator who enhances entrepreneurship education practices (Ruskovaara & Pihkala, 2015). Hytti & O'Gorman (2004) suggest that in the teaching situation the teacher in a company environment acts as a coach or facilitator who can stay in the background but who is ready to help and support their students in tasks that may be foreign to the student. Entrepreneurial knowledge in companies is partly tacit knowledge that can be transferred by seeing and observing. The teacher's duty is to organise education that facilitates students to participate in activities in the real business world (Pittaway et al., 2011). In entrepreneurship education in a company environment, the teacher acts as a mentor or facilitator and puts the students at the centre of the learning process, involving them as active players (Cheng et al., 2009; Fiet, 2000a; Jones & Matlay, 2011; Leffler & Svedberg, 2005).

Leffler & Svedberg (2005) indicate that teachers feel uncertainty about educating for entrepreneurship. According to them, teachers are unsure about what is expected from entrepreneurship education. Leffler (2009) confirms the statement by arguing that teachers are confused, since they do not know how to help and support students in experiential entrepreneurship education and suggests that teachers need training and emphasises that every school should have at least two teachers trained in entrepreneurship.

2.2.2   Teacher's role in student-centred entrepreneurship education

Research on entrepreneurship education advocates experience and active participation in entrepreneurial activities (Jones & Iredale, 2010; Leffler, 2009; Leffler & Svedberg, 2005; Markom et al., 2011; Pittaway et al., 2009; van Dijk & Mensch, 2015). This means that students would receive a more central role in learning and have the possibility to take an active role as learners, i.e. learning through participation, asking, problem-solving, and learning in various environments (Erss et al., 2016; Hanushek et al., 2012; Pedder & McIntyre, 2006; Rudduck, 2006; Urbanski, 2003).

Leffler (2009) points out that children are born to be entrepreneurs, which can be seen through their eagerness to play games. She continues that schools should utilise the young students' natural enterprise mind and allow them to grow and develop in an entrepreneurial sense. It is important that students feel that they have power over their own learning. Students are willing to take responsibility and can cooperate both with other

students and with outside actors. Leffler (2009) states, as echoed by Johannisson & Madsén (1997), that students should have the possibility to be creative, strong-willed, and independent. They should be advised to see opportunities instead of problems and try find solutions to different problems by themselves.

Some scholars emphasise the importance of putting students at the centre and allowing them to participate actively in the learning process of entrepreneurship education in cooperation with companies (Cheng et al., 2009; Roehl et al., 2013; Ruskovaara & Pihkala, 2015; Smeets & Mooij, 2001). Kassean et al. (2015) claim that entrepreneurship education with experiences provides greater entrepreneurship intentions. Henderson & Robertson (2000) emphasise that students should have the opportunity to learn by doing, experiential learning and flexible learning situations.

Jones & Matlay (2011) illustrate the conceptual framework for describing entrepreneurship education. The framework includes five essential elements, of which the student is one and is placed in the centre. The other elements, connected to the students by systems, are the teacher, educational processes, institution, and community. According to Jones & Matlay (2011) as echoed Palmer (2007), education is about students who learn, not teachers who perform. Cooper er al. (2004) stress entrepreneurship education in the form of an in-company project, hence students have proximity to entrepreneurs as a source of learning and the opportunity to ask questions if needed.

Barraket (2005) notes that student-centred techniques facilitate a strong social context for learning and provide students with an experiential framework. Student-centred learning allows greater autonomy for students because they can choose their learning methods and the pace of learning to some extent (Barraket, 2005).

2.2.3   Autonomy and the curriculum

The curriculum is an acknowledged statement of what learners are expected to learn and be able to do (Levin, 2008). The curriculum consists of elements, such as aims and objectives, content, teaching strategies, assessment and evaluation (Levin, 2008; Prideaux, 2003; Su, 2012). The Finnish national core curriculum sets out the guidelines, on the basis of which the local curricula can be drawn up. It stresses ethical values in education and the promotion of equal access to basic education. Further, it provides the framework of goals and objectives of basic education including school culture, educational aspects of school, affective elements, subjects and their assessment, and issues that are locally determined (Finnish National Agency for Education, 2016). It is noteworthy that entrepreneurship education is not contradictory with the basic education context as it promotes the students as active actors in their learning process (Hietanen et al., 2014; Ruskovaara, 2014). The local education authorities and the school administrations draw up their own curricula that may be prepared for individual municipalities or schools.

Though the Finnish national curriculum provides guidelines regarding the content that is to be taught in each year group and subject, planning and implementation is left to local authorities and schools (Sahlberg, 2011b). Thus, Finnish school autonomy is significant (Finnish National Agency for Education, 2016) and this allows teaching staff in schools to choose things, such as a theme for each school year, teaching activities, events and teaching environments in their own local curriculum (Sahlberg, 2011b). Beyond compulsory subjects, teachers have the opportunity to choose their optional subjects according to their ability and interests, as long as they receive approval by the principal and in collaboration with the collegium of the school (Ememe et al., 2013; Habegger, 2008). The practices vary largely regarding entrepreneurship education, as some of schools have chosen entrepreneurship as an optional subject or an embedded theme across all subjects, in cooperation with companies, whilst some do not recognise it as being taught. As stated by many researchers (Fuchs et al., 2008; Kickul et al., 2010; Leffler & Svedberg, 2005; Markom et al., 2011; Pittaway et al., 2009; van Dijk & Mensch, 2015), interaction and cooperation with entrepreneurs and companies is one of the most obvious ways to carry out entrepreneurship education with experiences in a company environment.

2.2.4   Scope of the curriculum

The main purpose of the curriculum is to give guidelines for schoolwork and to help provide basic ideas and organise teaching materials. Surprisingly, the very long and complex document often leads to difficulties in finding the core content that was intended to provide a framework to help and facilitate the design of teaching (Bergqvist & Bergqvist, 2017; Dexter & Davies, 2009; Levin, 2008; Salonen-Hakomäki et al., 2016; van den Akker, 2007). The interpretations of the complex context vary and for many people, including teachers, the curriculum includes a number of subjects and themes and courses within subjects to be taught (Bergqvist & Bergqvist, 2017; Levin, 2008). Researchers refer to the complexity of curricula and call for clarity in their creation, which means messages should be sufficiently clearly described to enable teaching staff to interpret and understand them (Bergqvist & Bergqvist, 2017; Erss et al., 2016; Sahlberg, 2011a; Salonen-Hakomäki et al., 2016). Bergqvist & Bergqvist (2017) state that clarity leads to guidelines, while vague signals lead to different interpretations and further to the adoption or avoidance of entrepreneurship education.

Most curricula are general or broad, with several levels of objectives. The broad curriculum first describes the very general goals and then more specific learning activities and objectives (Levin, 2008; Su, 2012). The broad curriculum takes into account the issues seen at different levels and from different points of view (Su, 2012). For example, it can give general instructions to schools about ethical aspects that schools should follow, but also at a more specific level, for example, to tell how many hours per week to teach each of the subjects in each of the year groups. The curriculum of basic education in Finland is broad, and includes content, goals, methods, assessment, culture and learning environment (Finnish National Agency for Education, 2016). The classification is not

quite accurate because the broad curriculum is sometimes considered one that can offer more options for learners to form a set of courses (Dolton & Vignoles, 2002).

As opposed to a broad curriculum, a narrow one consists of fewer educational areas. According to Su (2012), the narrowest curriculum just includes a set of goals and then it gradually widens to include elements such as content, methods, assessment, cultural aspects and the learning environment. In addition to the broad and narrow curricula, a hidden curriculum often exists in most schools. A hidden curriculum is an informal or unofficial curriculum and deals with power and authority with regard to things, such as whose source materials are used and in which way in-class and out-of-class activities are organised (Leask, 2009; Su, 2012). In accordance with the hidden curriculum, Bascia et al. (2014) describe teachers that either are keen to reconcile curricular mandates or diminish the curriculum guidelines. Due to the hidden curriculum, implicit values and beliefs have an influence on the explicit educational curriculum (Hopman et al., 2013). There may be cases when teachers feel compelled to take an initiative to launch new approaches to teaching that are eventually accommodated in the formal written curriculum (Bascia et al., 2014; Leask, 2009). A hidden curriculum prevails when a teacher chooses a way to conduct teaching as in previous years without changing much or introducing new ways to practice. Nevertheless, the formal and informal curricula are both important and support each other in many ways (Leask, 2009).

Schools in basic and secondary education implement entrepreneurship education according to the national curriculum. Schools can choose an appropriate way to educate for entrepreneurship if the national curriculum is broadly written and allows schools to make their own decisions regarding details in the school programme (Benavot & Resh, 2003; Levin, 2008; Su, 2012). Fejes et al. (2019) argue that entrepreneurship education can be defined with a narrow or a broad definition. According to the narrow definition of entrepreneurship education, it focuses on providing students with basic knowledge that they are able to start their own business. The broad concept of entrepreneurship education is defined as belonging to all students, including the skills and knowledge that everyone may need in life in general.

The basic education curriculum reflects the expected needs of society in working life, in other words the important civic skills that learners need as adults (Leask, 2009; Sahlberg, 2011a; Salonen-Hakomäki et al., 2016; Seikkula-Leino, 2011). Authorities with responsibility for the national curriculum are representatives of the national board of education and the main education stakeholder groups, such as teachers, principals, and administrators (Levin, 2008). In Finland, the Finnish National Agency for Education – prior the Finnish National Board of Education – has overall responsibility and power over the content of the curriculum based on the performance agreement with the Ministry of Education (2009).

Levin (2008) argues that political decision-makers may want to bring their own interests to the curriculum. Since the Ministry of Education is involved in curriculum design, the curriculum functions as a mirror that reflects cultural beliefs, traditions and social values

(Erss et al., 2016; Kelchtermans, 2005; 2016; Su, 2012). Similarly, the labour minister and industries attempt to promote programmes that would support labour market needs (Levin, 2008). The curriculum is inevitably changing from the traditional role as a producer of conscious and good citizens to responding to the demands of society and working life more and more (Erss et al., 2016). In line with this, Leask (2009) argues that schools should respond to the rapidly changing world and globalisation.

The core curriculum affects teachers' choices of broadening their teaching environment (Bergqvist & Bergqvist, 2017; Cincera et al., 2018; Erss et al., 2016; Frank, 2007; Leask, 2009; Levin, 2008; Seikkula-Leino, 2011; Su, 2012). Further, principals' leadership (Parker, 2015; Urbanski, 2003) and teachers' collegial autonomy (Erss & Kalmus, 2018) influences the opportunities for involving an outside partner in entrepreneurship education.

2.2.5   School autonomy

School autonomy is a form of decentralisation via which schools can decide on some of the issues related to teaching and education where they are able to be in charge of their managerial decisions (Arcia et al., 2011; Barrera-Osorio et al., 2009). However, autonomy depends on and is influenced by state laws, relationships with authorisers, and partnerships with educational management and community-based organisations (Finnigan, 2007; Luecking et al., 2015). In other words, the national curriculum allows deviations and thus schools can decide on their own actions within those areas. In many countries, decentralisation has been of interest more and more in such areas as the hiring of teachers or the choice of curricular elements (Barrera-Osorio et al., 2009; Hanushek et al., 2012). School autonomy works best and is conducive to student achievement in well-developed systems that hold the schools accountable for their actions (Lüdemann et al., 2009; Sahlberg, 2011c). Thus, the effects of autonomy seem to be positive in developed countries, while they seem to be negative in developing countries (Hanushek et al., 2012). Accountability and development of educational systems are considered prerequisites for autonomy (Hanushek et al.,2012). Accountability can have many meanings but in the school context it refers to school personnel being responsible for their actions (Arcia et al., 2011).

Studies have noticed autonomy benefits, such as better learning outcomes of learners (Arcia et al., 2011; Clark, 2009) and the fact that local decision-makers are better informed about school capacities and are better able to apply schools to the varying number of students when standardisation is not crucial (Barrera-Osorio et al., 2009; Hanushek et al., 2012). One such benefit is the allocation of local resources, for instance the budget for student transport to and from school or in conjunction with visits or other events (Hanushek et al., 2012). Further, autonomy can promote parental and community participation through school councils (Arcia et al., 2011), parents' choice of which schools their children attend (Clark, 2009; Sahlberg, 2011c), and better cooperation with teachers (Arcia et al., 2011). Hanushek et al. (2012) argue that autonomy at best allows teachers to use localised knowledge to improve performance and cooperate with outside

actors in emerging opportunities, but it can cause local schools to strive for goals other than general ones that are considered the most suitable (Hanushek et al., 2012).

The Finnish national curriculum provides guidelines for teaching but also leaves things that schools can decide for themselves. Schools do not have the right to decide on learning goals, mandatory subjects, or the number of lessons within each of the subjects. Thus, the curriculum has set goals and measures to avoid schools setting goals other than those that are in agreement with the national curriculum. In contrast, schools can make decisions on optional subjects and teaching methods, including cooperation with outside actors. The Finnish national curriculum recommends schools include entrepreneurship in their programmes, but it lets schools themselves decide the extent and the methods of entrepreneurship education (Finnish National Agency for Education, 2016).

2.3   Implementation of entrepreneurship education

Entrepreneurship education is implemented in various ways. Classroom teaching is frequently used, when the teacher organises the teaching and no external actors participate in it. That kind of implementation of entrepreneurship education belongs to teaching about entrepreneurship education without having any real experience in a real company environment (Gibb, 2005; Pittaway & Edwards, 2012). The teacher organises the teaching material and the transmission of knowledge to students is one-way, from teacher to students.

Keller & Kozlinska (2019) argue that entrepreneurship education should be more experiential. Educating for entrepreneurship could include exercises related to ongoing studies in entrepreneurship education. Hence, students are more engaged and experience positive feelings about entrepreneurship (Keller & Kozlinska, 2019).

2.3.1   The categories of entrepreneurship education

At the turn of the millennium, entrepreneurship education gained a wide range of pedagogical methods and approaches. In connection with the structuring of entrepreneurship education, questions arose regarding the content and goals of teaching. Fayolle (2008) notes the three main questions in entrepreneurship education: 'what', 'how', and 'why', and adds a few more. According to him, the questions should be 'what', 'why', 'how', 'for whom' and 'for what results'. Hence, 'what' stands for contents of entrepreneurship education and theories of entrepreneurship, 'why' for teaching objectives and goals, 'how' for methods and approaches of teaching, 'for whom' for target groups, i.e., the type of students, and 'for what' for results of teaching in terms of evaluation and assessment. He further divides those main categories labelled as questions into smaller subgroups by carefully explaining the framework for each category.

Another aspect of entrepreneurship education that is used frequently in the literature of entrepreneurship education is the three-category framework. According to Henry & Lewis (2018), the three-category framework was introduced in the 1980s and the

categories were learning 'about', 'for' or 'in' entrepreneurship. According to the first category, 'about entrepreneurship', students are provided with information on entrepreneurship and entrepreneurs, which potentially arouses the interest in students (Henry & Lewis, 2018; Pittaway & Edwards, 2012). This category does not necessarily include any business contacts on a practical level but does involve theory with stories and descriptions about entrepreneurship and entrepreneurs (Fayolle, 2008; Pittaway & Edwards, 2012). The category learning 'for entrepreneurship' includes some kinds of tasks, activities or projects that students have the possibility to participate in and thereby acquire skills and knowledge about what happens in the real business world (Fayolle, 2008; Henry & Lewis, 2018; Pittaway & Edwards, 2012). The category learning 'in entrepreneurship' has more connection to the business world and means that students participate in company activities that provide students with the opportunity to engage in experiential learning (Henry & Lewis, 2018; Pittaway & Edwards, 2012).

In their article, Pittaway & Edwards (2012) use four forms of entrepreneurship education that are 'about', 'for', 'through' and 'embedded or in' entrepreneurship education. 'About' and 'for' retain the same definition as in the three-category framework (Henry & Lewis, 2018). The difference with this three-category framework is 'through' learning that refers to learning by means of entrepreneurial activities (Gibb, 2005; Ruskovaara, 2014). Another difference is that they use 'embedded' for clarification of learning that occurs in connection with the real company environment. Further, it can be added that there is a blurred line between learning 'for entrepreneurship', 'through entrepreneurship' and 'embedded in entrepreneurship'. All these include school/company interaction in some way, whether it occurs more or less close to the company environment (Pittaway & Edwards, 2012).

Although traditional entrepreneurship education continues to some degree, recent research on entrepreneurship education shows that education approaches have been evolving and traditional classroom teaching seems not to be appropriate, while experiential methods are receiving increasing attention (Henry & Lewis, 2018; Keller & Kozlinska, 2019). Experiential learning refers to opportunities for students to gain their own experiences, through which they receive new knowledge (Henderson & Robertson, 2000; Kassean et al., 2015). Hence, the discussion about whether the learning is 'for' or 'through' entrepreneurship education has not totally disappeared, but it has gained less attention because of the emphasis on school/company collaboration, which through experiences provides entrepreneurial attributes and skills (Falk et al., 2007; Pittaway et al., 2011).

Experiential learning emphasises active participation of students in the learning process and knowledge acquisition. This in turn requires the teacher to approach this new situation and create teaching conditions, in which students can learn through experiences. Teachers are facing challenges to align teaching with expectations of the outcomes and provide students with desired experiences (Pittaway & Edwards, 2012; Vanevenhoven, 2013).

2.3.2   Methodologies for entrepreneurship education in cooperation with companies

Entrepreneurship education in cooperation with companies is advocated by many scholars as a means of providing a more realistic picture of entrepreneurship and running a business (Cooper et al., 2004; Eshach, 2007; Jones & Iredale, 2010; Leffler & Svedberg, 2005; Matlay & Carey, 2007; Neck & Greene, 2011; Pittaway & Hannon, 2008; Pittaway et al., 2011). There is a variety of arguments described in the literature that refer to students' benefits, the most common being the real entrepreneurship environment experienced by students and the knowledge the students receive from the activities in a company that the teacher may not be able to provide at school (Kassean et al., 2015; Kickul et al., 2010; Löbler, 2006; Neck & Greene, 2011). Table 5 presents methodologies for school/company interaction.

Table 5: Methodologies for entrepreneurship education with companies

Methodologies	Source
Experiential learning, learning by doing	Cooper et al. (2004), Fuchs et al. (2008), Gibb (2011), Heinonen & Poikkijoki (2006), Henderson & Robertson (2000), Jones & Iredale (2010), Kassean et al. (2015), Kickul et al. (2010), Pittaway et al. (2011)
Experience the authentic atmosphere, 'see', touch' and 'feel'	Cooper et al. (2004), Kickul et al. (2010),
Most knowledge gathered outside schools learning more engaging	Falk et al. (2007), Neck & Greene, (2011)
Assisting entrepreneurs, problem-solving	Gibb (2011), Jones & Iredale (2010), Kickul et al. (2010), Pittaway et al. (2011)
Student involvement, participation	Jones & Matlay (2011), Kickul et al. (2010), Löbler (2006), Pittaway & Cope (2007)
Becoming acquainted with uncertainty, risk taking, failures	Jones & Matlay (2011), Pittaway & Hannon (2008)
Opportunity to ask questions	Ruskovaara (2014)
Benefits: activating, enriching	Löbler (2006), Solomon (2007)

Table 6 presents a more complete list of methods of or approaches to entrepreneurship education with company experiences. Interaction and cooperation are emphasised by many researchers (Eshach, 2007; Jones & Iredale, 2010; Leffler & Svedberg, 2005; Löbler, 2006; Pittaway et al., 2011). The concepts in entrepreneurship education can vary from one to another, but the common goal is for students to get acquainted with entrepreneurship.

Ruskovaara & Pihkala (2013) note that there are no clear pedagogical guidelines for implementing entrepreneurship education. They add that it is based on the interests of schools, and in fact on teachers, whether and to what extent they want to implement entrepreneurship education. Since schools have the possibility to choose the extent of entrepreneurship education thanks to their autonomy, some schools may adopt entrepreneurship education in their teaching programme (Finnish National Agency for Education, 2016). However, some schools believe that they do not have the resources to adopt it in their school programme (Ruskovaara & Pihkala, 2013). In the education programmes in basic education, entrepreneurship education can be implemented as a single subject (especially when it is still a relatively new topic in the school education system), an extra-curricular programme as a club, or embedded in the whole teaching programme (Ruskovaara & Pihkala, 2013; Seikkula-Leino et al., 2010). Some schools take very precautionary steps at the beginning of introducing a new entrepreneurship theme and offer entrepreneurship education as an optional subject for one or two years for students at a certain level.

2.3.3   Approaches to company cooperation in entrepreneurship education

The shift from school routines and the school environment towards the real business world provides various ways to implement entrepreneurship education in cooperation with companies. Hence, entrepreneurship education is not only taught by teachers but through participating in company activities, experiencing things, asking questions, and first and foremost by being involved in doing (Cooper et al., 2004; Gibb, 2011; Heinonen & Poikkijoki, 2006; Hunter Lindqvist, 2017; Jones & Iredale, 2010; Kickul et al., 2010; Löbler, 2006; Neck & Greene, 2011; Pittaway & Cope, 2007; Pittaway et al., 2011). Entrepreneurship education can be implemented using different content and to a certain extent based on value consideration in accordance with how important entrepreneurship is considered by educational institutions (Pittaway & Hannon, 2008).

A wide array of approaches have been identified as useful in entrepreneurship education in cooperation with companies, such as workshops, business simulations, business plans, inviting guest speakers, project work for actual clients, mini company exercises with a support company, study visits or field trips to entrepreneurs or companies, and cooperation with companies (Birdthistle et al., 2007; Hytti & O'Gorman, 2004; Jones, 2007; Jones & Matlay, 2011; Kuratko, 2005; Shepherd, 2004; Solomon, 2007). The most used key terms in approaches of entrepreneurship education are attitude, values, intentions and behaviour; opportunity recognition; personal skills; new business; and managing existing firms (Mwasalwiba, 2010). Cooper et al. (2004) suggest that collaboration with companies provides students with excellent opportunities for entrepreneurial learning. Nevertheless, Ruskovaara (2014) states that teachers are more likely to use methods that are quite easy to implement in the classroom setting, while those that need more preparation and take place outside the school are used less.

Table 6 presents of methods that are used in experiential entrepreneurship education. It is noteworthy that the table only includes methods that involve a third party, such as a

company, entrepreneur, or non-profit organisation, in addition to the teacher and students. Those forms differ from each other in terms of procedure and time span. Having a guest speaker in the classroom and making a company visit or a virtual visit take a relatively short time to implement. Running a mini company, project and partnership take a longer time, varying from few days to a few years.

Table 6: Some approaches of entrepreneurship education in cooperation with companies

Approaches	**Sources**
Business formation, setting up a real venture, mini companies	Birdthistle et al. (2007), Drakopoulou Dodd & Hynes (2012), Elert et al. (2015), Fayolle (2008), Göler von Ravensburg (2017), Hunter Lindqvist (2017), Hytti & O'Gorman (2004), Johansen (2016), Kassean et al. (2015), Klandt (2004), Leffler & Svedberg (2005), Mathisen et al. (2011), Mwasalwiba (2010), Neck & Greeene (2011), Oosterbeek et al. (2008), Ruškyté (2018)
Guest speakers	Fayolle (2008), Fiet (2000b), Hegarty (2006), Keogh & Galloway (2004), Mwasalwiba (2010), Neck & Greene (2011), Pittaway & Hannon (2008), Shepherd (2004), Solomon (2007)
Lectures by business owners	Solomon (2007)
Mentoring and guidance by entrepreneurs and experts	Fayolle (2008), Hytti & O'Gorman (2004), Leffler & Svedberg (2005), Matlay & Carey (2007), Robertson & Collins (2003)
Entrepreneurship clubs with local entrepreneurs' assistance	Fukugawa (2005), Pittaway et al. (2011)
Projects, joint projects	Cooper et al. (2004), Mwasalwiba (2010), Pittaway & Hannon (2008), Solomon (2007), van Dijk & Mensch (2015), Zsidisin et al. (2013)
Students' consulting projects	Kuratko (2005), Solomon (2007)
Workshops with different actors	Hytti & O'Gorman (2004), Matlay & Carey (2007), Mwasalwiba (2010), van Dijk & Mensch (2015)
Interviews with entrepreneurs	Fayolle (2008)
Study visits, company visits	Eshach (2007), Falk et al. (2007), Fuchs et al. (2008), Hytti & O'Gorman (2004), Leffler & Svedberg (2005), Markom et al. (2011), Mwasalwiba (2010), Ruskovaara (2014), Solomon (2007)
Virtual visits, video conference	Langhorst (2009)
Internships, training	De Faoite et al. (2003), Hytti & O'Gorman (2004), Hytti et al. (2002), Leffler & Svedberg (2005), Solomon (2007)
Public symposia and campaigns	Hytti et al. (2002)

Dissemination of research results	Kuratko (2005), Mok (2005)
Partnership with host company	Gunbayi (2014), Hunter Lindqvist (2017), Hynes & Richardson (2007), Hytti & O'Gorman (2004), Kickul et al. (2010), Luecking et al. (2015), Pittaway et al. (2011), Ruskovaara (2014), Woon et al. (2007)

Cooperation with companies may lead to opportunities whereby students encounter people who are more experienced in a certain area and want to share their knowledge with students.

2.3.4 Practices of entrepreneurship education in cooperation with companies

Recommendations of entrepreneurship education have changed from one-way teaching, where the teacher delivers knowledge to students via the students' active participation in the learning process in high schools (Gibb, 2011; Heinonen & Poikkijoki, 2006; Kickul et al., 2010; Kuratko 2005). At present, this is also the case in basic education, as several scholars have promoted entrepreneurship education in cooperation with companies. Jones & Iredale (2010) argue that the teaching environment is of great importance, because the learning situations in companies allow students the opportunity to think and act more independently. Respectively, learning processes in a company may cause challenges for teachers to develop a teaching style that encourages learning by doing, experimenting, asking questions and interacting with the outside world. Interaction between schools and companies can be done in two ways: either attempting to take students to companies within a real business environment or inviting company representatives to visit school classes.

Interaction between school classes and companies are quite often described as guest speakers in the classroom (Neck & Greene, 2011; Shepherd, 2004) or a standalone visit to a company (Fuchs et al., 2008; Hytti & O'Gorman, 2004; Markom et al., 2011). In the literature, many articles recommend that school classes participate in working life (Cooper et al., 2004; Heinonen & Poikkijoki, 2006; Kickul et al., 2010). Some of the interaction forms are presented and described more closely in the section below.

Guest speaker in a classroom: Guest speakers are representatives from a company that are invited to a classroom to present and talk about their company (Neck & Greene, 2011; Solomon, 2007). Shepherd (2004) notes that guest speakers can take different approaches depending on their background or recent events in the company. Mullins (2001) argues that it is difficult and time-consuming to find a speaker who masters the topic and can communicate at the students' level. The event itself does not take a long time. The purpose is for the guest speaker to enhance the learning material and not to replace it (Mullins, 2001). A guest speaker may be an entrepreneur who talks about their own business (Gartner, 2008). Students may have an opportunity to ask questions after the presentation if there is anything that is unclear. Sherman et al. (2008) claim that listening to a guest

speaker may have a greater impact on a student's decision to become an entrepreneur than reading about entrepreneurship.

Company visit: A company visit is also a less time-intensive contact with working life (Fuchs et al., 2008), but planning requires effort when negotiating with a company about the time and content of the visit (Markom et al., 2011). Typically, a company visit consists of a presentation and a walk-through. The presentation includes statistical information about the company, the business area, products, turnover, and the number of employees (Markom et al., 2011). Although the visit may not last very long, it gives students the opportunity to 'see, touch and feel entrepreneurship' and the working environment, which is emphasised in several pieces of research (Cooper et al., 2004; Ruskovaara, 2014). When students have an opportunity to ask questions in conjunction with the presentation it supports learning (Ruskovaara, 2014).

Virtual visit: When a class carries out a virtual visit, students are in their classroom and hold a videoconference with a company. Videoconferencing allows for a two-way connection between students and companies. Langhorst (2009) lists the three necessary pieces of equipment to get started: a laptop, a webcam and video chat software. Even these visits need an appointed day and time, but they are relatively short connections, though they can be done during a single lesson. Langhorst (2009) advises that students should be prepared for videoconferencing. They should consider all the questions in advance so that the videoconferencing is successful, and all essential questions are addressed.

Mini company: A mini company is a company founded by a group of students, usually running for one school year. A mini company is always supported by one or two advisers (Oosterbeek et al., 2008). Mini company programmes provide students with experience of business and working life and they are a combination of theory and practice (Birdthistle et al., 2007). The teacher is in a key position while helping and supporting students in their new businesses (Drakopoulou Dodd & Hynes, 2012). However, students as a group take responsibility for a small business, which will be liquidated at the end of the school year (Oosterbeek et al., 2008).

Joint projects: Joint projects are created when companies and students are carrying out a project together, usually by doing a job as an order from the company for students to do (Cooper et al., 2004; Ruskovaara, 2014). The joint projects link students to local companies, thus exposing the students to real working life and helping companies to acquire best practices (Mwasalwiba, 2010). Projects differ depending on the needs of the companies and the students' ability. According to Cooper et al. (2004), the students have a great opportunity to be involved in the company's activities. Joint projects may be long-term interaction and the duration may vary from a few days to a few months, depending on the type of the project.

Partnership with host companies: When a student group and a company cooperate for a long time, they have an opportunity to widen their theories on entrepreneurship and

working life (Ruskovaara, 2014; Woon et al., 2007). The partners meet each other several times and the students perform small-scale tasks for the company as part of entrepreneurship education, some even working as an intern for a period in the company (Hytti & O'Gorman, 2004). Hynes & Richardson (2007) state that the students will benefit from cooperation by learning from practical experiences and gaining skills and knowledge of working life and its diversity. The teacher's task is to negotiate suitable partners and ensure that the cooperation is proceeding effectively.

2.3.5   Challenges of entrepreneurship education in cooperation with companies

According to Kuratko (2005), there are several challenges to implementing entrepreneurship education in cooperation with companies and the greatest challenges may be the lack of good solid theoretical bases and overly formal teaching programmes in schools. Since entrepreneurship education can aim for many different objectives, such as innovation, productivity, competitiveness and so on, educators have difficulties choosing the right contents or methods to implement entrepreneurship education (Fiet, 2000b; Kuratko, 2005; Seikkula-Leino, 2008; Solomon, 2007). Pittaway & Cope (2007) argue that challenges can appear in group dynamics and responsibility as every student is an individual. Clear rules and structures would facilitate educating for entrepreneurship, particularly when entrepreneurship education occurs in a less structured environment, for example in a company (Powell, 2013). Powell (2013) points out that there is a challenge for the teacher to structure, plan and prepare teaching in detail on one hand but on the other hand to allow students to actively learn and acquire knowledge and skills that they need as adults in the working world. Jones (2006) argues that the teacher is challenged to have strong faith in their students when changing the education environment.

Ruskovaara & Pihkala (2013) argue that the teachers' own backgrounds and experiences play a significant role in entrepreneurship education. Without having any connection to the business world or companies, challenges may appear when interacting with companies. This may be a reason not to introduce entrepreneurship education in cooperation with companies, if the school does not require it, but it enables teachers to choose entrepreneurship in their teaching programme. When there is a third party involved in education, teachers may face the challenge of applying teaching together with an outside actor with more specific skills in entrepreneurship (Sahlberg, 2011c). Ruskovaara & Pihkala (2013) and Seikkula-Leino et al., (2010) advocate changes in the curriculum to strengthen the position of entrepreneurship education in schools, as the curriculum reflects the expected needs of society in working life.

Teachers do not feel autonomous themselves while hurrying towards the goals set by the national curriculum. Teachers experience stress in getting through the content of the national curriculum and that is why they are not so keen to experiment with new approaches (Erss & Kalmus, 2018). A hidden curriculum (Bascia et al., 2014; Su, 2012) asserts itself when teachers find that the old and proven ways are good enough and they continue their teaching work as earlier. In his article, Sahlberg (2011c) states that teachers who have notoriously done good work in the past would not lose this appreciation for

trying something new with which they are not familiar. The hidden curriculum comes (Su, 2012) into effect when teachers continue their work in the ways they are used to. Finnigan (2007) argues that factors influencing teachers' choices of everyday life in school are firstly that they are influenced by the national and school curricula with their regulations; secondly their own and collegial interpretations of the rules; and thirdly that teachers make choices between their working lives and their own private lives.

Teachers have limited school resources for their teaching work. The resources may be financial, human, curriculum-based, time-based, and communication and community resources that positively impact on entrepreneurship education with an outside partner. On the other hand, a lack of them may complicate it (Usman, 2016). School resources, which may be sparingly allocated in general, appear to be particularly scarce in entrepreneurship education. Teachers, who are a school's greatest assets, are required to use their ingenuity to allocate other resources that, like a puzzle, put all the parts in place and get a functioning system for entrepreneurship education in cooperation with companies. Research on the implementation of entrepreneurship education in cooperation with companies shows that only a few teachers coordinate school subjects to allow entrepreneurship education to take place in the teaching programme (Seikkula-Leino et al., 2010).

2.4 Summary

The second chapter reviews the literature on entrepreneurship education in general, and in particular on entrepreneurship education in cooperation with companies. The overview begins with research on entrepreneurship education and its development. Since the early 1940s, when the first entrepreneurship courses were held, entrepreneurship education has been regarded from educational and social points of view and as a result has changed several times.

The first section explains research on entrepreneurship education by showing that the intention of entrepreneurship education has changed over the decades. The intention to give students information about the traditional theoretical understanding of entrepreneurship in the 1970s has developed to approaches corresponding to societal expectations and needs in the 1980s. Further development of entrepreneurship education has led to practical application in entrepreneurship education, which has attracted increasing interest in entrepreneurship education in cooperation with companies. This has been advocated by several scholars lately.

Aims and goals are needed for entrepreneurship education, since they set the direction. The literature review identifies that the terms 'aims' and 'practices' are used interchangeably and further, teachers mix the perspectives of teachers and students. Teachability and learnability have been weighed up over the years and many scholars have come to the conclusion that entrepreneurship education can be taught and learnt. The rapid increase in interest in learning through experiences in cooperation with companies has led to a lack of unified education in entrepreneurship. There is even little

clarity about what the outcomes of entrepreneurship education should be, which in turn causes different inputs. As a result, teachers face challenges when teaching entrepreneurship in cooperation with companies.

The second section deals with teachers' roles in entrepreneurship education in cooperation with companies. Entrepreneurship education in cooperation with companies requires teachers to have the ability to position themselves as teachers in a different way than in a traditional teaching situation. Entrepreneurship education with companies presents challenges in education for teachers, but also for students, as the role of the teacher should become more of a facilitator and coach so that students can play a key role and participate in the experiential learning provided by companies. Teachers should be able to allow students to be the central focus and participate actively in company activities in their own learning process. At the same time, teachers should be able to help and support their students if necessary.

The core curriculum provides guidelines for schoolwork by outlining basic instructions on teaching areas and materials to be used in schools. Teachers have the autonomy to a certain degree to create their teaching approaches. However, autonomy depends on the core curriculum, regulations of the municipality and their own school. School autonomy works best and is conducive to student achievement in well-developed systems that hold the schools accountable for their actions. The school's rules and practices dictate much of what individual teachers can do to provide entrepreneurship education to students.

The third section incorporates the implementation of entrepreneurship education, including the aspects of entrepreneurship education, whether entrepreneurial learning is implemented 'about', 'for', 'through' or 'in' entrepreneurship education. The arguments about entrepreneurship education in cooperation with companies are discussed. According to the arguments, entrepreneurship education in a real environment makes learning more engaging and provides students with experiences and learning by doing.

The section includes methods and approaches used in the implementation of entrepreneurship education in cooperation with companies. There is no consensus on how entrepreneurship education should be implemented, but there are many valuable approaches that can be used depending on how they fit in the school teaching system and how much they are appreciated by teachers. Teachers' practices are discussed in the chapter in terms of how teachers change from one-way teaching towards student-centred teaching in cooperation with companies. Finally, there is discussion of challenges that teachers encounter while implementing entrepreneurship education with companies.

3 The publications

All the articles in this study, like the study itself, deal with teachers' practices in entrepreneurship education with companies in basic education. The first article explores company visits as an opportunity for entrepreneurship learning in basic education. The empirical part of the article consists of five different cases for entrepreneurship education in cooperation with companies. The second article highlights complexities reflected as paradoxes in entrepreneurship education. Paradoxes often arise from different views of phenomena and can pose a challenge to entrepreneurship education in cooperation with companies. The third article seeks to understand the considerations of teachers and principals as they plan and organise cooperation between students and companies that would provide the best possible learning opportunity for students. The fourth article examines the cooperation between schools and companies from the perspective of school autonomy and the recommendations of the core curriculum, since one of the transversal competence areas of the core curriculum is entrepreneurship and working life skills to be provided to students.

3.1 Company visits as an opportunity for entrepreneurial learning

3.1.1 The summary of the article

The article emphasises company visits as an opportunity for entrepreneurship education. The purpose of the article is to examine the benefits of company visits as some of the literature suggests that company visits provide only limited opportunities for learning (Gibb, 1993). The article refers to a student-centred approach to entrepreneurship, where students play an active role in acquiring skills and knowledge of the real-life business world and entrepreneurial role models. The article focuses on the concept of company visits from the perspective of entrepreneurial learning, and the empirical part of the article consists of five cases that illustrate the different aspects associated with the organisation and implementation of company visits.

Company visits provide experiences of the entrepreneurial atmosphere in the real business world. Entrepreneurial learning is about seeing, touching and feeling entrepreneurship (Cooper et al., 2004; Gibb, 2011; Jones & Matlay, 2011; Pittaway et al., 2009; Shepherd, 2004). Companies can provide an environment in which students can engage actively in entrepreneurial processes rather than reading about them (Jones & English, 2004). Company visits as part of entrepreneurial learning are considered from aspects such as the teacher's role (Haase & Lautenschläger, 2011), the level of formality (Powell, 2013), the time horizon (Fayolle & Gailly, 2008; Ruskovaara & Pihkala, 2015) and the learning objective (Pittaway & Cope, 2007).

The teacher's role changes from a traditional stand-and-deliver teacher to an encouraging, questioning coach, mentor or advisor who cares about the students' learning process, and students play an active role at the centre of the learning process. The level of formality

refers to the need to control and organise the activity. Entrepreneurial learning would benefit from a low level of formality, if the teacher is capable of providing the freedom for students to learn the skills needed in the working life (Hytti & O'Gorman, 2004). The time horizon stands for the length of interaction. The length of company visits may differ from standalone visits to learning processes that go on for several years. A long learning process, including cooperation between the school and companies, is a matter of knowledge, skills and resources for teachers. The learning objective largely determines the time horizon, the matter of student-centred learning, and how much flexibility can be utilised. Hence, learning objectives can vary, but taking responsibility and the initiative and putting new ideas into practice are some of the key learning objectives.

The empirical part includes five cases of company visits. The cases were selected due to their differences. The informants of the cases worked as subject teachers in the 7th, 8th and 9th grades in basic education in different parts of Finland. The data was collected through semi-structured thematic interviews. The interviews followed the interview framework that was created in advance.

The empirical part is presented by the cases:

Case 1: Teacher A takes her students to places that are somehow linked to the subject she teaches, for example observatories or the university. The teacher has previously carried out visits to companies but realised that there are too many challenges and obstacles to organise company visits and consequently finished doing them. The interviewed teacher is responsible for the visits and their implementation, which causes extra workload for her.

Case 2: Teacher B claims that he knows nothing about companies or bookkeeping. The teacher actively networks and attempts to arrange visits. He is not selective, but he only accepts companies that are really willing to offer visit opportunities for his group. The teacher organises seven to eight visits each year to go and see the company's activities and how they operate. The visits are discussed afterwards in the classroom.

Case 3: Teacher C is experienced in entrepreneurship and is in charge of entrepreneurship education for several groups in years 8 and 9. The year 9s run their own mini business following the Junior Achievement (JA) model and are supported by real companies. In addition to the entrepreneurship courses with students' mini companies, the classes cooperate with local companies offering them services.

Case 4: Teacher D is well-acquainted with entrepreneurship. Each entrepreneurship class has its own host company to visit two to three times per school year. The cooperation between the class and the host company continues through the school years doing different things: for example, in the first year, interviews and reports, in the second year, some surveys. and in the third year, employment and working.

Case 5: Teacher E has a very distinctive approach to company visits. The students set up company visits by choosing a suitable company, connecting to the company, and scheduling a visit. After the visit, the students prepare a report on the visit and what they have learnt. According to the teacher, students feel satisfied when they plan and implement the visits, while the teacher follows up alongside them.

3.1.2   Findings of the article

The contribution of the article is that developing company visits to exploit opportunities for entrepreneurial learning is a multifaceted task. The article contributes to the theory by deepening the understanding of the teacher's role, the time horizon, the level of formality and the objectives for entrepreneurial learning in company visits. The study supports the statement of Lackéus (2016) that learning objectives are crucial. The study also supports the statement of Ruskovaara & Pihkala (2015) that long-lasting learning experiences are more valuable for creating lasting learning for students.

3.2   Entrepreneurship education – paradoxes in school/company interaction

3.2.1   The summary of the article

The article focuses on paradoxes in the adoption of entrepreneurship education in the 7th, 8th and 9th grades in basic education. A paradox is a statement that contradicts itself. Paradoxes arise in an organisation, for example a school, when there are changes in organisational routines. When steering documents and directives have been changed upon recommending schools to provide students with entrepreneurship and working life skills, different interpretations of how to apply this arise and can be in conflict with each other. This in turn leads to paradoxes.

There are different types of paradoxes, such as practical, occurring, obstructing, organisational and inspiring paradoxes. These paradoxes emerge in the adoption of entrepreneurship education. A practical paradox refers to controversial situations where opposite alternatives co-exist (Dea, 2016). An occurring paradox arises with the development of something, such as the introduction of entrepreneurship education into teaching (Ball, 2003; Lewis, 2000). An obstructing paradox refers to barriers to doing something, such as adopting a new teaching method, for example entrepreneurship education in cooperation with companies, in the teaching programme (Greenglass et al., 2003). An organisational paradox is caused by characteristics of the organisation (Jarzabkowski et al., 2013). Organisational paradoxes may emerge when entrepreneurship education is decided by administrative staff who do not know the subject, while teachers and experts are not allowed to make decisions. Finally, an inspiring paradox is intriguing and creates the energy to continue developing the issue in search of new goals (Lewis & Dehler, 2000).

The different interpretations of adopting entrepreneurship education can lead to paradoxes, which in turn create tensions amongst teachers. Tensions cause uncomfortable and even anxious feelings (Lewis, 2000). In entrepreneurship education, teachers should be able to act as facilitator, coach, or enabler, but the development of entrepreneurship education may cause interpretations that appear as paradoxes. Entrepreneurship education requires teachers to engage in a different way than traditional teaching does and is thereby in conflict with the needs of entrepreneurship education (Honig, 2004).

3.2.2   Findings of the article

Teachers and principals experience a lot of paradoxes in entrepreneurship education that make them feel insecure and uncomfortable. As a result, many teachers lose interest in entrepreneurship education and, in some cases, decline the thought process of entrepreneurship education before it properly starts.

The findings of the study show that paradoxes arise from teachers' expectations, misunderstandings, and inertia. The findings of the study also show that paradoxes are not caused by teachers' legitimacy, but rather by their resistance to change and high personal and pedagogical standards.

The study reveals that principals' inability and unwillingness to manage entrepreneurship education in their schools is somewhat common. They have an opportunity to limit the desire of teachers to implement entrepreneurship education. They seem to be critical in actively advocating for entrepreneurship education, mentoring, and supporting teachers, and building partnerships with businesses.

Finally, if the workload seems to be too heavy, the boundaries of entrepreneurship education blurred or the first experiences of entrepreneurship education negative, paradoxical interpretations emerge amongst teachers and principals. Consequently, it leads to the abandonment of entrepreneurship education. The solution could be guidance and support for teachers and principals. It would reduce misconceptions and misunderstandings and help teachers and principals to understand entrepreneurship education and adopt it in the teaching programme.

3.3   Entrepreneurship Education with Companies: Teachers Organising School/Company Interaction

3.3.1   The summary of the article

The study examines entrepreneurship education in cooperation with companies. It uses the study by Cooper et al. (2004) that considers entrepreneurship education through some categories to identify an approach for entrepreneurship learning. The categories apply the model of Cooper et al. (2004). The study aims at understanding teachers' and principals'

perspective on planning and organising school/company interaction in entrepreneurship education. The categories for this study are:

- education technique, which includes six different techniques:
  - collaboration
  - mini company
  - in-company project
  - company visit
  - entrepreneur in class
  - online session

Other categories into which these education techniques are reflected are:

- people involved from school
- degree of interaction and teachers' roles
- duration of interaction
- students' involvement; depth of learning

Partnership is the highest level of the education techniques. Partnership is a long-lasting form of school/company cooperation. Teachers, students, and the principal participate in the decision on partnership between a class and a company. The degree of interaction is intense and entrepreneurship education is embedded in the school programme. The school/company relationship lasts several years. Student involvement is extremely high, and students are at the centre of the learning process.

Mini companies form the second level of education techniques. These are companies that students create under the teacher's guidance for a single school year (Elert et al., 2015). In these companies, students can share tasks with each other, such as marketing, budgeting and selling. The degree of interaction is intense and real companies can be advisors to students. Student involvement is high, as they participate as entrepreneurs.

In-company projects comprise the third level of education techniques. In-company projects are organised by the teacher and the students. The degree of interaction is intense and involves several meetings for a project, and the projects last from a few weeks to a semester. Student involvement is high, as they contribute to a host company at the same time as learning from participating in projects. They may be encouraged to come up with solutions to minor problems in the company.

Company visits are the fourth level of education techniques. Such visits are usually organised by the teacher. The degree of interaction is medium and the visits for last a few hours. Student involvement is moderate, but they may offer the opportunity for discussion and questions.

Entrepreneurs in the classroom is the fifth level of education techniques. Entrepreneur visits are organised by the teacher and the degree of student interaction is medium. The

entrepreneur visits usually last for one lesson. Students may have the opportunity for discussion and questions.

Online sessions comprise the sixth level of education techniques. Online sessions are teacher-led and take about one lesson. Student involvement is low, and they have face-to-face connection via the internet and may have the opportunity to ask some questions.

3.3.2 Findings of the article

The findings of the study show that teachers and principals select long-term interaction to promote students' entrepreneurial learning. The findings support the study by Cooper et al. (2004). Furthermore, the long-term methods require commitment from the whole school, which in turn enables shared responsibility. Consequently, shared responsibility facilitates required planning and organising.

Teachers select short-term interaction with companies with the hope of easy implementation. The findings indicate that teachers, however, are not satisfied with this type of school/company cooperation. There seem to be numerous challenges: planning and organising cooperation with companies is not easy, since it needs a lot of resources. Short-term interaction is time consuming for a single teacher and requires transport resources and other arrangements to accomplish a visit. Teachers do not consider short-term interaction worth the value they gain.

Furthermore, the findings of the study indicate that teachers experience being left alone to make decisions and organise visits and other short-term interaction. Teachers seem to be happy to receive any help they can get from others regarding planning and organising visits or events with a company.

3.4 The School and Teacher Autonomy in the Implementing Process of Entrepreneurship Education Curricula

3.4.1 The summary of the article

The study examines the utilisation of school and teacher autonomy in the adoption of entrepreneurship education. The Finnish core curriculum recommends, but does not require, schools to adopt entrepreneurship education. The core curriculum nevertheless includes seven transversal competence areas and one of them is 'working life competence and entrepreneurship' (Finnish National Agency for Education, 2016). This recommendation clearly exhorts schools to allow students to acquaint themselves with working life skills. The study asks how schools and teachers use their autonomy in the implementation of entrepreneurship education.

The degree of school autonomy is influenced by state laws, educational management organisations and community-based organisations. The curriculum can allow schools to

decide on their own teaching programme and daily working routines within the framework of school autonomy. Teacher autonomy is usually understood as the fact that a teacher can choose their own teaching methods in isolation from others, because the teacher usually works alone in isolation from other teachers.

According to the recommendations of the core curriculum, schools can make a decision on their choices in terms of the extent to which they will include entrepreneurship education in their programme. With autonomy, schools can adopt entrepreneurship education embedded in the whole teaching programme, across the subjects or on a smaller scale, i.e., as a single subject. The study examines how schools view entrepreneurship education when they have an opportunity to choose the extent of entrepreneurship education within the framework of autonomy.

3.4.2   Findings of the study

School and teacher autonomy are important for school teaching because it allows schools to adapt teaching as they see fit, take advantage of opportunities, and make local decisions about entrepreneurship education. According to the findings of the study, schools are divided into three categories in their adoption of entrepreneurship education.

One category takes advantage of autonomy and has adopted entrepreneurship education throughout the school teaching programme. Entrepreneurship education is included in all subjects. This category has been able to implement entrepreneurship education even beyond the recommended limits. These schools have taken the curriculum recommendations and are happy to be able to implement them according to their own local decisions.

The second category consists of those who have accepted the recommendations of the curriculum but are careful in implementation. They make sure that each student is allowed to make a certain number of visits during the school year. They do not necessarily contribute to entrepreneurship education, but they make some excursions from school. They consider that they have met the recommendations made by the curriculum. They are not interested in developing entrepreneurship education any further.

The third category are schools and teachers who, with the help of autonomy, state that they are not interested in starting to teach something they do not feel is their responsibility. They think they are teachers at school and entrepreneurship is not part of school, and they teach the basics of the subjects that belong to the 7th, 8th and 9th grades in basic education. They also take advantage of autonomy when they ignore curriculum recommendations. They are of the opinion that students during the trainee periods gain sufficient knowledge and skills regarding entrepreneurship and working life. These teachers also refer to obstacles, such as lack of time, lack of resources and an unclear conceptual basis for the curriculum, and they disregard the curriculum recommendations.

3.5   Summary of the findings

The aim of this thesis was to increase understanding of teachers' practices in entrepreneurship education in cooperation with companies. The publications provide insights and understanding of teachers' practices in entrepreneurship education in cooperation with companies from different points of view. Table 7 summarises the findings of the individual publications and the main contributions to the thesis.

Table 7: Summary of the main findings and contributions of the publications

Publication	Main findings	Main contribution to the thesis
Publication I: **Company visits as an opportunity for entrepreneurial learning**	Deepening the understanding of the teachers' role, the time horizon of cooperation, the level of formality during company visits and the objectives for entrepreneurial learning.	Teachers struggle with learning the changed role since the provider of information becomes an encouraging enabler, with the students being actively involved in the learning process. Teachers need collegial support. Trusting relationship between teachers and students is crucial.
Publication II: **Entrepreneurship education – paradoxes in school/company interaction**	Teachers lose interest in entrepreneurship education due to their misinterpreted expectations and misunderstandings of implementation of entrepreneurship education.	Entrepreneurship education is negatively affected by misinterpreted expectations and misunderstandings. The role of principal is crucial in managing the introduction of entrepreneurship education and in creating the relationships with partnering companies.
Publication III: **Entrepreneurship Education with Companies: Teachers Organising School/Company Interaction**	Teachers and principals select long-term interaction to promote students' entrepreneurial learning. Long-term methods require commitment from the whole school. Short-term visits are selected due to easier implementation but provide limited learning opportunities.	Long-term collaboration requires trust between teachers and students. In long-term collaboration, teachers are committed to their work yet do not feel they are doing more work than in short-term collaboration. Cooperation between teachers will

		positively affect school/company cooperation.
Publication IV: **The School and Teacher Autonomy in the Implementing Process of Entrepreneurship Education Curricula**	By autonomy, some schools and teachers implement entrepreneurship education beyond the curriculum recommendations, while other schools and teachers do not adapt entrepreneurship education to their teaching system at all.	As entrepreneurship education is not a compulsory subject, it is easily left out when teachers stress about other subjects to be done during the school year. With autonomy, teachers can either ignore entrepreneurship education or adapt and adopt it more widely than the core curriculum recommends.

Publication I concerns learning opportunities in entrepreneurship education with companies and seeks to answer to the research sub-question **How can interaction with companies create learning opportunities?** The publication is focused on the role of teachers, the duration of the interaction, the level of formality and the objectives of entrepreneurship education during company visits. The learning objectives are crucial as they indicate the content and extent of learning (Lackéus, 2016). The results of the study show that developing company visits to exploit opportunities for entrepreneurial learning is a multifaceted task.

Publications I and III highlight that the duration of the collaboration has a positive impact on learning, as students have an opportunity to participate in company activities and deepen their studies with entrepreneurship (Cooper et al., 2004). Company visits are often apart of a larger cooperation project of entrepreneurship education and thereby provide excellent opportunities for entrepreneurial learning.

Real learning opportunities are achieved when the teacher allows students to actively participate in the teaching process and create their own learning. This kind of seamless cooperation between teachers and students requires a trusting relationship. A teacher's role shifts towards a facilitator and supporter of students' learning. Seamless co-learning leads to lowering formalities and the teacher's happiness radiates to their students, which in turn raises learning opportunities (Kim & Schallert, 2011).

Publication II is connected to the research sub-question **What kinds of complexities do teachers come up with in the implementation of entrepreneurship education?** The publication investigates teachers' implementation of entrepreneurship education in cooperation with companies. The publication highlights paradoxes that emerge from teachers' expectations and misconceptions, causing a significantly reduced willingness to collaborate with companies. These misinterpretations can turn teachers' interests away

from entrepreneurship education (Lewis, 2000). Even the slightest failure can lead teachers to lose interest in entrepreneurship education (Barraket, 2005). Principals as school leaders are in a key position to correct teachers' misplaced expectations and misunderstandings about the meaning and aims of entrepreneurship education.

Publications II, III and IV address teachers' appreciation of entrepreneurship education. Because entrepreneurship education is voluntary in schools and some teachers are uncomfortable about entrepreneurship education, they are happy to leave it by considering it not being worth the value gained from doing it. The results of the study show that the critique does not stem from the legitimacy of entrepreneurship education but more from the aptitude for change and the high personal and pedagogical standards of the teachers. Teachers wish to keep their high standard in their traditional teaching and teach subjects that they can manage properly and in which they can guide students in the best possible way (Sahlberg, 2011c).

Publication III investigates teachers' perceptions and experiences of school/company interaction. The research sub-question is **How do teachers experience school/company interaction and the organisation required to organise the school/company cooperation?** The publication deals with short-term and long-term interaction. The results of the study show that teachers and principals intentionally select long-term collaboration to provide students with entrepreneurial learning. Furthermore, the results of the study also show that the implementation of long-term interaction is rather easy since entrepreneurship education is part of the school teaching system. Teachers are committed to it and avoid a wide range of extra practical arrangements caused by short-term visits (Kelchtermans, 2005).

Teachers and principals choose short-term interaction, such as standalone visits or workshops, from the perspective of easy implementation. Entrepreneurship education resourcing is a major concern for teachers and can cause numerous challenges, such as planning and organising the date and time, the cooperation programme with the company, transport resources, and changing time schedules for being able to interact with a company. The results of the study show that short-term interaction occurs because teachers want to provide students with entrepreneurial learning, but the whole school is not committed to it.

Publication I, II and III highlight the collegial support for teachers. If a teacher is left alone to organise cooperation with companies, they may attempt to create some cooperation, such as a standalone or a company representative visit to the school. Thus, the cooperation will become cumbersome and even impossible. The study shows that in such cases the teacher gets fatigued quite soon. When organising cooperation becomes too tedious, the teacher abandons the idea. Collegial support can give vitality to a project when a colleague is involved. The best results of cooperation with companies are achieved when the whole school is committed to implementing entrepreneurship education with companies.

Publication IV examines the impact of autonomy and curriculum recommendations on entrepreneurship education, The research sub-question is **How do schools and teachers use their autonomy in the implementation of entrepreneurship education?** Teachers and schools differ when they have an opportunity to make their own decisions about entrepreneurship education. Teachers and schools fall roughly into three categories: those who exclude entrepreneurship education altogether, those who make some pseudo-visits as if to follow the curriculum, and those who do more than the curriculum recommends.

The inclusion of entrepreneurship education in the curriculum depends very much on the personal interests of teachers in the new way of teaching and entrepreneurship. The principal can influence largely whether the whole school should include entrepreneurship education in the school teaching system. Those who had entrepreneurship education as part of their schoolwork were satisfied with the opportunity provided by autonomy to integrate entrepreneurship education across all subjects, and the schoolwork went smoothly without any special effort.

With autonomy, some schools choose to ignore the recommendations of the core curriculum that emphasises equipping students with entrepreneurship and working life skills. Some other schools, leaning on their autonomy, create a teaching system that includes entrepreneurship education across the subjects. Entrepreneurship education is part of the school's daily practices. They have exceeded the curriculum recommendations and are satisfied with their teaching system.

4 Conclusions

Teachers weigh up the options of the content and extent of entrepreneurship education to enable students to engage in entrepreneurial learning in collaboration with companies. In the literature, there is quite little research on entrepreneurship education regarding basic education in cooperation with companies, especially on how teachers understand the concept of entrepreneurship education in cooperation with companies and how they implement or intend to implement it.

This thesis is focused on teachers' practices in the implementation of entrepreneurship education. The research question is: How is entrepreneurship education implemented by teachers in cooperation with entrepreneurs and companies? The theoretical implications of this thesis extend the understanding of entrepreneurship education in basic education that is carried out in cooperation with companies and thus contribute to the literature. The theoretical implications are depicted in Figure 1 and described in detail below in the following sections. Thereafter, the practical implications are discussed.
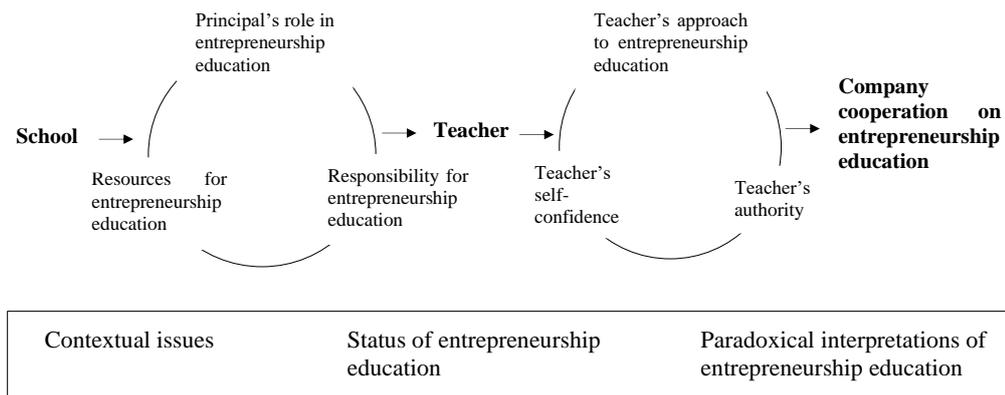
Figure 1: The theoretical model of factors on the implementation of entrepreneurship education with companies

4.1 The theoretical implications

This thesis aims to examine teachers' practices in entrepreneurship education with companies. The implementation of entrepreneurship education with companies depends on several factors that could be divided in two layers: teacher practices and school practices (Figure 1). If entrepreneurship education was influenced solely by teacher practices, it would be possible to facilitate through training and further education. Nevertheless, this is not the case, there are factors affecting entrepreneurship education at the school level which is a larger area in the context.

Additionally, there are some factors impacting on entrepreneurship education at the teacher level as well as the school level. Those are the contextual issues, the status of entrepreneurship education and paradoxical interpretations of entrepreneurship education. These factors may have positive or negative effects on entrepreneurship education with companies. They may also have effects on the complexity of entrepreneurship education and company cooperation.

4.1.1   Teachers' practices in entrepreneurship education with companies

Teachers' approach to entrepreneurship education

Teachers may have different approaches to entrepreneurship education (Figure 1). Traditionally, teachers are accustomed to imparting information and giving guidance so that students can do the tasks that the teacher sets based on what they have taught. In line, students do not have to completely solve new things that they have not been taught. Teachers do not want to create opportunities for students to fail, so everything is told in advance and the tasks to be solved are based on the instructions given. Along with the introduction of student-centred learning, teachers face challenges in moving from teacher-centred teaching to an enabling and supportive approach which makes sure that students can take an active part in learning.

In student-centred learning, students may face difficult tasks to solve and may need help and support (Cooper et al., 2004). They may even make mistakes, which is part of learning (Jones & Iredale, 2010). The way teachers approach entrepreneurship education may affect the way teachers experience their authority. Further, cooperation with companies requires new approaches from teachers; that is, how they experience the authority and how they cooperate with the principal.

Teachers' authority

Cooperation with companies may challenge teachers' experience of their authority, that is, changing the role from knowledge provider to enabler (Figure 1). Teachers may be concerned about the weakening of own authority when involving students in creative learning processes. The changed role of teachers does not mean leaving all the responsibility to students, but that teachers create a learning framework in which students can experience and even make mistakes through which learning also takes place. Although the role of teachers may change, teachers will still play an important role (van Dijk & Mensch, 2015).

When teachers act as enablers and knowledge providers, the teacher-student relationship has the potential to develop into a confidential relationship (Kim & Schallert, 2011). It is noteworthy that although students are greatly responsible of their own learning, they still need the support of teachers who can help and advise them in a difficult situation. In this case, a teacher's comforting attitude in the event of a mistake can even strengthen his or

her authority instead of weakening the position as teachers. This may also strengthen the teacher's self-confidence.

Teachers' self-confidence

Teachers' feeling of self-confidence may have significant effects on the implementation of company cooperation (Figure 1). Company cooperation could benefit from teachers' high self-confidence. However, teachers may feel negative psychological and cognitive effects of their expected teaching activities (Ball, 2003; Lewis, 2000). Entrepreneurship education with companies can be situation dependent, so textbooks may not be able to support teachers and students, making the teaching situation challenging for teachers. Further, teachers may feel politically and professionally vulnerable (Kelchtermans, 2005). For teachers changing to teaching practices that can be questioned and disputed is a risk, which gives them a feeling of vulnerability in their profession. These critical feelings may lead to abandoning the teaching of entrepreneurship education. Further, critical feelings may also be caused by a shortage of resources. Entrepreneurship education, in their view, does not add value of their work as teachers. For these reasons, it is vital to understand teachers' conflicts caused by entrepreneurship education.

4.1.2 Schools' practices

Principal's role in entrepreneurship education

The principals' duties include leading the school and guiding the work of teachers (Figure 1). The principal needs to create and maintain a positive school culture that promotes learning in general, thus also in entrepreneurship education (Habegger, 2008). Teachers may have reservations about new approaches in teaching that they feel uncomfortable. Therefore, the principal is in a unique position to influence the implementation of entrepreneurship education, so that teachers dare to try new ways of teaching with confidence (Bredeson & Johanson, 2000).

The encouragement and support of principals is crucial for teachers to succeed in entrepreneurship education with companies. The principal's active involvement in building partnerships with companies is one of the crucial factors in the success of entrepreneurship education with companies (Habegger, 2008). Further, when school management is committed to entrepreneurship education, it has the potential to provide students with entrepreneurial and working life skills. The principal's support gives comfort and strength to teachers keeping up with the change (Ememe et al., 2013). Even a slight interest and compassion on the part of the principal increases teachers' motivation to start and continue interacting and cooperating with companies. The other way round, if the school management is not interested in entrepreneurship education, there is a risk that a teacher does a big effort, but without support, ends up exhausted (Leffler & Svedberg, 2005; Smith et al., 2012).

Resources for entrepreneurship education

Entrepreneurship education with companies needs resources, such as financial, time, and human resources. Most of the decisions about the resources take place at the school level (Figure 1). Financial resources mostly refer to the travel costs between school and companies. Extra time is needed for visiting times or when doing some joint project with a company (Chiu, 2012). Human resources include schools' personnel, both teaching and other staff. As a human resource, teachers design the use of other resources, plan and schedule the cooperation with companies, and meet the needs of interaction and cooperation with companies (Usman, 2016). Depending on the innovativeness of teachers, even small resources can be turned into sufficient resources to carry out entrepreneurship education in cooperation with companies. Resource problems that may seem big at first can be solved with some deliberation from teachers on how things could be resolved. However, lack of resources may lead to teachers abandoning the idea of any kind of cooperation with companies.

According to Usman (2016), teaching instruction documents, such as the national core curriculum and the local curricula are part of the resources. The curriculum includes instructions for all subjects, the content and extent to which they should be covered in teaching (Su, 2012). Teachers have their own prescribed subjects in which they are specialised and which they teach. In this setting, entrepreneurship education competes with teaching subjects, as entrepreneurship education is not considered a school subject of its own right. As entrepreneurship education is only recommended to be included in the school programme, it is easily overlooked or deliberately ignored. Nevertheless, in schools, where embedded in all operations, entrepreneurship education has a special place in the school curriculum. While curricula aspects are here presented as issues of resourcing (Usman, 2016), they are strongly connected with the status of entrepreneurship education.

Responsibilities for entrepreneurship education

The implementation of entrepreneurship education benefits from clear responsibilities in school (Figure 1). In some schools, responsibility has been appointed to one teacher, in some schools a team of teachers, and in other schools the responsibility stays with the principal. Regrettably, there are schools where no one is responsible for entrepreneurship education.

In cases where an individual teacher is responsible, the implementation of entrepreneurship education is dependent on that person's motivation, skills, connections, and self-confidence (Cornforth, 2004; Hynes & Richardson, 2007; Smith et al., 2012). Teachers may experience role conflicts with new responsibilities. The idea of being responsible for something new that the teacher does not really know may cause resistance and a desire to stay in the old familiar pattern (Barraket, 2005).

In schools where the responsibility of entrepreneurship education has been shared among a team of teachers, or the responsibility stays at the school level, the implementation is likely to be more successful. The collegial support and cooperation build a more genuine

profession for teachers and a more effective school for students (Finnigan, 2007; Urbanski, 2003). The responsibility at the school level means that the principal is committed to the implementation of entrepreneurship education as well as securing the resources for it. Furthermore, it gives all teachers an opportunity to commit to the joint effort through their own teaching subjects. In this case, the implementation is not dependent on the motivations and interests of individuals.

4.1.3 Contingency factors influencing entrepreneurship education with companies

Contextual issues

The contextual issues refer to varying circumstances related to the school and teachers (Figure 1). Schools differ in size as some are in rural areas with few students while others are in urban environment and have a larger number of students. Hence, school operations may be weighed up and the view of the emphasis of schoolwork formed in different ways. Another affecting aspect may be that some schools are close to companies while others are located further away, so cooperation between schools and companies requires more energy and resources (Langhorst, 2009).

In addition, municipal decision-makers may have views on the operation of the school. They can emphasize something that the school must consider in their choices. There may be specialization, such as sports and physical activity or music orientation, which acts as a guideline for a school and therefore leaves aside other themes.

Status of entrepreneurship education

The status of entrepreneurship education affects all factors in the practices of both schools and teachers (Figure 1). The status depends on how people value entrepreneurship education, how they have received information about it, and how they experience organizational commitment to it. Those factors then directly affect the implementation of entrepreneurship education.

The national curriculum recommends that schools introduce students to entrepreneurship and working life, which as such is progressive. However, it is not a subject in the curriculum with a certain scope and the number of lessons to be taught for each grade in basic education. Hence, entrepreneurship education has a comparatively weak status. The emphasis on other subjects seems to take an important place and teachers are likely to focus on what is to be taught (Erss & Kalmus, 2018; van Dijk & Mensch, 2015).

However, the status of entrepreneurship education could be strengthening if it was adopted in both schools' practices and teachers' practices. Naturally, when entrepreneurship education is accepted at the school level, school management and colleagues help individual teachers to adopt entrepreneurship education in their teaching.

Paradoxical interpretations of entrepreneurship education

Paradoxical interpretations can influence attitudes, acceptance, and practices of entrepreneurship education (Figure 1). Teaching staff interpret entrepreneurship education in very different ways. Paradoxical interpretations may create tensions amongst teachers (Honig, 2004). Tensions on the other hand may cause feelings of discomfort or even anxiety (Lewis, 2000) that may complicate the implementation of entrepreneurship education.

Information on entrepreneurship education eliminates distressing feelings and removes barriers. Subsequently, paradoxes can also be positive and inspire teachers to try something new. At best, teacher's enthusiasm may also radiate to students, which helps and facilitates learning (Kim & Schallert, 2011).

4.2   **Practical implications of the research**

In addition to theoretical implications, the thesis highlights some practical implications. For instance, the work of a solitary teacher becomes visible, since teachers are solely responsible for their own subjects and focus on imparting knowledge to students by having the necessary teaching equipment at their disposal.

The following practical implications are presented as a proposal as to what shortcomings could be improved in practice, while perhaps creating a slightly more entrepreneurial community in basic education.

First: Teachers need help with implementing company cooperation

Teachers are unsure of what is expected of them in the implementation of entrepreneurship education, especially when it occurs with companies. Entrepreneurship education is something new that they are unfamiliar with and they do not know how to teach it (Leffler & Svedberg, 2005). Entrepreneurship education in cooperation with companies appears to be non-linear. It is difficult to put it into sequences and prepare lessons in advance to be ready to be presented to students.

Teachers experience that they do not have the sufficient knowledge and skills to adopt entrepreneurship in their teaching, and even less to be a teacher in charge of entrepreneurship education. Further, they feel uncomfortable initiating interaction and cooperation with companies. Those who have entrepreneurship education as a separate subject seems to struggle to arrange visits to provide students with the knowledge and skills from real companies.

Teachers need to be introduced and helped in their attempts to implement entrepreneurship education with companies. Support and encouragement from the school administration would help teachers take their first steps towards interaction with companies. Entrepreneurship as such is associated with successes and failures, which

means that the thought of activity does not always lead to the desired result. Entrepreneurship education should also be accompanied by such an idea, then teachers may also dare to implement entrepreneurship education with an open mind.

Second: An appropriate level of entrepreneurship education with companies suitable for basic education should be created

Teachers are reluctant to contact companies and perceive that companies are not interested in cooperating with schools in basic education. Some teachers may feel that students in basic education are too young to collaborate with companies. There may also be a lack of knowledge about opportunities for interaction and for deeper cooperation, as it is considered that the interests of teachers and companies are so far apart. Organisations acting as channels would help in the early stages of cooperation (Luecking et al., 2015).

It is understandable that teachers and companies are unaware of each other because basic education has practically been isolated from the rest of society. For understandable reasons, companies do not take the initiative to invite schools to cooperate. Therefore, teachers do not dare to contact companies to ask about collaboration opportunities. If a teacher has a friend in a company and thereby gets an invitation to visit, it is a welcome addition to schoolwork. Research results suggest that the crux of the problem may be the age of the students.

Teachers should be introduced to cooperate with companies at the level of competence that students in basic education have. The first projects should be somewhat easy to implement so that teachers could become inspired about the idea of continuing more challenging projects with their students.

Third: Teachers should be introduced to support each other in entrepreneurship education with companies

Teachers are not accustomed to proposing collegial collaboration in common projects across disciplines. Teachers are alone with students in teaching situations, so it is somewhat new for them to carry out teaching assignments together (Haapaniemi et al., 2021). Teachers organise some common events that are decided at the beginning of the school year, such as a joint outdoor day or a sports day that would be delivered during the school year. These events provide a model for joint efforts in teacher roles.

To implement entrepreneurship education in cooperation with companies, teachers need to trust and support each other to be able to carry out entrepreneurship education in cooperation with companies. Strong collaboration among teachers would facilitate overcoming challenges in entrepreneurship education (Rebar, 2012; van Dijk & Mensch, 2015). Thus, entrepreneurship education could be part of the school's daily activities and could be carried out smoothly.

Teachers should be provided with more guidance and practice to do co-teaching and support each other, preferable starting with small things and then progressing to more

challenging tasks. Furthermore, teachers should have the opportunity to collaborate extensively on school-wide projects. Here, the principal plays an important role in getting teachers to work for the common good.

Fourth: Teachers should be supported by principals in their attempt to create cooperation with companies.

Principals' pedagogical support for teachers is crucial for the introduction of entrepreneurship education. Entrepreneurship education is difficult to implement if the principal does not give their approval and active support to the project. The principal needs to be aware of what is happening at the school and especially when students are outside the school for any reason. The principal has an opportunity to impact the school's policy and has the opportunity to influence the way the school operates and its areas of emphasis (Bredeson & Johansson, 2000). If the area of emphasis of school policy happens to be anything other than entrepreneurship education, a single teacher will find it rather difficult to run entrepreneurship education in cooperation with companies in their teaching without the principal's approval.

The principal plays a key role as a school leader in sourcing partners from companies to work with classes in entrepreneurship education. The lack of principal support for teachers in entrepreneurship education with companies would lead to the withering of the project (Ememe et al., 2013; Habegger, 2008). If the principal has no interest in entrepreneurship education, they will hardly be able to provide adequate support to teachers, but they can slow down and suppress projects carried out by the teacher.

Principals should be provided with more information about what entrepreneurship education means and how important it is to society if students can participate in entrepreneurship education from as early as year 1. **Principals should receive more training on how they can support and encourage teachers**, as well as students, to implement entrepreneurship education and how the whole school can be jointly involved in entrepreneurship education.

4.3   Limitations and suggestions for further research

Like any research, this study has limitations. As this study is qualitative, the generalisability of the findings may provoke concerns. The study is based on the literature on entrepreneurship education, especially on entrepreneurship education in cooperation with companies. It is worthwhile noting that the literature on entrepreneurship education at the level of basic education is scarce. For this reason, the literature on entrepreneurship education in higher education is also used to provide guidelines on the current aspects of entrepreneurship education, in particular in cooperation with companies. The study is limited to entrepreneurship education in cooperation with companies.

Second, the study was carried out in Finland and the data and the findings might not be comparable or applicable elsewhere. Nevertheless, the data has been intentionally

collected from different parts of Finland, both from rural and urban areas, to obtain as comprehensive a data set as possible. The interviewees represent subject teachers, including teachers who are responsible for teaching entrepreneurship education, in basic education with students in the 7th, 8th and 9th grades, aged 13–16 years. Neither gender, age nor other personal factor have influenced the selection of the interviewees. All subject teachers, including guidance counsellors and principals in basic education, the 7th, 8th and 9th grades, have been considered equally for providing information about the implementation of entrepreneurship education in cooperation with companies. As the study is focused on teachers' practices in cooperation with companies, students' viewpoints or thoughts about entrepreneurship education in cooperation with companies are not included in this study.

It is worth noting that the Finnish national curriculum was reformed at the same time as the data was collected. The new national curriculum was introduced in 2016. Thus, the curriculum reform may have had an impact on responses.

The study uses a qualitative approach, which is an appropriate method for gaining and increasing understanding of teachers' practices of entrepreneurship education in cooperation with companies. Naturally, applying other kinds of research approaches could provide further insights on teachers' practices. Further studies are needed to better understand the impact of entrepreneurship education with companies and prioritisation behaviour related to entrepreneurship education. Hence, the study gives rise to further quantitative studies on entrepreneurship education during the three last years of basic education in cooperation with companies to grasp the principals' and teachers' prioritisation criteria, how it could be changed, and how the aspect of entrepreneurship education could be shared between teachers. A larger set of future studies could provide insights from international perspectives.

The study focused on teachers' practices rather than on students' expectations or company representatives who are responsible for cooperation between schools and companies. In that context, this study does not indicate whether entrepreneurship education in cooperation with companies is experienced by students as a valuable source of entrepreneurial knowledge and skills. Further research is suggested to examine students' perceptions about entrepreneurship education in cooperation with companies. Research on company leadership and representatives who are involved in school/company cooperation is also recommended. It would shed light on whether the cooperation affects their day-to-day operations and what their expectations of cooperation are.

Since teachers in the Nordic countries are quite autonomous in their work, wider quantitative studies are needed to observe the mechanisms related to teacher autonomy and its effects on entrepreneurship education with companies. Teacher autonomy and the need to control teachers' activities are of wider interest internationally, in terms of how teacher autonomy promotes school/company cooperation and learning opportunities in entrepreneurship education.

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Publication I

Sommarström, K., Ruskovaara, E., and Pihkala, T.
Company visits as an opportunity for entrepreneurship learning

Company visits as an opportunity for entrepreneurial learning

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Abstract: The research field of entrepreneurship education has emerged rapidly. However, there is a lack of knowledge regarding the organisation of company visits. Especially, the utilisation of companies to expand the learning environment has been largely dismissed. This study examines company visits as an opportunity for entrepreneurial learning in compulsory education. The empirical part of this study considers five cases. The informants are teachers in compulsory education. The findings show that company visits are a broader concept than previous literature suggests, and depending on the way the visits are organised, they create very different learning possibilities. The cases indicate that teachers willingly cooperate with companies, although organising company visits remains a challenge. The findings highlight the positive effects of school-company cooperation, and especially the cases where students implement the process to create significant potential for entrepreneurial learning.

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1   Introduction

Entrepreneurship education persists as a subject of broad and current interest for research. The rapidly progressing research targets issues such as entrepreneurial learning objectives, entrepreneurial pedagogy, evaluation and assessment of entrepreneurial learning, and factors guiding the use of different tools in entrepreneurship education (Mwasalwiba, 2010; Ruskovaara, 2014; van Dijk and Mensch, 2015; Leffler and Svedberg, 2005; Neck and Greene, 2011). At the EU level, many documents highlight the importance and growing role of entrepreneurship education in primary and secondary education (European Commission, 2011, 2013). Based on the recent Eurydice (2016) report, roughly a dozen European countries have a national curriculum which includes entrepreneurship or enterprise education as a theme, and more than half of the member states allocate funding for the development of entrepreneurship education.

The literature emphasises important directions of development in school work, such as integrating entrepreneurship education across different subjects, adding entrepreneurial learning in the pedagogical toolbox for teachers, school-industry cooperation, and learning by doing. In their article, Jones and Iredale (2010) emphasise school-enterprise cooperation and propose that enterprises as employers could be more involved in school-enterprise cooperation. As a pedagogical solution, company visits have been recognised as a way to introduce business to students (Solomon, 2007; Hytti and O'Gorman, 2004; Kickul et al., 2010). Markom et al. (2010) argue the importance of industrial visits for upper secondary school students in order to relate their theoretical knowledge to practical aspects. On the other hand, van Dijk and Mensch (2015) mention company visits as possible real-life projects in entrepreneurial learning activities in compulsory education.

Surprisingly, some of the literature suggests that company visits provide only limited possibilities for learning. For example, Gibb suggests that company visits are based more on curiosity than pedagogical objectives (Gibb, 1993). In this study, we focus on the company visit as an important opportunity for entrepreneurial learning. With the concept of entrepreneurial learning we refer to a student-centred approach to entrepreneurship, where students play an active role, are engaged in learning, perform tasks with close connections to the world beyond the school, encounter real-life cases and entrepreneurial

role models, and operate in as authentic a learning environment as possible (Cope and Watts, 2000; Cope, 2005; Matlay and Carey, 2007; Powell, 2013; Draycott and Rae, 2011). From this perspective, the concept of the company visit has the potential to promote entrepreneurial learning in students. We suggest that company visits have been largely overlooked and more thorough analysis of the company visit practices in schools is warranted.

The purpose of this study is to focus on the concept of 'company visit' from the perspective of entrepreneurial learning, and through an analysis of small cases, to discuss company visits as opportunities for entrepreneurial learning. The research question of the study is: What learning opportunities do company visits create? The contribution of the study is twofold: First, we focus on the concept of 'company visit' from the perspective of entrepreneurial learning. Second, we present small empirical cases that illustrate the different aspects associated with the organisation and implementation of company visits.

This study is divided into six sections: in the first section, we present the objectives of the study, the second section presents the theoretical understanding of company visits as a pedagogical tool and route to entrepreneurial learning. The third section presents the methodological approach of the study, data collection and analysis methods. In the fourth section, we present five cases from compulsory education. Then in the fifth section we will analyse them and compare them in terms of entrepreneurial learning, the entrepreneurial learning environment and pedagogical approaches applied. Finally, in the sixth section we conclude the study by highlighting the contributions of the study and presenting ideas for further research.

2   Literature review: company visit as a pedagogical tool and route to entrepreneurial learning

Typically, a wide variety of methods have been identified as useful in entrepreneurship education, such as project work for actual clients, cooperation with companies, business simulations, workshops, study visits or field trips to business enterprises, enterprise education games, mini-company exercises, role-playing, case studies, inviting guest speakers, business plans, and stories about entrepreneurs (Solomon, 2007; Jones and Matlay, 2011; Hytti and O'Gorman, 2004; Birdthistle et al., 2007; Jones, 2007b; Shepherd, 2004; Kuratko, 2005). Nevertheless, the use of these methods is only partly based on objectives related to entrepreneurial learning. Based on Ruskovaara's (2014) study, Finnish teachers most frequently initiated different discussions concerning entrepreneurship and business. In line, entrepreneurship-related games and competitions were arranged only rarely. Thus, it seems that teachers are more likely to use methods that are fairly easy to implement in the classroom setting, while ones that need more preparation and take place outside of the school are used less (Ruskovaara, 2014).

At the decision-makers' level, entrepreneurship education has been given a very important role. Therefore, Gibb (2000) points out that, to fulfil the high expectations, sometimes 'all teaching' is considered to be entrepreneurship education or to enhance students' enterprising behaviour. Thus, he underlines that the manner in which learning and teaching are carried out is crucial, as it can make or break the connection to entrepreneurship or enterprise education. Cheng et al. (2009) note that entrepreneurship

education literature stresses the importance of methods that assume the student take an active role as a learner. Although the variety of methods is wide, educators seem to rely on fairly passive methods instead of bringing real-life experiences into the classroom (Cheng et al., 2009; also Ruskovaara and Pihkala, 2014).

2.1 Entrepreneurial learning and entrepreneurial learning environment

The concept of entrepreneurial learning originates from the analysis of how entrepreneurs learn and how they learn best (Cope and Watts, 2000; Cope, 2005; Pittaway and Cope, 2007; Higgins and Elliott, 2011; Breslin and Jones, 2012). Later on, entrepreneurial learning has been used and understood more widely. Especially in Europe, entrepreneurial learning has changed from the learning of an entrepreneur to understanding the student's perspective. For example, Cooper et al. (2004) present that entrepreneurial learning is about seeing, touching and feeling entrepreneurship, focusing on the exploration and exploitation of real-world assignments and in-company projects. In line, Pittaway and Thorpe (2012) summarise the essence of entrepreneurial learning as any pedagogy that draws students closer to the world of an entrepreneur.

An entrepreneurial learning environment is an environment in which students are encouraged to engage actively in entrepreneurial processes rather than reading about them (Jones and English, 2004). Garnett (2012) describes that a learning environment is to enhance the conditions for students to develop attributes of an enterprising individual. Pittaway and Cope (2007) argue that the learning environment needs to be developed into something where students are able to experience how to put theory and knowledge into practice. Also Honig (2004) claims that the more real business environment connections students have, the more effective learning in entrepreneurship education is.

The teachers face a set of tasks to meet the requirements of entrepreneurial learning. Hynes and Richardson (2007) describe that teachers need to create a teaching and learning environment that fosters students' self-confidence, decision-making and risk-taking skills. These skills prepare them for the working world. Hynes (1996) also argues for a larger external learning environment which provides students necessary skills for the future, where the economic, social, and technological environments all play their important role. Jones (2007a) adds that in a student-centred approach students are active in shaping the learning environment: they are asked what to add to, remove from or modify in the learning environment. Jones (2006) continues by saying that an entrepreneurship educator is challenged to have strong faith in his/her students, even more faith than the students may have themselves. Therefore, the learning environment should be created into something where students feel comfortable to fail, are challenged by uncertainty but also engaged in learning activities. Therefore, the teacher's role is to force students out of their comfort zone or to significantly challenge them (Jones, 2006, 2007b). During the learning process, the focus is not on what the teacher does, but what the students do.

Several studies (Bull et al., 2008; Colardyn and Bjornavold, 2004; Eaton, 2010; Eshach, 2007; Falk et al., 2007) suggest that activities outside of the school environment enhance learning on the whole. Companies can play a role as an entrepreneurial learning environment, encouraging students' active forms of learning, challenging them to exploit

their full potential and serving as a place to test and create skills for the future. In line, companies are a place to test and put theory into practice. Therefore, it should mirror real-world challenges and be connected to real life as much as possible. Companies should be a place to foster students' self-confidence, decision-making and risk-taking skills and to prepare them to apply these skills later on in the world of work (Hynes, 1996; Honig, 2004; Hynes and Richardson, 2007; Pittaway and Cope, 2007; Higgins and Elliott, 2011; Garnett, 2012). However, organising the conditions for entrepreneurial learning involves different challenges. According to Pittaway and Cope (2007), the challenges lie in group dynamics and how students take responsibility. They report that a lack of rules may create problems, as some students want to work and others do not. Powell (2013), however, argues that a less structured environment is challenging for the educator, but also students with higher grades may prefer a more structured approach.

2.2 *The learning opportunities of a company visit*

Building on the earlier literature of entrepreneurial learning and the entrepreneurial learning environment, we suggest that company visits could be analysed from aspects related to the organisation and implementation of the company visit. These aspects are the teacher's role (Haase and Lautenschläger, 2011), the level of formality (Powell, 2013), the learning objective (Pittaway and Cope, 2007), and the time horizon (Fayolle and Gailly, 2008; Ruskovaara and Pihkala, 2014). These aspects together define the students' learning opportunities (see Figure 1).

Figure 1   Entrepreneurial learning opportunities in a company visit (see online version for colours)
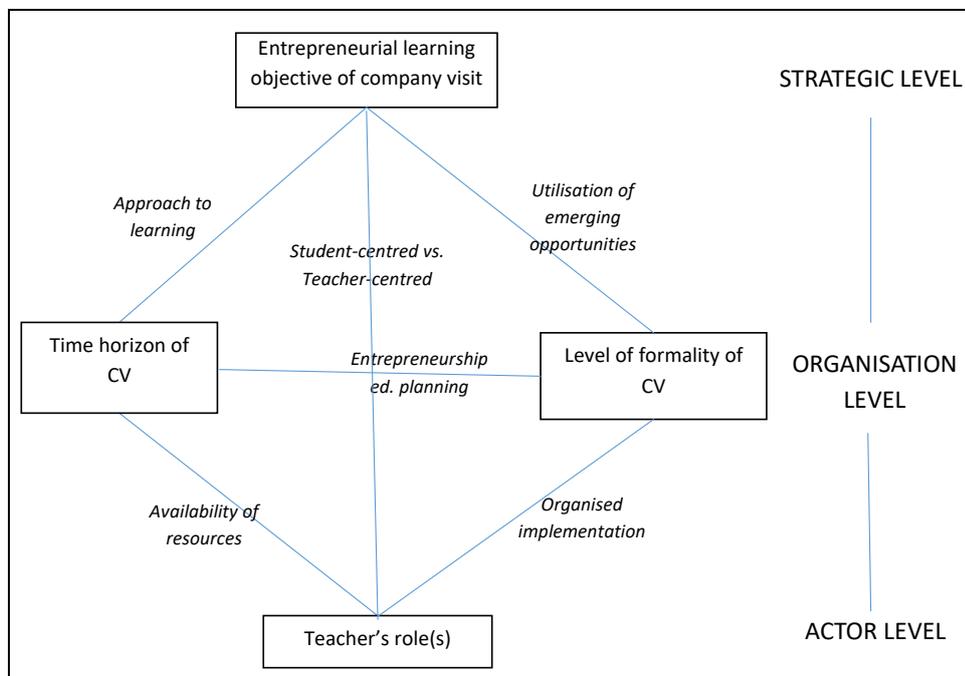
2.2.1 The learning objective

The learning objective set for the company visit represents the strategic level of the framework. The learning objective largely determines how long the activity can take (time horizon), whether the activity is teacher- or student-led (teacher's role), and how much flexibility can be included in the activity (formality). Lackéus (2016) emphasises the significance of objectives in entrepreneurial learning. He suggests that entrepreneurial projects should always aim for value creation. Without value creation, the project would lose its meaning and would not be different from regular education.

Some objectives for entrepreneurial learning are rather simple to deduce. For example, the aims are that students learn to be creative and persistent, take responsibility and initiative, and put new ideas into practice. Moreover, students should see and grasp opportunities, act despite uncertainty, take an active role in society, be able to solve problems in teams and analyse and take risks of suitable sizes (e.g. Pittaway and Cope, 2007; Draycott and Rae, 2011; Jones and English, 2004; Neck and Greene, 2011). Pittaway and Cope (2007) highlight the importance of real-life problems and problem-based approaches where external stakeholders are utilised. In line, Cooper et al. (2004) conclude that cooperation projects provide students the opportunity to learn valuable skills and knowledge with entrepreneurs, and participating entrepreneurs have a chance to learn accordingly.

2.2.2 The time horizon

Company visits differ largely in terms of their length – some may be stand-alone visits while some may be part of years-long learning processes. The length of the company visit is largely dependent on the learning objectives of the activity, the level of planning of the entrepreneurship education, and the availability of resources (see Figure 1). The learners may simply look around and listen to a company presentation, complete exercises or play games (Eshach, 2007). In the most successful cases, the themes of the visits are also dealt with in the classroom just before or soon after the visit. Hence, the students could connect the experiences with the issues learned in school. Schools and companies are two different environments with their respective practices. If the content of the visit is fairly unfamiliar to the learners, they may find it difficult to understand (Pittaway and Cope, 2007; Honig, 2004).

It seems that for teachers engaging in longer learning processes, including cooperation between the school and businesses, is a matter of knowledge, skills and resources. Bjornavold (2000) implies that learning is contextual. That is, understanding issues that are difficult to verbalise and delimiting the single steps or rules intrinsic to a certain competence require time and familiarity with the context (Bjornavold, 2000). Ruskovaara and Pihkala (2014) point out that fairly easily organised, low-threshold practices are the ones that teachers utilise the most. Therefore, they claim that teachers should be encouraged to develop their knowledge about the 'world out there'. Similarly, they claim that more in-depth cooperation with companies would bring novel approaches to teaching, and for example, joint projects or assignments from companies could enlarge the authentic learning environment.

2.2.3 *The level of formality*

The level of formality of the company visit refers to the need to control and organise the activity, and to stick with the pre-made plans (see Figure 1). Overall, earlier studies (e.g. Powell, 2013; Pittaway and Cope, 2007; Hytti and O'Gorman, 2004) suggest that entrepreneurial leaning would benefit from low levels of formality. Powell (2013) presents a challenge between entrepreneurial learning and traditional teaching. He points out the contradiction between structuring the course, doing all of the planning, and preparing materials, but still being capable of providing freedom for students to learn not only the topic of the course but also more generally skills needed in the working world, for example withstanding uncertainty and ambiguity. He also highlights the importance of experience and encourages educators to utilise real-life settings as much as possible.

Seizing opportunities during the company visit enables entrepreneurial learning. Some studies (Powell, 2013; Pittaway and Cope, 2007; Hytti and O'Gorman, 2004) suggest that the educator should push the students outside of their comfort zone into a less planned or a novel learning environment and encourage them to act in an ambiguous setting. The studies indicate that students may give negative feedback on such an approach, but entrepreneurial learning may still take place. Furthermore, Bull et al. (2008) argue that teachers and learners should find a way to capture the excitement of out-of-school events and bring it into the classroom.

2.2.4 *The teacher's role*

The teacher's role is largely defined by the availability of resources for the activity, the level and nature in which the implementation is organised, and the level of teacher-centricity of the company visit. The teacher's need to adopt new roles arises from the social constructivist view of teaching and learning (Higgins and Elliott, 2011; Garnett, 2012). From that perspective, students play an active role in the centre of learning, whereas teachers merely guide and facilitate. Garnett (2012) defines students as agents of learning.

Many studies suggest various new roles for the teacher and teaching. For example, Draycott et al. (2011) propose that teachers take the role of an encouraging, questioning coach. Also roles such as promoter, mentor, adviser, and manager have been used to highlight the changing tasks of a traditional stand-and-deliver teacher (Haase and Lautenschläger, 2011; Powell, 2013). The role choice is important for the entrepreneurial learning opportunities that company visits may incur. Depending on the role choice, the teacher can take very different approaches to available resources and may even let the students organise the visits.

3   Methodology

This study is part of a larger ongoing research project focusing on school-company relationships. So far, the data of the entire research consists of 41 interviews from head teachers and teachers operating in the schools. All of the schools in the research project provide compulsory education in Finland. In Finland, entrepreneurship education has been one of the cross-curricular themes in compulsory schools since 1994 (Finnish National Board of Education, 2003, 2004). As a cross-curricular theme, entrepreneurship

education should be embedded in all subjects, the school's operational culture, and organised events, but entrepreneurship may also be an optional subject. The Finnish national curriculum does not force, but rather recommends teachers to cooperate with real-world actors. No guidelines have been given regarding the realisation of activities beyond the school, which means that the teachers must find their own preferred methods if they are interested in offering the students company experiences. As Ruskovaara and Pihkala (2014) point out, teachers find the practices somewhat unclear. Teachers step out of their formal education role to engage in experiential cases with companies where the learners are in the centre, the teacher in the background, and the information flows between the company personnel, the learners and the teacher.

In this article, we focus on five teachers and their schools. The cases were selected based on the following criteria:

1   all cases are subject teachers that are involved in company visits

2   as the geographical issues may play a role in teachers' company visit practices, the schools are located in different parts of Finland and represent both urban and rural environments

3   each case is unique and adds to the variety and richness of the company visits

4   the students participating in company visits are seventh to ninth graders – in other words, between the ages of 14 and 16 years.

The data was collected through semi-structured thematic interviews. The teacher interviews took place in the teachers' working environment. The data was collected between autumn 2014 and spring 2015. The interviews were generally started by asking how many visits were carried out during the past year and the targets of the visits. In the interviews, the informants described the implementation of the visits. Additionally, informants told about the cooperation with actors outside of the school, including visits, projects, guest speakers or any other cooperation. The themes are depicted in Table 1. The duration of the interviews varied from 40 to 75 minutes depending on the extent of the cooperation and how detailed the informant's responses were. The interviews were recorded and transcribed.

Table 1   Interview themes

1	How many company visits do you make per school year? How many other visits to, for instance, museums, science centres or other destinations?
2	What other kind of cooperation takes place with outside actors?
3	How do you get in touch with companies? Who takes an active role in arranging cooperation or visits?
4	What are the practical arrangements for the visits?
5	What is the purpose of the visits? How interested is the teacher in that kind of teaching?
6	How is the school work connected to the visits?
7	Which companies are located in the vicinity?
8	How do the classes plan the visits in advance?
9	How do the classes process the visits afterwards?
10	What are the teacher's attitudes to and thoughts about the visits in general?

In this study, we present the data as illustrations of small representative cases (Patton, 1990). The data was analysed using the manual content analysis technique. The interview data was used to illustrate the company visit practices of the respondents to provide a wider perspective on the focal points of the analysis. From the theory, the analytical perspectives of the company visits were identified and the characteristics of these elements were drawn from the data. Finally, we applied comparative analysis to determine the similarities or differences of the cases. In this regard, we emphasise that the cases were selected to provide variety, and therefore, the analysis does not focus on the mere fact that there are differences, but on the ways in which company visits are carried out and how these pedagogical tools enable entrepreneurial learning. The illustrative examples in this study are translated into English and abbreviated.

As with any methodological tool, the qualitative content analysis of small illustrative cases has its limitations. The cases we applied do not enable statistical generalisations on the issues studied, and are therefore best applicable in exploratory or pilot studies. Furthermore, the case study as an in-depth approach strongly reflects the researcher's personal preferences, which is likely to cause researcher-based bias in the data collection, analysis and interpretations. To minimise this bias, the research group continually discussed the entrepreneurship education, the participants, and the data and its analysis.

4   Empirical cases

In this section, we present five different cases to illustrate company visits and their organisation from the perspective of the teachers.

4.1   Case 1

Teacher A teaches an elective subject related to natural sciences. She takes her students to places that are somehow linked to the subject. She argues that the students are more motivated for the visits since they have signed up for the subject voluntarily. The destinations of the visits include places such as observatories or the university. One local company in the energy business has earlier been favourable to company visits and has even served coffee and sweets. Lately, the company has lost interest in inviting the school. The teacher explains that motivating a company to partner with the school or arrange visits is such a demanding task for one teacher that she is not even going to try. She has decided to maintain her role as a traditional teacher, stay within the school and take students to places that are easily accessible. The teacher says she has understood that companies do not have time for or interest in inviting young, about 14–15-year-old students in compulsory education for visits. Another class from the same school visited a nature reserve, but the visit failed because the guide addressed the students as if they were from lower grades. The teacher thinks that teachers should get together to discuss their experiences for inspiration and new ideas. The actual visits and their implementation are, however, left to individual teachers. The meetings will not create organised synergy, but can generate new ideas.

4.2 Case 2

Teacher B is not acquainted with business and says he knows nothing about companies or bookkeeping. However, his class visits different companies during his course. The teacher actively networks and attempts to arrange visits, and uses his leisure time to call companies and ask whether his class could visit them. This takes a great deal of time and energy. The teacher needs to convince the companies in many ways to secure an invitation for his students. The teacher also asks relatives and friends for help in setting up company visits. He is not selective; instead, he accepts all companies that are willing to meet with his group. The teacher organises seven to eight visits each year to go and see how companies work and operate. He always accompanies the students for the visits. Before the visit, the class learns about the concepts used in companies, such as R&D, marketing, customers, logo, personnel and salary. The teacher follows up on the visit merely by discussing it with the students afterwards. He schedules the visits during classes so that other teachers would not need to reschedule anything or make special arrangements. The teacher thinks it is more difficult to convince companies to host students in cities than in rural areas. For some reason, industrial companies are not interested, but banks agree to meet with students more easily. The teacher thinks this is because banks consider the students possible future customers, attempt to create a pleasant experience for them and familiarise the students with their logo. The teacher says ready-made models would be useful to facilitate the visits.

4.3 Case 3

Teacher C is experienced in entrepreneurship and runs a voluntary course on entrepreneurship. The entrepreneurship courses are popular in the school. Earlier, enterprising activities were only organised in an extra-curricular club after school, but now entrepreneurship is an elective subject. The teacher is in charge of the entrepreneurship education for several groups in the eighth and ninth grades. The eighth graders' course includes games, bookkeeping, marketing and advertising. In the ninth grade, the students start a company following the Junior Achievement (JA) model. The idea is that running their businesses, the groups are supported by companies. Some of the groups visit companies and many of the students receive business support from home. In the spring semester, they organise a panel that comprises four companies, and the ninth graders can study them during the panel. The teacher is also involved in a business forum with companies, and they meet a few times a year. The task of the forum is to match schools with companies. Through the forum, it is easy to create contacts with different companies and be invited to visit them. In addition to the entrepreneurship course, the school cooperates with local businesses in its own, innovative way. For example, the students can perform in music events beyond the school, or the company can order a service from the school. Reciprocally, a company may offer the school a service. The school and the companies have been developing these activities on their own and are very pleased with the results.

4.4   Case 4

Teacher D is well acquainted with entrepreneurship, as he operates as a part-time business owner. In the school, the classes have a cooperating company that is assigned when the students are in the seventh grade. The cooperating company could be anything, e.g. a voluntary organisation or a shop. The school is not interested in organising traditional company visits. Instead, they arrange two to three visits to the same company. In the seventh grade, the students learn about different professions, careers and enterprises. They interview the selected companies, transcribe the interviews, prepare a report and carry out a short internship. In the eighth grade, the students may take an elective entrepreneurship course and learn about companies and conduct projects for companies. These projects could include research and surveys, or even work as mystery shoppers. In the ninth grade, the students may take an elective course on entrepreneurship and learn about job applications. In these processes, the companies are involved in the simulation of job interviews and the recruiting process. The teacher says all subjects taught can be integrated into the projects. The point of company visits is to branch out and learn about other ways of working, and to take a break from the daily routines. The process provides a deeper understanding of businesses and work. The school is well connected with companies in the area. The head teacher is in a key role and is active in negotiating deals with companies. The teacher operates as a guide for the students in the business world. The company cooperation is so established that companies themselves contact the school and offer to be cooperating companies. Sometimes the contact may be formed through a student's parents. Most of the companies operate in the vicinity, but the school has also collaborated with more remote businesses.

4.5   Case 5

Teacher E has a very distinct approach to company visits. Entrepreneurship is an elective subject in the ninth grade. The students' interest in entrepreneurship varies significantly, but mostly the students are excited about it. The content of the course is determined completely on the basis of students' wishes, and the course focuses on visits to different companies. The students themselves choose the companies to visit. Having selected the destinations, they contact the companies, present their ideas and schedule a visit. Before the visit, the students collect information about the companies and practice calling the company. Roughly half of the time during the visit is reserved for a company presentation, and the rest for a tour. The teacher is always present during the visits. After the company visit, the students prepare a brochure or an essay about the company. The companies are selected on the basis of student interest. The region is very entrepreneurial and companies are willing to meet with students almost without exception. During the past few years, catering businesses have been popular, but students have also been interested in industrial enterprises. The teacher thinks that entrepreneurship is a good subject for students. It means that the students have a possibility to see and experience new things. Planned and implemented by the students themselves, the course means a great deal to the students and gives them a feeling of accomplishment. The teacher has taught the entrepreneurship course for years now, and he thinks that the students' role is central in designing and implementing the course. The teacher, on the other hand, should remain in the background, coaching and supporting.

Table 2   Similarities and differences between the cases

	Teacher's role	Level of formality	Time horizon	Learning objective
Case 1	Teacher-centred process	Highly formal teaching	Careful preparation before a visit, short visit	The learning objective is related to the subject, no entrepreneurial learning objectives
Case 2	Promoter, teacher-centred	Not selective, implementation depends on the teacher's resources	Short visit, minimum need for resources	To see how companies work, curiosity, low entrepreneurial learning objectives
Case 3	Manager, both teacher- and student-centred	Very formal models, wide program, forum, panel	Long-term cooperation, related to learning programs, 2–3 years	Emphasis on learning entrepreneurship by doing, strong support from businesses
Case 4	Guide, student-centred	Formal model, long-term relationships with companies	The school is committed to long-term cooperation for 2–3 years	Deepening understanding of companies and work in businesses, possible to exploit opportunities
Case 5	Coach, student-centred	Low formality, students make the plans, the students' interests guide the process	Flexible length, dependent on the students' learning processes and projects	Entrepreneurial learning means students can learn about managing and implementing their own learning process successfully

5   Analysis and comparisons

The cases are very different in how they execute company visits. For Case A, the learning objectives are based on the subject taught. In this case, the teacher is not acquainted with entrepreneurship or entrepreneurial learning. To compensate, Teacher A takes the safe route of maintaining the traditional teacher's role. As it is, the process seems highly teacher-centred and the company visits are practically unrelated to learning. Teacher A plans and selects the targets carefully and prepares the students for the visits. As the focus is on the subject taught, the teachers seem uninterested in exploiting opportunities that present themselves during the visit.

For Case 2, the objective was 'to see how companies work'. In that sense, it approaches what Gibb (1993) describes as curiosity-led company visits. Such cases are more likely simply to be breaks in the daily routines of school work instead of a possibility for entrepreneurial learning. Teacher B has adopted the role of a promoter – seeking to 'sell' the students to companies. Teacher B takes the process casually, targeting a certain number of visits without being selective. The operation is solely dependent of the teacher and the level of planning and evaluation seems low. The visits seem more stand-alone, and they are dependent on the individual teacher's level of motivation, personal contacts and resources.

However, in Case 3 the entrepreneurial learning is taken seriously and the company visits play an important role in deepening students' understanding of entrepreneurship and business. The case presents an established model of cooperation, the partners seem to know the model and the business context. Teacher C operates as a manager, engaging in several simultaneous cooperation processes in which the company visits play just a small role. For example, the companies support the students' companies created with the JA model. However, the orientation is still very much teacher-led – the processes are planned, selected and run for the students.

In Case 4, the company visits are rigorously organised. While the learning process seems very formal, the cooperation is longer-term, enabling deepening entrepreneurial learning. The students become familiar with the targets and the context and receive feedback on their learning process. Teacher D takes the students by the hand and guides them into the business world. In terms of resources, the teacher seems to have strong support from the organisation. The cooperation with companies is managed at the institutional level and the teacher can focus on the actual learning processes.

For Case 5, the learning objective reaches yet the next level, aiming at students gaining experience of running a successful entrepreneurial project while learning about the business. Teacher E operates as a coach in the background and assists students while they establish contacts and plan the form and guidelines of cooperation. The teacher allows the students to work independently, and learning is student-centred. Case 5 leans towards informal learning, where the students are active and learn by carrying out their own projects. In terms of resources, the students' interest in engaging different resources and their ability to do so seem to be ways to learn about entrepreneurship.

6   Discussion and conclusions

This study has focused on company visits as an opportunity for entrepreneurial learning. The research question was: What learning opportunities do company visits create? The

results indicate that depending on the way company visits are organised, the learning possibilities are vast. Having noticed that, we emphasise that grasping opportunities is largely dependent on the teacher and the school. In the case analysis, we identified a case that fails to meet any level of entrepreneurial learning, and on the other hand, a case where the entire company visit is planned, designed and implemented by the students, consequently creating significant potential for entrepreneurial learning.

6.1 Contributions to theory

In general, all company visits should enable entrepreneurial learning (Pittaway and Thorpe, 2012). Our study illustrates some of the problems associated with the implementation of company visits that prevent or limit learning. On the other hand, it seems that developing company visits to exploit opportunities for entrepreneurial learning is a multifaceted task.

This article contributes to theory in deepening the understanding of the teacher's role, the time horizon, the level of formality and the objectives set for entrepreneurial learning in company visits. It seems evident that without focused entrepreneurial learning objectives, the learning effects are likely to remain minimal (Lackeús, 2016). Earlier literature (e.g. Ruskovaara and Pihkala, 2014) has suggested that processual, long-lasting learning experiences are more useful in establishing lasting learning in students. In such cases, entrepreneurship education would be more a matter of cooperation than individual company visits. The cases analysed in the study indicate that company visits are often a part of a larger process of entrepreneurship education. In these cases, company visits are likely to yield the best possible result.

Different cases provide us with information that company visits can create very different learning opportunities. Where objectives connected to subjects and entrepreneurship were mentioned, we could not find many examples of objectives related to entrepreneurial skills. Teacher 5 required the students to take an active role in the learning process, starting from planning the company visit. During the process, his students have most likely stepped outside of their comfort zone, solved problems and acted in uncertainty; however, we cannot find such descriptions in other cases (Powell, 2013; Pittaway and Cope, 2007). Furthermore, the informants seem not to have set very clear objectives for what skills students should learn during a company visit. Moreover, the aspect that company visits present an opportunity to apply theory to practice seems to be neglected (Pittaway and Cope, 2007).

Company visits require resources. However, our study suggests that schools and teachers take very different approaches to dealing with resourcing the task. One teacher reported that he is in charge of entrepreneurship education in his school. Other respondents did not recognise such a resource in their schools. Furthermore, as teachers still seem to need encouragement and ideas on how to put entrepreneurship education into practice and how to organise company visits, a person specifically in charge of entrepreneurship education would be of high value. Moreover, teachers would benefit from training sessions dedicated to networking and exchanging ideas and experiences (Ruskovaara and Pihkala, 2014; Ruskovaara, 2014).

It seems evident that learning benefits from broadening of the learning environment through e.g. visits outside of the school. However, organising company visits remains a challenge for teachers. Visits to companies require planning, timetables and

understanding between both partners. Managing these complexities, the teacher's own interest in and knowledge about entrepreneurship play a crucial role in visit arrangements. Nevertheless, companies may too often be excessively difficult to contact, while places such as museums, science centres, zoos and libraries are easier, as they have been designed for public visits. In this perspective, it seems that the teacher's approach to the concept of entrepreneurship education is decisive.

6.2   *Practical implications*

The analysis revealed important findings about the training needs, support and resources of the teacher. Company visits require special skills and knowledge from the teacher and benefit largely from the involvement of the school. While cooperation seemed relatively easy for some teachers, there are also teachers who seem unmotivated to work alone on the task. The work load for the teacher is, however, largely dependent on the cooperating organisation. If the teacher is left alone with the task, he or she may lack the motivation or the skills to manage the cooperation with the companies, and as a result, company visits may not take place or may fail to meet their objectives (Ememe et al., 2013).

The cases in the study suggest that teachers are not equally aware of the possibilities for arranging company visits, cooperation, or entrepreneurship education in general. The difficulty is to identify these possibilities and decide which ones are right for the school. Instead, some teachers have created their own specific approaches that fit the school and its partners. More general models could assist teachers in planning, designing and implementing company visits more effectively. Teacher training related to entrepreneurship education should also support traditional models of cooperation between schools and businesses. It seems that should the teacher be familiar with and capable of business cooperation, his or her traditional role may shift towards that of a coach (Birdhistle et al., 2007).

Our study intentionally builds on cases that have been collected from both urban and rural contexts. Interestingly, the location of the school – together with teacher's attitude towards company visits – may affect the teacher's decision whether or not to arrange student visits to companies. Teacher B suspects that organising company visits would be easier in rural areas than in cities. Although this might be true, one could also think that the variety of companies in cities would make it easier for a teacher. On the basis of this analysis, the distinction between urban and rural contexts is not decisive in organising company visits. Instead, the choices made by the schools and teachers are decisive in creating cooperation between the schools and companies. More understanding and case illustrations are needed to shed light on this issue.

Our study implies a need for further research. It is clear that teachers implement entrepreneurship education in varying ways. It would be worth investigating the view of the students – how they experience learning by means of visits. Organising a company visit means striking a balance between formal and informal learning, and therefore, the students' perspective may provide important insights into entrepreneurial learning. Furthermore, the different combinations of theory and practice have been suggested to be fruitful for learning. However, company visits have been analysed from that perspective only marginally. For many schools, company visits are a part of more extensive learning processes, and the mixture of theory and practice increases in importance. More research on the building and design of the entrepreneurial learning processes is warranted.

This study is a part of a larger research project, and thereby, only five cases are included in the present study. The informants are all teachers of compulsory subjects, but one also teaches an elective course on entrepreneurship. The results of the study do not represent the population of company visits or the population of schools, but rather highlight some aspects of company visits as a method for entrepreneurial learning. However, we maintain that our results are important for future studies of company visits. Furthermore, the data for the study has been gathered in Finland, which obviously raises questions of the transferability of the research results. However, as Finland is the first European country to implement entrepreneurship education at all education levels, the results may be of interest to a wider audience. The findings can also be largely utilised at higher education levels where institutions and even universities attempt to connect their students with the world out there.

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Publication II

Sommarström, K., Oikkonen, E., and Pihkala, T.
Entrepreneurship education – paradoxes in school-company interaction

Entrepreneurship education – paradoxes in school–company interaction

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Abstract

Purpose – The purpose of this paper studies the role of paradoxes in the adoption of entrepreneurship education (EE) in schools.

Design/methodology/approach – Qualitative research methods were used, and the data were collected via semi-structured interviews with Finnish teachers and principals.

Findings – Paradoxes are an important factor slowing the adoption of EE. Paradoxes appear to arise from teachers' misunderstandings, high personal standards of pedagogy and an unwillingness to change their routines. In schools, principals still regard EE as a newcomer that is easily abandoned should any difficulties emerge. The principals show unwillingness to take responsibility for managing EE or to establish relationships with companies.

Research limitations/implications – The study represents Finnish practice in basic education. Due to the qualitative methodology applied, the generalizability of the results is limited. Quantitative research on the teachers' and principals' behaviour related to paradoxes in EE is needed. Furthermore, the pedagogical prioritization related to the introduction of EE warrants more research.

Practical implications – The results suggest good opportunities exist in training to prepare teachers and principals to anticipate the difficulties of EE.

Originality/value – The study introduces a new understanding of the difficulties in the adoption of EE. Paradoxes are important factors to take into account in the promotion of EE. Paradoxes stem from teachers' misunderstandings, misconceptions and their unwillingness to change. Principals seem unwilling to assume their responsibilities in managing EE. The study highlights opportunities for managing the emergence of these paradoxes by preparing teachers and principals better on the difficulties and unexpected outcomes of EE.

Keywords Paradox, Entrepreneurship education, Learning environment, School–company interaction

Paper type Research paper

Introduction

Entrepreneurship education (EE) is seen as a tool to solve many problems of today, for example, the high youth unemployment rate, lack of entrepreneurial mindset and skills, the need for new companies and national urge for business growth, to name a few. Therefore, EE and its promotion have gained ground in education, both at the policy level and in research (Ruskovaara and Pihkala, 2014; Bacigalupo *et al.*, 2016; European Commission, 2013, 2018). However, although increasing efforts have been made on the research and promotion of EE, the adoption of EE has been slower than expected (Ruskovaara, 2014).

Earlier research has shown that principals and teachers have difficulties in following the expectations of curricula (Hämäläinen *et al.*, 2018; Seikkula-Leino *et al.*, 2010). In this paper, we suggest that teachers' difficulties can partly be understood in terms of paradoxes they face in their work (Dea, 2016; Greenglass *et al.*, 2003; Jarzabkowski *et al.*, 2013; Lewis, 2000). Some of the paradoxes are evident: in some schools, EE is part of the school's activity, while others do not appreciate entrepreneurship in their school programmes. One of the large paradoxes is related to the school's cooperation with companies. For example, Billett (2002) states that the school is, in principle, a place for learning, while several researchers (Gibb, 2011; Jones and

Iredale, 2010; Neck and Greene, 2011; Pittaway *et al.*, 2010; Smith *et al.*, 2006; Sommarström *et al.*, 2017) claim that cooperation with companies could provide students with a more realistic picture of entrepreneurship and working life. In earlier studies, Jones and Iredale (2010) and Sommarström *et al.* (2017) have pointed out that despite the centrality of school–company cooperation in EE, it has remained clearly under-studied.

For professional teachers, insolvable paradoxes may have multiple negative psychological and cognitive effects: they may cause anxiety, doubts of their own efficacy, distress, decommitment and detachment of expected teaching activities (Ball, 2003; Barraket, 2005; Lewis, 2000). In addition, earlier research on educational reforms has shown that teachers may feel politically and professionally vulnerable in their working communities (Foliard *et al.*, 2018; Kelchtermans, 2005), and thus they may abandon the teaching of EE. For these reasons, it is vital to better understand the conflicts EE cause for teachers.

In the present study, we focus on paradoxes in EE. Using school–company interaction as an example of EE, we present teachers and principals struggling with the implementation of EE in their teaching practices. At the same time, we aim to generate new knowledge for one under-studied but crucial element of EE, namely school–company interaction (Jones and Iredale, 2010; Sommarström *et al.*, 2017). The research question of the study is "what role do paradoxes play in the adoption of entrepreneurship education?"

The study follows a qualitative methodology with a content analysis including semi-structured interviews with teachers and principals from different parts of Finland. The analysis of the respondents' explanations shows that they feel confused and their behaviour seems inconsistent. However, the stories also show different ways teachers and principals cope with the expectations and practical difficulties. The reasoning of the principals and teachers indicates that an obstacle for one teacher seems to be an opportunity for another teacher.

The contribution of the study is threefold: first, we show that teachers' experiences with EE paradoxes are closely related to the adoption of EE. Our results show that most of the paradoxes are borne out of the teachers' expectations and misunderstandings rather than stemming from the legitimacy of EE itself. Second, the study clarifies the principals' role in managing the introduction of EE in schools and especially in creating the relationships with partnering businesses. In this sense, the adoption of EE is severely threatened if the principle is unwilling to manage EE. Finally, by means of empirical evidence, we provide more understanding of the complexity of schools' cooperation with companies.

The study is structured as follows: first, we present the key concepts and theoretical framework of paradoxes, EE and cooperation with companies. Second, the methodology of the study and the gathering of data are presented in detail. Third, the outcomes of the study and the emerging paradoxes in each category are declared and the study ends with some conclusions.

Paradoxes

The word paradox comes from Greek and consists of two parts: "para" meaning "contrary to" and "doxa" meaning "opinion" (Online Etymology Dictionary, 2020). A paradox expresses something that is logically absurd, but at the same time truth (The Chambers Dictionary, 2008). For the purposes of this study, paradox is defined as a statement or situation that contradicts itself, but still seems to be true.

A paradox consists of elements that seem true in isolation, but absurd or irrational when they appear simultaneously (Lewis, 2000). According to Lewis (2000), a self-referential paradox appears in one utterance where a contradiction is already embedded in the statement itself. The contradiction becomes apparent when the related explanations are left out of the sentence, as for example in the expression "Less is more", which is commonly used in

advertisements. Another type of paradox involves the mixed messages that are formed when opposing statements are given about the same phenomenon (Lewis, 2000). In this case, the statements are usually given by different people who see the matter from different points of view as shown above.

Paradoxes can be used when seeking a change, and there is a need to declare an existing matter as an opposite to a better alternative (Hartshorn and Hannon, 2005). In this case, the presenter of a paradox explains the views, trying to show his/her own view in a better light. However, change in an organization (e.g. a school) is not linear and smooth but creates tensions between actors and may cause anxiety for the people concerned. Paradoxes become apparent through self or social reflection (Cobb and Rubin, 2006; Lewis, 2000). They arise when an individual begins to defend his/her own view, which another experiences as being illogical or absurd.

Various types of paradoxes have been identified, including practical, occurring, obstructing, organizational and inspiring paradoxes (Dea, 2016; Greenglass *et al.*, 2003; Jarzabkowski *et al.*, 2013; Lewis, 2000). A practical paradox refers to controversial situations where opposite alternatives co-exist (Dea, 2016). An occurring paradox is a paradoxical situation that arises along with the development of something (Lewis, 2000). For example, entrepreneurial learning takes place when teachers step back and let the students be the active players. An obstructing paradox is a situation that forms a barrier to doing something, for example, when there are no objectives, and it becomes difficult to work. Similarly, too many objectives may hinder work (Greenglass *et al.*, 2003). An organizational paradox is a situation that arises from the characteristics of the organization (Jarzabkowski *et al.*, 2013). For example, EE is decided upon by managers who do not necessarily know the subject, while those who are experts are not allowed to make the decisions (Cornforth, 2004; Smith *et al.*, 2012). Finally, an inspiring paradox is related to the tensions arising from development. It is intriguing and creates energy to continue towards new goals (Lewis and Dehler, 2000).

Entrepreneurship education in schools

The aim of EE, at the basic education level in Finnish schools, is to provide students with knowledge and skills regarding entrepreneurship, and if possible, in an authentic environment. Furthermore, the aim is to enhance entrepreneurial skills and promote understanding and positive attitudes towards entrepreneurship. The idea is that students are able recognize their entrepreneurial potential and make knowledgeable decisions concerning their future whether it is or is not as an entrepreneur (Henderson and Robertson, 2000; Ruskovaara, 2014).

Several studies have presented useful tools, methods and ideas of how to put EE into practice. For example, simulations, games, projects with actual clients and mini-enterprise programmes are highlighted as valuable because they often have a real-world connection (Hytti and O'Gorman, 2004; Mwasalwiba, 2010; Ruskovaara and Pihkala, 2014). Furthermore, different interaction practices with companies are mentioned as being useful, whether it is a school class visit to a company or a company representative visiting a class (Sommarström *et al.*, 2017). Collaboration with companies can also take the form of joint projects or a task that a company has ordered from students (Hytti and O'Gorman, 2004; Neck and Greene, 2011).

As EE can be implemented in different ways (Mwasalwiba, 2010), entrepreneurship can also be taught in many ways. It could be taught as one subject amongst other school subjects or as an optional subject besides the ordinary ones (Matlay and Carey, 2007), a short entrepreneurship course of a few weeks (Berglund and Holmgren, 2007) or even via an entrepreneurship club in the afternoon outside the ordinary school times (Pittaway *et al.*, 2010). Furthermore, an entrepreneurial approach can be implemented in teaching and learning in every subject at all education levels (Neck and Greene, 2011; Ruskovaara, 2014).

Paradoxes in entrepreneurship education

Paradoxes in teaching occur when the school system faces changes and when there is a combination of old and new teaching approaches (Lewis, 2000), for example in a situation when the curriculum is changing. The change may lead to practical paradoxes in terms of controversial situations between the old and the new, but also occurring paradoxes may arise as the new approach is developing (Lewis, 2000). A school is an organization with teachers as subject specialists, a principal and other school personnel, all of whom may take controversial decisions (Cornforth, 2004; Smith *et al.*, 2012). Steering documents and directives are interpreted individually and in different ways. The different interpretations cause tensions amongst teachers (Knight and Paroutis, 2017; Kozica and Brandl, 2015), which in turn lead to uncomfortable and even anxious feelings (Lewis, 2000). Opposing interpretations lead to paradoxes, since the statements conflict with themselves. For example, in EE, the teacher's role is akin to a facilitator, coach or enabler (Birdthistle *et al.*, 2007; Hytti and O'Gorman, 2004; Jones and Iredale, 2010; Ruskovaara, 2014) but this may conflict with traditional approaches followed by many schools, potentially creating practical, obstructing and organizational paradoxes.

The different interpretations in the implementation of EE can lead to conflicting thoughts and statements. EE is a rather new theme in basic education (Fayolle and Klandt, 2006) and if teachers are used to working in their own way this may not match the new approach. Additionally, according to Honig (2004, p. 264), "traditional pedagogy is frequently in contrast to the needs of entrepreneurial education". Hence, the ingredients of a paradox may arise when one person gives a solid explanation for the existing procedures, and someone else explains the benefits that a new approach brings (Hartshorn and Hannon, 2005). Further, it is not easy to choose the right starting point for teaching entrepreneurship.

Finally, there are multiple opportunities for paradoxes to arise if a school has decided to include entrepreneurship as one of the subjects. Teachers may have the opportunity to choose an approach that fits them and their school system best. This also creates an opening for many different interpretations and potential paradoxes.

Methodology and analysis

The study follows a qualitative methodology. The strength of qualitative research is that it provides understanding of the phenomena as seen by the participants (Ireland *et al.*, 2009; Sin, 2010). To examine the paradoxes in EE, semi-structured interviews were conducted. The informants were teachers and principals, and in total there were 35 people from different parts of Finland. In the interviews a frame of questions was followed, but the informants were given the possibility to describe their own practices in their own words. The interviews focussed on entrepreneurship, creation of collaboration with companies, why they had chosen a certain approach and why they had to refrain from something they would have liked to choose. The list of themes discussed with the informants is presented in Appendix.

The data were read carefully several times and a content analysis was carried out. In the initial analysis, the informants' comments concerning choices for or against the implementation of entrepreneurship and interaction with companies were closely examined in a careful analysis and then compared with other corresponding explanations (Gioia *et al.*, 2013; Nag and Gioia, 2012). Next, in the second-level analysis, we utilized the typology of paradoxes as a framework; the data were divided and analysed through the theoretical lenses of practical, occurring, obstructing, organizational and inspiring paradoxes. Claims that conflicted with themselves or seemed absurd were identified as paradoxes. These paradoxes were included in the results of the study. Next, a comparative analysis was conducted since it points out statements or opinions that differ, and it is useful for determining similarities and differences (Goldberg and Deb, 1991; Opricovic and Tzeng, 2004).

The study was carried out in Finland, where EE has been part of the national curriculum in basic education since 1995. Basic education is part of compulsory education and students are aged between 7 and 16 years. The national curriculum (Ministry of Education, 2009) is a guiding document for all schools to follow, and it sets the objectives and core contents of all subjects. In the national core curriculum, EE is described as one cross-curricular theme which needs to be embedded in all subjects and in the schools' operating culture. In addition, some schools have decided to offer entrepreneurship as an optional subject [1].

Outcomes of the study – paradoxes in teaching and learning situations

Paradoxes emerged from the teachers' and principals' reports about how they had experienced EE in their schools.

The following chapter highlights the confusion and inconsistency that teachers and principals experienced related to EE and especially related to their interaction with companies. Practical paradoxes mostly arose in the teachers' collaborative work and when traditional teaching and new approaches to the corporate world are encountered. Hence, controversial interpretations seemed to arise amongst teachers concerning practical teaching solutions. The organizational paradoxes which were identified are referred to factors such as responsibility, expertise and interaction with companies (Jarzabkowski *et al.*, 2013). The identified obstructing paradoxes emerged from teachers' tensions and anxiety regarding new methods. This manifested itself in refusal by the teachers to carry out or accept new teaching approaches.

Practical paradoxes

Success can become a problem. In one case, entrepreneurship as an optional subject gave rise to a paradox by becoming too popular. Entrepreneurship was offered as an optional subject that many students chose, however, too many students were interested in the subject, which led to resource difficulties for the school, so they had to stop offering the subject. The situation became a paradox due to this radical solution. The school's principal commented on the decision as follows:

> We have had it and it has been very popular. The problem has been that the teachers, who have been willing or run a course, had so many lessons in other subjects that it became too much for them. It was an extra load for teachers, requiring quite a lot of planning time and took a lot of energy. For this reason, in these last years, we have actually refused to have entrepreneurship because we have not had teachers to teach this subject. (Interviewee 1, principal)

It is evident that a part of the slow adoption of EE in schools is a result of different practical paradoxes emerging in schools when they start following the curriculum. The citation above shows clearly that the school and its principal could not anticipate the needs related to EE, which led to a loss of control. In these cases, it would be very difficult to make these schools try again. The example further suggests a prioritization pattern in the principal's reasoning – instead of organising the teaching afresh, entrepreneurship seemed to be an extra duty that was abandoned. From this perspective, EE still seemed to represent a new entrant in the school that faced the liability of newness (cf. Stinchcombe, 1965) with the school management.

Another case of a practical paradox arose from a teacher's frustrations. For one teacher, it seems that for the committed teacher, it was not enough to be entrepreneurial, it would also be necessary to cope with building an entrepreneurial spirit in class. This goal seemed impossible to reach and therefore the teacher rather settled with traditional teaching. In the following quote the interviews illustrate this view:

> We teachers are often enterprising people, but it is not just about us. As teachers we should be enterprising but. . . (it is not enough because) . . .we have to allow the entrepreneurial atmosphere in the classroom. That is the thing. (Interviewee 16, teacher)

In this case, it seems that a practical paradox arises from the teacher's self-defined objectives. Here, these objectives set very high standards that the teacher would want to reach or would otherwise not be able to commit to the task. This pattern suggests that communicating to teachers about easier ways to conduct EE could include a message concerning lowering standards for these teachers.

Occurring paradoxes

Some teachers may feel insecure or uncomfortable before they determine how to work with EE as part of the school programme. Our data suggest that an occurring paradox can change its shape towards becoming an inspiring paradox. In the following quotation a principal tells the story of one of the form teachers:

> When the entrepreneurial class started, one teacher was of the opinion that she would not ever do it. . . she said, "I don't want to do it". However, this teacher had an entrepreneurship class for a 3-year period until the end of the last school year. When I started to select a new form teacher for the next class for a 3-year period, she said that if I may not be the form teacher for the entrepreneurship-class, I do not want to be a form teacher at all. That is, when she found out and realized that an entrepreneurial approach was not about economy and business, but is about the finding of one's own strengths, courageously experimenting, . . ., and learning responsibility as well. She found it interesting and wanted to continue. (Interviewee 11, principal)

The case can be interpreted in two ways: first, it seems that this teacher was a model case of unwillingness to change. Embarking on an entrepreneurship course represented a change towards something new and three years later leaving entrepreneurship would have been another change towards something new. From this perspective, the principal's managerial role seems decisive in making the change take place (Hämäläinen *et al.*, 2018). Another interpretation of the case suggests that this dramatic change in the attitude towards EE could be about learning. That is, for the teacher, the normative expectations of EE transformed into personal EE practices that became central elements of the teacher's identity as a form teacher. At the same time, as this case is encouraging for EE promotion, it suggests that it will be a difficult task to introduce unwilling teachers to EE through experimentation and personal commitment.

It seems, however, that the introduction of EE requires overcoming the challenges of learning, even if the audience is against the change. According to Lewis (2000), paradoxes emerge when new things come and replace the old things. She argues that the more things change, the more they remain the same (Lewis, 2000). In general, the respondents reported stories and situations of change and on these occasions, the changes seemed large in terms of the pedagogy, learning environment, resourcing, cooperation and the like. However, having gone through these changes, the participants paradoxically considered the changes to be quite small or even non-existent. In the data, one principal told a story about their large-scale cooperation with surrounding stakeholders and concluded that:

> . . .above the cabinet on my wall, the portrait of the founder of the comprehensive schools in Finland is looking at us, so we can note that since 1866 when the basic school regulation was adopted in Finland, nothing has changed. . . it still holds true that learning by doing is the best learning. (Interviewee 9, principal)

The excerpt above suggests that regardless of the magnitude of change expected from the teachers and principals, they seem to have fitted within the general objectives of basic education for 150 years. In that sense, large changes are paradoxically small from a longer perspective.

Organizational paradoxes

Who should take the initiative towards teaching or integrating entrepreneurship in education? The answer seems to create an organizational paradox, where each of the

personnel claims that it is not their duty to start changing methods. There appears to be uncertainty amongst both the principals and teachers interviewed as to who would be the right person to suggest either a stand-alone visit or deeper cooperation with a school class. In another words, the principals have not assumed the responsibility for managing EE (Hämäläinen *et al.*, 2018). Confusion concerning authority and responsibility may create anxiety amongst the teachers (Barraket, 2005). In our data, some principals explained that they had their hands full with administrative work and so did not have the time to negotiate with companies. One principal accepted the responsibility and considered that seeking cooperation partners was a part of the principal's administrative work. The interviewee explained the role of the principal as a supporter. In the respondent's view, the principal should demonstrate the power of administration and negotiation (Burhanuddin, 1997) by inviting directors and managers to the office and spending time in negotiations. This principal mentioned that

> I had invited the managing director [Name], who is a well-known person, here to my office and I initiated a discussion about the interaction between our school and the company. [Name] was surprised and questioned why he should cooperate with a primary level school. He continued that he was interested in somewhat older students who are already studying business or so on. I explained and managed to convince him that the future decision makers, influencers, and experts may be currently studying in the school and some of them obviously are his present customers, or if not so, the parents of the students may be their customers. (Interviewee 4, principal)

Paradoxically, the principal's story is about adopting the role of an entrepreneur and a salesman, selling school cooperation to hesitant business contacts. The story of successful negotiations show that the principal is slightly excited about the negotiation processes. However, on the question of EE adoption in schools, the organizational paradoxes seem discouraging – the challenge is related to the principals' ability to accept a new active role, not only as a managerial decision maker but also as a promoter of EE to businesses.

Obstructing paradoxes
The obstructing paradoxes that we identified in this study resemble practical paradoxes in the sense that the principals' and teachers' reasoning seemed to be closely related to their personal standards and convictions. Paradoxically, teachers who are professionals in guiding their students to learn at school, reported personal limitations themselves in learning:

> Now with this new curriculum, at least in our school, it means more studying and as you may know teachers can fail to embrace so much information. There are limits to how much a teacher can take in. . . (Interviewee 20, teacher)

Our data suggest that for many teachers the new curriculum was a burden because they had to learn and embrace new things. The new curriculum means changes in teaching, and so the teachers are obliged to reflect upon their teaching practices regarding the new areas to be included (González-Weil *et al.*, 2014). Instead of seeing an opportunity to do something new that the curriculum recommends, many of the teachers declined this opportunity.

Another type of obstructing paradox that we found in our study was related to the teachers' convictions and inner rules. These rules included concepts such as equal treatment, full control of the teacher or keeping the school clear from commercial organisations. The paradox of equal treatment became evident, as some teachers tried to create the same teaching for parallel classes and thus needed to find a company that could arrange the same programme three or four times. One of the teachers expressed her worry by saying that

> In our elementary school, everyone should be treated equally and I'm also for the principle of justice that all students should have the same programme. (Interviewee 18, teacher)

In the data, the obstructing paradoxes seemed to circle around the teachers' conceptions of integrity and justice. These conceptions may partly arise from misunderstandings or failures in communicating about the aims, meaning and methods of EE. For the adoption of EE in schools, this interpretation is good news, as it suggests that at least some of these conflicts could be managed through better communication and training.

Inspiring paradoxes

The inspiring paradoxes that arose in our data occurred in terms of satisfied teachers who allowed their happiness radiate to their students (Kim and Schallert, 2011). In our data, the inspired paradoxes were related to the teacher's changing role, student-centred learning, the students' ability to take responsibility and the students' ability to create value. The classroom is known as a place for learning, and it can be assumed that a teacher feels comfortable when teaching in the classroom (Ruskovaara and Pihkala, 2014). Teachers seemed to be inspired when they noticed that learning can be more effective outside the school which has been built for learning. This view is reflected in the following comment from one of the interviewees:

> It may be said that we are all winners when we come out of our four walls. It brings a variation to everyday life, different ways of working, and above all, it is a break in our daily routines with these meetings. The visits have had positive feedback. (Interviewee 14, teacher)

In the data, many teachers reported cases that go even further, changing the role of the teacher to that of a mentor and giving the students more responsibility for organizing the learning and completing projects. The students arrange the date and time for the visits and all the practical arrangements. The teacher remains more in the background, ready to help if needed. Some teachers took a further step towards student-centred learning when they suggested that in teachers' continuing professional development events students are the experts to present how their school is doing in EE.

The question of the students' own abilities and power seems to be a rich source of paradoxes. The students can do extensive surveys for companies, but they are not able to open an account in a bank by themselves, due to their young age. One teacher explained the students' inability to take initiatives by saying that:

> Sometimes, I think they may be a little helpless too, those who have been spoilt too much by parents or something like that... (Interviewee 16, teacher)

Paradoxically, the teacher referred to the parents concerning the lack of responsibility of the students and used that to argue why the students should not be given more responsibility. In several interviews the teachers referred to the young age of the students as a reason why they could not manage to make their own decisions. However, one principal did not accept the idea of helpless students when he explained their ingenuity and problem solving for the students' host company (Gibb, 2011; Jones and Iredale, 2010; Kickul *et al.*, 2010). He said that

> ... Then this company manager gave the assignment to the class by explaining the problem. One 7th class student was quick enough to solve this matter and the solution was so simple that experienced and wise actors did not see it, simply because they started to solve the problem scientifically. The class got the prize award and support for school camp. (Interviewee 4, principal)

Most of the stories related to inspiring paradoxes that we identified started from doubts and disbelief for the principals and teachers. In the data, the respondents reported unexpected positive outcomes of EE projects and company interaction. It seems that regarding this type of paradox, the change of mood can only take place once you have already started the process. From this perspective, inspiring paradoxes are good news as they help to communicate the outcomes of EE to teachers and principals.

Conclusions

The research field of EE is wide and polyphonic. For example, there are studies that approach EE from a neoliberal governance point of view (Komulainen *et al.*, 2011). Additionally, EE and vocationalism in education understandably have a lot of similarities (Gonon, 2009), at least from the perspective that they both are interested in equipping students for working life. In this study, we concentrated on one element of EE, namely school–company interaction, and especially, we aimed at understanding paradoxes that arise in the adoption of EE in basic education.

EE is a rich source of paradoxes that may slow and hinder the adoption of EE in schools. Our study shows that teachers and principals experienced a wide set of paradoxes that made them feel insecure, confused and inconsistent. As a result of this, teachers declined to engage in the adoption of EE or even gave up on processes that had been started.

One of the main results of this study is about the source of such paradoxes. On the basis on our analysis, a sizable share of the paradoxes surrounding EE emerges from the expectations, misconceptions and inertia of the teachers. Unexpectedly, these paradoxes did not stem much from the legitimacy of EE *per se* but more from the aptitude for change and the high personal and pedagogical standards of the teachers. While many of these paradoxes are avoidable, many of them have the capacity to slow down the adoption of EE.

The analysis of paradoxes in the adoption of EE uncovers another important finding. The data show that the principals' inability or unwillingness to manage EE in their schools is rather common. This finding is highly important as the principals may limit the progress in the school, even if there would be interested teachers available. The principals' role seems critical in taking an active role and for guiding the teachers to embark on EE as well as building relationships with companies. We suggest that as the pedagogical leaders in their schools, principals are in a key position to correct teachers' misplaced expectations and misunderstandings about the aims, meaning and methods of EE.

After 25 years since its introduction in the Finnish national curriculum, EE is still considered a newcomer. The analysis shows that in many schools the principals and teachers apply a pedagogical prioritization in the organization their work. Should the workload be too heavy, the concept of EE too blurred or the first experiments with EE be negative, principals and teachers seem ready to opt for the older and more important tasks. This prioritization problem could be partly managed through training and better management of EE. In general, it seems that teacher training should embrace the task of preparing teachers and principals to anticipate the paradoxical situations in the introduction of EE. Furthermore, for teachers, understanding the outcomes of EE could help them better endure the uneasiness during the initiation of EE in schools. Further studies are needed to better understand the prioritization behaviour related to EE: what are the principals' and teachers' prioritization criteria, how can the prioritization behaviour be changed, how is this aspect socially shared between the teachers?

The study has some obvious limitations. First, the data were collected from one country only, which may be noted as a limitation of the study. However, Finland is the first EU country to embed EE as a cross-curricular theme in national curricula and therefore Finnish results can be of interest to countries who want to follow the development of EE in schools. Second, as a qualitative study, the generalizability of the results is limited. Quantitative research is needed to learn more about the paradoxes related to the adoption of EE in schools. The interest in connecting education with the outside world has a long history and is reflected in vocationalism. In some sense, vocationalism (Gonon, 2009) and EE similarly aim to prepare the students with the working life. Therefore, we believe that our findings could provide interesting avenues to study also from other educational perspectives.

Notes

1. https://www.oph.fi/sites/default/files/documents/finnish_education_in_a_nutshell.pdf

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Appendix
Themes discussed with informants in semi-structural interviews:

(1) How many company visits do you make per school year? How many other visits to, for instance, museums, science centres or other destinations do you make?

(2) What other kinds of cooperation take place with outside actors?

(3) How do you get in touch with companies? Who takes an active role in arranging cooperation or visits?

(4) What are the practical arrangements for the visits?

(5) What is the purpose of the visits? How interested is the teacher in that kind of teaching?

(6) How is the schoolwork connected to the visits?

(7) Which companies are located in the vicinity?

(8) How do the classes plan the visits in advance?

(9) How do the classes process the visits afterwards?

(10) What are the teacher's attitudes to and thoughts about the visits in general?

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Publication III

Sommarström, K., Oikkonen, E., and Pihkala, T.
Entrepreneurship Education with Companies: Teachers Organizing School-Company Interaction

Entrepreneurship Education with Companies: Teachers Organizing School-Company Interaction

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Abstract: Previous research into entrepreneurial learning has focused mainly on defining its aims; however, there seems to be little discussion on understanding the barriers or incentives involved when carrying out the pedagogical solutions that would enable entrepreneurial learning. In this study, we examine basic education level schools' cooperation with outside partners, especially from the school principals' and teachers' viewpoints. The study aims to understand the perspectives of teachers and principals on planning and organizing school-company interaction. To do this, content analysis was used in this qualitative study. The data were collected via semi-structured interviews with school teachers and principals, involving a total of 35 people working in basic education. The findings of the study show that principals and teachers intentionally select long-term cooperation methods to meet the aims of entrepreneurial learning. On the other hand, teachers that have chosen to apply short-term school-company cooperation methods have highlighted the ease of these methods rather than learning. Finally, our findings suggest that planning and organizing entrepreneurial learning would benefit from school-level commitment where collaboration between teachers and between teachers and company representatives is valued. We believe that would lead to more satisfied teachers and longer-term school-company cooperation, and also believe that short-term school-company cooperation methods would better meet the aims of entrepreneurial learning.

1. Introduction

The recent report of Innovation Cluster for Entrepreneurship Education (ICEE) [1] indicates quite clearly that students' entrepreneurial learning benefits from a long-lasting entrepreneurship education experience. While many short entrepreneurship education events may cover learning for entrepreneurship and about entrepreneurship, only long educational interventions also consider the concept of entrepreneurship through entrepreneurship itself [1,2]. This suggests that through genuine long-lasting participation in the entrepreneurial process, a student would be able to gain the knowledge, attitudes, and skills needed for entrepreneurship. Surprisingly, the research on entrepreneurship education has barely touched on the issue of long-lasting entrepreneurship education methods [3]. While Johansen's report [1] focused mostly on students' perceptions of their learning, teachers' perspectives on entrepreneurial learning and especially on the organization of the entrepreneurial learning have been understudied. In this study, we focus on one important part of entrepreneurship education, namely entrepreneurial learning. In particular, we aim to understand schoolteachers' and principals' perspectives on planning and organizing entrepreneurial learning in various school-company settings.

Multiple studies on entrepreneurship education have argued for the importance of entrepreneurship education in a real company environment [4–13]. Cooper et al. [4] present the continuum of experiential

learning in entrepreneurship education and suggest that deeper learning occurs as a student's level of involvement in an entrepreneurial activity increases. From this perspective, any real-life experience cannot be valued in the same way as an equivalent level of learning, but its benefits do depend on the way that real-life experiences are organized. However, organizing real-life experiences seems to be a challenge for teachers [3,4,14,15]. Author et al. [16] in their study on paradoxes in school-company interaction show how teachers struggle with the plans, implementation, and different outcomes of real-life experiences. They suggest that teachers' perspectives on entrepreneurship, their competencies for interaction with companies, and the high standards that teachers set for these educational practices strongly affect the solutions they choose.

Cope and Watts [14] introduced the concept of entrepreneurial learning, referring to how entrepreneurs learn and how they learn best. Over the years, entrepreneurial learning has gained ground in research and according to Pittaway and Thorpe [17], the key is the teachers using pedagogy that connects students to the world of entrepreneurs. Kickul et al. [7] state that students can 'go real, go deep, get feedback', referring to real company knowledge and a real company environment. Neck and Greene [18] claim that students benefit from doing and then learning rather than first learning and then doing, as young students may lose interest when they must learn about something that is unfamiliar or abstract.

Connection to real-life cases and an authentic enterprise environment in entrepreneurship education are emphasized and requested by many researchers [9,10,19–23]. For example, Roehl et al. [24] call for a learning environment that allows students to participate actively in the learning process. Active participation in entrepreneurship education provides working-life skills and greater entrepreneurship intentions for students [25,26]. Jones and Iredale [6] note that it is worthwhile for students to make mistakes in a safe context and that this contributes to learning. According to Powell [27], students are more involved in learning outside school than in a traditional classroom setting.

We suggest that understanding the requirements and processes related to the organization of school-company interaction is crucial if we are to promote students' entrepreneurial learning in real-life contexts. Consequently, this study aims to understand teachers' and principals' perspectives on organizing school-company interaction. The research question is 'How do principals and teachers experience school-company interaction and the organization required to make entrepreneurial learning take place?'

In this study, we use the Cooper et al. [4] study as our starting point. They [4] utilize the following as factors for obtaining in-depth learning of entrepreneurship education: (i) teachers' educational technique, (ii) students' degree of interaction with company representatives, (iii) proximity to entrepreneurs as a source of students' learning, (iv) students' opportunity for questioning during their entrepreneurial situation and (v) students' involvement. We agree with their approach, but aim to take a step towards teachers and principals and therefore leave students' views in the background. This paper uses the modified table (Table 1) to describe above-mentioned current entrepreneurship education techniques to meet our focus, which is understanding the requirements and processes related to the organization of school-company interaction. Therefore, we added columns titled "People involved from school" and "Duration of interaction". Cooper et al. [4] model has elements describing how students interact with entrepreneurs (in the original model "Proximity to entrepreneur as the source of learning" and "Opportunity for questioning regarding the entrepreneurial situation"). In our modified model these aspects are included in a column titled "Students' involvement". The modification of Cooper et al.'s [4] model allows us to analyze the teachers' position in a new light as the central operator making the learning possible.

Table 1. Entrepreneurship Education in cooperation with companies (Modified from Cooper et al. [4]).

Education Technique	People Involved from School	Degree of Interaction and Teachers' Roles	Duration of Interaction	Students' Involvement; Depth of Learning
Partnership	Principals, all teaching staff, and students	Intense Entrepreneurship embedded in school program	Class-company relationship lasting several years	Extremely high, students at the left of the learning process
Mini-company	Teacher with students	Intense Companies as advisors in students' businesses	Usually one School year	High, students participating as entrepreneurs
In-company project	Principal, teacher with students	Intense Several student-company meetings	From a few weeks to semester	High, students contributing to the company
Company visit	Teacher with students	Medium Activity relies on the teacher	A few hours, half a school day	Moderate, possibility for discussion and questions
Entrepreneur in class	Teacher	Medium Activity relies on the teacher	Usually One lesson	Modest, students as listeners, may have the chance to ask questions
Online session	Teacher	Low Teacher-led	One lesson	Low, face-to-face connection via internet, possible to ask some questions

The highest level of real-life experiences, longer-lasting school-company partnership models (Table 1) are considered to be somewhat challenging to organize, yet also fruitful and useful for students and teachers [3]. For partnership models, more or less formal agreements are important where both the partnering company and the school representative agree on joint activities and aims. Ruskovaara et al. [28] suggested long-term development projects, mentoring, sponsorship, and visits as useful partnership practices. Understandably, those practices require different timeframes for planning and implementing. Long-term cooperation includes recurring visits, cooperative projects, and different partnerships that give students the opportunity to participate in some company functions.

Mini-company exercises are shorter than school-company partnerships (Table 1). These are projects where students create a real company that operates, for example, for a single school year [29–32]. The students take different roles in their company, and learn idea generation, business planning, marketing, budgeting, and selling, among other things [12,33,34]. The mini-company is created by a group of students who thus also learn team-working, communication, management, and leadership skills. According to Mwasalwiba [35], these are also the most common course contents in entrepreneurship programs. Further, according to Powell [27], students' self-selected and self-directed experiential activities give them great experience in dealing with uncertainty.

Students learn through on-site experiences while participating in different projects organized together with companies [3,5,6,15,17,19,25,36,37] (Table 1). In the field of social entrepreneurship, this form of learning is also called service learning [38,39]. These in-company projects typically last from a few weeks to a whole semester, and companies may organize diverse assignments for students. Activities outside the classroom, and real-life connections are highly valued by students and educators [4,40,41]. Further, students may also be encouraged to come up with solutions to company challenges where they use their imagination and creativity and connect elements from different school subjects as a solution [35,39,40,42].

Company visits are usually fairly short occasions, each taking a few hours [3]. They provide an authentic environment where the students can see, feel, and get in touch with the real-life corporate

world [4]. The downside is that students' opportunities for learning are only moderate, as the visits follow certain predetermined schedules. Even so, there may be some room for discussion and questions during company visits [3] (Table 1).

The entrepreneur in class option means that a representative of a company visits students and gives a presentation about the enterprise [17,18,35,43]. Students listen and remain rather passive except for a possible occasion to ask questions (Table 1). The visits are quite short, usually one lesson. Online sessions use the same teaching technique as if the entrepreneur were in class, the difference being that a company representative has an online connection with the school class through which they discuss company activities. Students may also be asked questions about the companies [17,44].

While real-life learning has plausibly been covered in earlier studies, less is known about what teachers should do to enable entrepreneurial learning. Some researchers respond to this by pointing to pedagogical approaches. For example, Cheng et al. [45] as well as Smeets and Mooij [46] note that entrepreneurship education stresses the importance of methods that put the learner at the center. The other route has been to focus on entrepreneurship education practices and their implementation. These practical solutions have included, e.g., broadening the teaching and learning environment by completing stand-alone company visits that take a couple of hours [8,42,43,47].

There is still considerably little knowledge about long-term company cooperation, during which students could get to know the diverse activities in the partner companies and participate in their joint projects [5,15,22]. These long-lasting processes would have the best learning benefits [1] and would facilitate the students learning by doing and being entrepreneurial [48].

Planning and Organizing School-Company Interaction

Interaction with companies requires planning and preparation, as it usually means changes to the normal lesson schedule. Schools create their curricula for one year at a time, which include guidelines, objectives, and events for the coming year [49]. A curriculum also should include functional lesson planning in order to create meaningful learning [50].

When planning a new school year, the teaching staff is expected to maintain a balance between different subjects, whilst also taking the main subject characteristics into account. A plan should deal with different ideas with the same level of importance [49], although difficulties can arise due to the different fields, characteristics, familiarity, and know-how of the staff. For school-company interactions, planning includes determining the time resources for interaction, negotiations with other subject teachers regarding students' timetables, and outlining the preparations for and objectives of the upcoming interaction. In practice, similar demands have to be met for both short company contacts and long-term cooperation, including by considering preplanning, safety, a budget, teachers' skills, time, snacks, and chaperones [51].

The school principal has a key role in the planning as well as in the implementation of these plans, especially in cases of long-term cooperation [52–54]. School-company partnerships and in-company projects require commitment from the school. These methods may require the school to organize the schedules, which could be impossible for individual teachers. The principal's key tasks are to lead organization and coordination [55,56], lead response development, and provide a long-term view of this engagement [57]. At the same time, the principal should create a positive learning attitude, be inspiring and supportive for teachers, and manage new collaborations with other agencies that serve children [52]. The principal can also be a motivator [57] and enabler when students are interacting with companies. The learning environment for this type of interaction changes from a safe classroom to an unfamiliar place, and teachers should know that they have the principal's support in case the results are not very successful [52,58,59].

The different school-company interaction techniques require different amounts of planning and organizing. According to Sommarström et al.'s [3] study, the time horizon for planning and organizing the interactions with companies should be aligned with expected learning objectives. School-company partnerships, mini-companies, and in-company projects are intense and require teachers' active

participation in the interaction (Table 1). However, responsibility for the interaction is shared due to its nature, with principals, peers, companies, and students playing a part as well. It seems that while requiring planning, agreements, and organizing, the long-term interaction models provide students with excellent possibilities for entrepreneurial learning in real-life contexts. The short-term interaction models, including company visits, entrepreneurs in class and online sessions, in turn, seem to rely heavily on the teacher's personal activity. The models also require planning, agreements, and organizing, but seem to offer less for the students.

Entrepreneurship has not reached the same status as other subjects, since it seems to be a missing element in curricula [40]. The lack of legitimacy may lower teachers' interests in school-company interaction, as the introduction of new pedagogical approaches may make teachers feel professionally vulnerable [16,60]. Teachers' enthusiasm for and skills in outside-classroom education are also influenced by their previous relevant training and peer teacher mentoring [61]. With no collaboration between teachers [61] regarding company cooperation, these interactions are more difficult to organize. It particularly energy-consuming to negotiate opportunities to interact with companies. Due to the extra work needed to arrange school-company interaction and outside activities, teachers' personal interests and backgrounds are decisive factors in whether these events are organized or not [43]. Furthermore, as the predictability and control of the teaching situation decreases in events outside school, teachers may choose to stay in the classroom rather than doing outside activities [15].

2. Materials and Methods

This study applies a qualitative methodology and thereby utilizes a conceptual framework [62], since the focus of the study is to understand teachers' perspectives [63] regarding the interaction between schools and companies. The strength of qualitative research is that it provides for understanding a phenomenon as it is seen by participants [64,65]. This study involves human behavior of the school personnel across subjects within schools and the building of bridges between school classes and companies, meaning qualitative methods are preferable [66,67]. The data were gathered with semi-structured face-to-face interviews, with teachers and principals providing information on the basic education level in their schools.

In the analysis, qualitative content analysis was used as a methodological tool. It is useful when a study aims to explore and deepen understanding of human experience that can be multifaceted and varied in description, depending on the respondent [68]. In the initial analysis, the data concerning teaching approaches in entrepreneurship education and the degree of interaction with companies were closely and carefully examined and compared with corresponding explanations [69,70]. In the next stage, the categories were divided in content-related subcategories, modified from Cooper et al. [4] according to education technique, that is, partnership, mini-company, company project, company visit, entrepreneur in class, and online session. The next step was the analysis of the organization, the processes, and the requirement needed to organize these education techniques, with special focus on understanding which people from the school were involved, what was the teachers' roles, and the degree and duration of interaction. The similarities and differences in the statements were compared. Finally, as a result, each technique and respondents' perspectives on planning and organizing entrepreneurial learning are presented.

Sampling and Participants

The study was conducted in Finland. The Finnish national curriculum recommends but does not require schools to adopt entrepreneurship in schools' teaching programs [69]. Hence, Finnish schools can choose whether to include entrepreneurship education in their curriculum and, if so, in what way and to what extent. Thus, the alternatives are either to have entrepreneurship embedded in the teaching program across subjects, as a separate subject among other subjects, or not to adopt it in the school program at all. The Finnish National Board of Education exhorts schools to cooperate with companies for any of the subjects that they teach, even though entrepreneurship is not a compulsory subject in

Finnish schools. The Finnish National Curriculum recognizes a few transversal competence areas, one of which is working-life competence and entrepreneurship [71]. Further, the Ministry of Education and Culture [72] provides some brochures that encourage the teaching of entrepreneurship and suggest how to both start and proceed with entrepreneurship education. The schools have autonomy to make local decisions [71].

The data comprise interviews with a total of 35 people (24 teachers, 11 principals), all from different schools, working in basic education with students aged between 13 and 16. In the Finnish schools, the principal/school manager's duties involve leading and representing the school, but also teaching some lessons in a subject in which he/she has a teaching background. The principals interviewed in this study took the role of a teacher when discussing how to include entrepreneurship education in teaching practices and the role of a principal when discussing development and how to embed entrepreneurship education in school practices. Out of the respondents, seven people had no contacts outside school; 21 people made visits to cultural places, non-profit communities, or companies when an opportunity was offered; six people had developed long-term cooperation with companies. The respondents were selected from schools both in urban and rural areas across Finland in order to get data that were as comprehensive as possible for this study. The duration of the interviews varied from 17 to 81 min depending on how long and how detailed the respondents' descriptions were. The interviewees used their schools' home language – either Finnish or Swedish. The interviews were recorded and transcribed in their original language, but in this study, the quotations have been translated into English to facilitate readers' understanding of the respondents' statements.

The interviews used a pre-made framework of questions. These included questions about interaction with companies, planning activities, implementation of interaction, teachers' collaboration, resources for delivering lessons outside the classroom, practical arrangements, and learning objectives. In semi-structured interviews, it was possible to ask additional questions in order to obtain a comprehensive picture of practices applied by principals and teachers in entrepreneurship education. The interviews started by asking about company visits and cooperation with companies. Additionally, the respondents were asked about visits to non-profit organizations in order to be able to outline the school's general practices regarding activities outside of school.

3. Results

This section presents the outcomes of the study. We aim at describing the education techniques, activities, and interactions of different stakeholders used in school-company interaction and present respondents' perspectives in planning and organizing these techniques from the viewpoint of entrepreneurial learning. We start with the long-lasting interactions and continue to short-term ones.

3.1. Partnership

Teachers' and principals' experiences about partnerships brought out some interesting insights. First, the motivations for engaging into partnerships with companies seem to center around student learning. That is, principals and teachers indicated that they had weighed up different forms of company cooperation, and selected partnerships due to the better possibilities they provide for entrepreneurial learning. One of the respondents put the thought into words by saying:

> Of course, we could just make company visits, but I think the students would get a less
> structured image of the business world or a company's function. I think it is better to have a
> three-year partnership with a company to discover how it works. (Interviewee 9, principal).

Second, even if partnership is the main model for school-company cooperation, principals and teachers find the organization of partnerships to be rather easy. This finding may arise from the shared responsibilities related to negotiating, planning, organizing, and following the partnership. The respondents explained that the principal, class teacher, and students choose possible partners together. The findings are in line with previous results by Leffler and Svedberg [8], who suggested

students being in the key role to impact the choice of a partner for long-term cooperation. The shared responsibilities expand to the actual instruction during the cooperation and concern the joint activities between teachers. One of the interviewees put this sentiment in words:

> I think that teamwork, that is collaboration across subjects, will increase in the future. For example, the agreement on mathematics, study counselling, and other reporting tasks when the students may need help from different teachers provides an important value add. (Interviewee 28, principal)

While shared responsibilities lower the threshold for partnerships, the principals seem satisfied due to noticing that partnerships could be a way to increase collaboration between subject teachers. As a result, they can develop the pedagogical practices in their schools and the embeddedness of entrepreneurship education in the school program. Furthermore, embedding partnerships in the school program supports the legitimacy of entrepreneurship education for teachers [16,58]. Our findings would seem to imply that teachers feel comfortable to continue in partnerships once they get involved in them.

3.2. Mini-Company

The creation of a mini-company is a long-term method for entrepreneurship education. Usually it lasts a period of one school year, the start-up takes place in the fall, and the business will be liquidated in the spring before the summer holidays. The availability of mini-companies depends on school-level decision-making, which affords the method credibility and legitimacy. Mini-companies may be available for students to choose as optional studies. It seems that the method is popular among the students. One of the respondents listed the reasons why entrepreneurship is popular and explained:

> Half of the ninth-graders every year choose entrepreneurship. There are many reasons: it is an interesting subject, has an excellent teacher, and the students know that they may realize their ideas. They start all kinds of companies; everything from car washes to bakeries. They have a café here in the school, a photography shop, and a lot of small companies. (Interviewee 5, principal)

For teachers, the mini-company method appears to be a positive experience as the participating students are genuinely interested in entrepreneurship, they are looking for intense interaction with businesses, and are thus highly involved in the learning. Additionally, teachers stated that the students got extra assistance, as most of the student teams had chosen to have adviser companies to help them [12]. One teacher commented on this as follows:

> Companies help us as much as we want. (Interviewee 33, teacher)

The students' high level of commitment to the method increases teachers' engagement in the program as well. As for students, there are indications that the mini-company method enhances their adeptness to learn how to work in teams. Each student has a role in a team and is responsible for a certain function area [12]. However, several teachers have observed that the students often work together without distinguishing between the responsibilities for the different tasks in mini-companies. Further, the mini-company initiative is a well-established program in Finland; there is a national organization to help teachers in embedding the program as well as ready-to-use materials for teachers. The texts are thus already implanted in the school curriculum and repeating the planning and organizing aspects annually may be reasonably easy for teachers [40,49]. This may increase the teachers' positive conception towards the mini-company initiative.

While most teachers noted that their students were active in creating mini-companies, they also noticed them sometimes needing help with deciding what business to create and with its start-up process. The teacher then has a key role helping and supporting students with their companies [30,34]. In any case, the teachers regard the students' learning through entrepreneurship as a very positive model [1].

3.3. Company Project

Company projects take a few weeks up to a few months, depending on the type of project. They are company-ordered projects that students do for the client company. In this paper, we focus on two major findings from the teachers' experiences with company projects.

Finding 1: The teachers show a good level of pedagogical understanding of entrepreneurial learning. They emphasize their roles as facilitators, staying in the background and letting the students make their own mistakes [6]. Projects may cause surprising situations that the students must manage. In this context, company projects have a close resemblance to the way that entrepreneurs learn [14]. The teacher assists and helps the students but must remember not to do the students' work for them. In our opinion, the facilitating company projects do not seem to cause hardships for teachers. Instead, we feel that once teachers have learned the idea of letting the students learn by doing, they find their own work to be much easier. One respondent explained the process as follows:

> The students do not just work for me, their teacher, but there are the client companies with whom the meetings are held and decided what kind of press release would be written and so on. The things must be done before the deadline. Sometimes the atmosphere is chaotic, but I as a teacher must sit on my hands and not do anything, not even make any telephone calls, because the students have to cope with the situation, and the next time it will be easier. I could do it in a moment, but students have to have the opportunity to learn. (Interviewee 40, teacher)

Finding 2: The teachers commented on value creation for the clients. In this context, teachers talked fluently about companies as clients expecting specific services, problem-solving, and sticking to the schedule [4,39]. They emphasize issues such as value creation, open endedness, real negotiations with the client companies, carrying out orders, and keeping to deadlines. Examples of orders given by the respondents were decorating a shop window, providing music entertainment at a company party, or carrying out a survey for the client customer. Teachers reported that interaction with client companies is intensive, and that it is real work offering students the chance to develop realistic problem-based situations [36].

3.4. Company Visits

Teachers share a fairly negative view on company visits. Their negative experiences are founded on two main points. First, organizing company visits seems to *depend mostly on teachers* and their interest in taking students outside school [4]. Some of the teachers noted that they let the students decide which company to visit. Nevertheless, most respondents who had organized visits were of the opinion that there would be no visits unless they personally organized them. Some of the teachers indicated that planning the actual program in a company was especially difficult. Keeping this in mind, the teachers were expecting competent help from the companies. One of the respondents stated that:

> It is good to have a proficient company person plan something concrete for the students; otherwise there is no reason for a visit if we are just going to listen to a presentation about sales figures and other similar information. (Interviewee 18, teacher)

As the excerpt above shows, several teachers pointed to an interest in getting something 'concrete' instead of just hearing about business facts. It may be assumed that these teachers are looking for more intense interaction from the visits. This finding is the second reason for negativity; teachers feel that company visits offer too little for the students. The disappointment is related to two main issues: (i) the company representatives' competencies for dealing with students, and (ii) the students' limited opportunities for interaction with the companies and their representatives. The problems of dealing with students may derive from communication difficulties between a teacher and a company representative when planning a suitable program for the students [47]. We do not know how company representatives find company visits, and moreover, there may not be a clear understanding of who

needs to plan and organize the visits, that is, what is the role of a company representative and what are the roles of a teacher and students. According to the respondents, company visits follow a certain pattern:

> They used to tell us about what it is like to work there and so ... then we do the walk-through and see the production section and the packing section if they have it. It takes a few hours. (Interviewee 13, teacher)

Teachers commented that a well-planned presentation is informative and leaves time for questions that have arisen during the presentation. That would be the moment when students have the possibility to be active, ask questions, and interact with the company. Usually the latter half of the visit is taken up by a walk-through when students can see the activities in a company. Some of the respondents described the walk-throughs as the part that is most appreciated by the students. This is understandable and in line with what Cooper et al. [4] highlighted: Students like to have a chance to see, touch, and feel what is happening in the world out there. Students' involvement in this learning process varies from low to moderate, and they may have an opportunity to ask questions about a company presentation [22].

3.5. Entrepreneur in Class

Organizing real-life experiences constitutes a barrier to teachers. In this context, inviting entrepreneurs to the classroom sheds light on an interesting perspective on entrepreneurship education. Neck and Greene [18] suggest that some teachers address entrepreneurship and working-life skills in the classroom setting by inviting a company representative to the school. Our data shows that teachers argue for the choice of method based on how easy it is to organize instead of how it leads to entrepreneurial learning. The respondents noted that it is easier to invite a guest speaker to come to the school than taking the students outside the school. One principal explained the trade-off as follows:

> It is much easier when we invite a person to come and tell us about their profession instead of us trying to visit a company, which is not at all easy. Companies are quite restrictive about welcoming groups and it is also difficult to motivate and persuade them. (Interviewee 2, principal)

The excerpt above shows yet another obstacle for organizing more challenging learning experiences. Some principals and teachers reported it being difficult to find companies that would welcome them for a visit. This difficulty reveals two things: first, the teachers and principals may lack the skills to communicate with companies and as a result, the companies turn down their requests for visits. If this is the case, training could be a way to address this issue. The second reason for companies turning down requests for visits could be related to the companies' higher expectations for value creation—that is, they would not be interested in superficial visits but rather in more in-depth interaction and cooperation.

Some teachers gave examples about their practices of inviting several companies to the school on the same day. As in the case of company visits, organizing these 'entrepreneur panels' relies on teachers, while students remain quite passive. Students may be offered opportunities for short discussions and for asking questions to the invited company representatives. One of the respondents spoke about the experiences of an entrepreneur panel as follows:

> In the entrepreneur panel, the idea is that we inform our ninth-grade students (the last year in the school) which companies are coming to participate in the entrepreneur panel. The students in small groups decide what they want to know about the companies. Then, in the auditory panel, they ask their questions. The questions can be of a general nature, but may also be directed to one particular representative. In that way, we want to bring out what the students want to hear from company representatives. (Interviewee 17, teacher)

Typically, these interactions are short and remain superficial for most of the students. The students' involvement remains low to modest, but they do have the possibility to communicate with the

representatives. Not all company representatives are able to communicate at a level that the students easily understand regarding the topic and business vocabulary. However, according to Pittaway and Thorpe [17], the key to entrepreneurial learning is to use a pedagogy that draws students closer to the world of entrepreneurs. Markedly, the connection between students and entrepreneurs is often very limited.

3.6. Online Session

Langhorst [44] described an online session as a connection with a company via the internet. The students are in the classroom and communicate with a company using video equipment that allows two-way communication between students and companies [44]. In our data, the teachers noted that online sessions do not incur transport costs. One of the respondents listed the positive elements of online sessions:

> A little less stress with transport, because the students can stay in the classroom. And especially, no need to apply for passes and permits in the factory area. (Interviewee 22, teacher)

Organizing the online sessions is purely the responsibility of the teachers. They set the date and time for the online sessions and they also prepare the session contents. It seems that the preparations need to be well thought-out in advance: due to the nature of the interaction, it is advisable to prepare the questions in advance that are to be asked in the session. Here, the teacher may allow the students to participate in drafting the questions, even if this might cause problems. One of the teacher respondents said he felt some of the questions were too difficult to answer outright and helped the company representatives by sending the questions to them before the session, as he explained in the interview:

> We sent the questions to the company in advance so they were able to answer correctly. (Interviewee 22, teacher)

Online sessions are typically very short—from half an hour to an hour—so opportunities for in-depth student learning inevitably remain very low.

4. Conclusions

In our view, these findings clearly embrace the benefits of long-term cooperation with companies. Teachers with long-term company-partnerships seem to be satisfied with the cooperation. They emphasized that the length of the partnership helped with intensifying the interaction [1], which in turn provides students with excellent experiences in a real company environment [7,13]. The partnership structures enable learning process adjustment, which gives the teachers more autonomy. Teachers note that any interaction program does need to be the same for every class but instead depends on students' interests and companies' wishes. Students can acquire an in-depth understanding of entrepreneurship by doing different tasks [12].

The quest for entrepreneurial learning has been going on for more than two decades. As stated in the Introduction, previous research has shown rather clearly what the aims for entrepreneurial learning should be, but discussion seems to be scarce on understanding the barriers or incentives involved in carrying out the pedagogical solutions that would enable entrepreneurial learning. In this study, we have examined the cooperation of basic education schools with outside partners, especially from the viewpoints of principals and teachers. The focus of our analysis has been on the principals' and teachers' experiences on the organization of short- and long-term interaction. The findings of this study indicate that we need to understand the perspectives of these people responsible for the pedagogical solutions in the schools if we are to promote students' entrepreneurial learning in real-life contexts.

The results of our study are somewhat surprising: First, principals and teachers intentionally select long-term school-company cooperation because they aim to promote students' entrepreneurial learning. This became more evident as the respondents argued for the selection of partnership approaches to school-company cooperation. Cooper et al. [4] suggested that deeper learning increases

along with student involvement. Our study seems to confirm that principals and teachers are aware of this relationship and they select long-term cooperation to meet their learning targets [1,30]. The long-term methods for school-company interaction require school-level commitment to support the implementation of long-term cooperation. School-level commitment to school-company interaction enables shared responsibility, which in turn facilitates the required planning and organizing. Additionally, owing to the need for school-level commitment as a prerequisite, the legitimacy of this method is high, which serves to enhance the teachers' willingness to engage in the activity [16,60]. We would like to regard this situation as a virtuous circle, with the different aspects affecting each other positively and leading to high-level performance on the whole. Further studies need to be done to understand the routes of engagement, how schools might enter the virtuous circle, and what kinds of critical steps should be included in its development.

Second, unlike with the selection of long-term methods, teachers argued for selecting short-term methods from the perspective of easy implementation. If their students lack learning-based motivation, then teachers opt for short-term school-company cooperation. Still, on the basis of our analysis, teachers are not satisfied with this type of school-company cooperation because they consider it to be not worth the value gained. Teachers perceive that students' limited opportunities to interacting with businesses and the low state of preparation of the business to participate in the planning of the cooperation lower the value of the experience. Moreover, entrepreneurship education resourcing is a major concern for teachers [16] and there seem to be numerous challenges: planning and organizing collaboration with companies is difficult, it is time consuming, transport is an issue, it is hard to get students out of the school, or the company could turn the visit down. Further, it may be unclear who needs to plan and organize the school-company cooperation, and what the roles of company representative, teacher, and students are. Interestingly, it seems that teachers' difficulties in short-term interaction are not so much founded on their own competencies (or lack of them) but rather on the incompetence of others. Earlier studies [43,61] have suggested that teachers' lack of training in entrepreneurship education is a decisive factor in determining their entrepreneurship education activities. We recommend that further studies need to be done focusing on the effects of teacher training on entrepreneurship education.

Third, it seems that teachers' experiences of extra work and hardships related to school-company cooperation are not related to the intensity of the cooperation model but more likely to their experience of being left alone to make decisions and organize the events. In our data, teachers seem to be happy for any help they can get in the planning and organizing of events. Rebar [61] suggested that cooperation between teachers would positively affect the organization of school-company interactions. Our findings follow what is indicated in Rebar's study and extend this to all possible cooperation, including collaboration between teachers, students, and company representatives. That would consequently also enhance all the key players' networks and connect students more closely to the world-out-there [4,17]. Lacking these possibilities for cooperation, teachers feel that they miss the resources for higher-level school-company interaction and end up selecting short-term, momentary cooperation forms that offer less for students. It is evident that cooperation among peers would positively affect the use of longer-term school-company interaction. More research is needed on the routes to increase teachers' joint activities.

We acknowledge this study has limitations related to perspective, research method, and research context. In terms of research perspective, our focus was on teachers and principals, not on company or student experiences, nor on student learning aspects in school-company cooperation. In that context, our study does not indicate whether the school-company cooperation has been successful in terms of learning, or how students or company representatives have perceived these cooperation events. Having noted this, further research is recommended on these areas. From the perspective of research methods, our study has followed a qualitative methodology. Therefore, the results of our study can merely indicate possibilities. However, we feel that our study provides good opportunities for future quantitative studies on school-company cooperation and its organization. Finally, the data have been

collected from a single country, which limits the generalizability of the results. Therefore, future studies should contain larger data sets in order to achieve insights from an international perspective.

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Publication IV

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The School and the Teacher Autonomy in the Implementing Process of Entrepreneurship Education

Article

The School and the Teacher Autonomy in the Implementing Process of Entrepreneurship Education Curricula

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Abstract: The purpose of this study was to examine the utilization of the opportunities offered by teacher and school autonomy in entrepreneurship education with companies involved. The research question was: How do schools and teachers use their autonomy in the implementation of entrepreneurship education? This research question was complemented by two additional research questions that were: How does teacher autonomy benefit the implementation of entrepreneurship education? and How do teachers want to utilize autonomy in teaching? This qualitative study used content analyses and the data were collected via semi-structured interviews, with a total of 35 people from 23 schools in Finland. The findings show that school and teacher autonomy brought excellent results in implementing entrepreneurship education and, in these cases, the message of the curriculum worked as fuel for the activities carried out by the school and the teachers. At the same time, some groups of schools and teachers disregarded the message of the curriculum for a set of reasons. Hence, the educational authorities nationally and locally need to consider the balance between autonomy and the core curriculum and weigh the pros and cons of the situation. The study suggests further research on teachers' perceptions of the relationship between the curricula expectations and implementation of entrepreneurship education.

Keywords: entrepreneurship education; autonomy; teacher; school–company interaction

1. Introduction

The objective of this article is to analyze school and teacher autonomy and its effects on the implementation of the curriculum, especially on the expectations set on entrepreneurship education. School autonomy is a form of decentralization in which schools can decide on some issues related to teaching and education [1–3]. School autonomy depends on and is influenced by national legislation, relationships with the authorities, and partnerships with educational management organizations and community-based organizations [4,5]. In other words, the national curriculum allows for deviations, and schools can therefore determine their own actions within those areas. In addition to this, municipality-level authorities can influence school autonomy by means of their own regulations [6,7].

There is very little research on the role of autonomy on the implementation of entrepreneurship education. This is surprising because, while the curriculum prescriptions seek to unify schools' attempts to implement entrepreneurship education in the whole school system, the autonomy of schools and teachers is regarded as important features of successful schools. In this study, we turned our attention to the autonomy of teachers in basic education, that is, teachers working with youth of 13–16 years old, and examined how entrepreneurship education is carried out. The main research question was: How do schools and teachers use their autonomy in the implementation of entrepreneurship education? The main research question is complemented by two additional questions. The first additional research question was: How does teacher autonomy benefit the implementation of entrepreneurship education? The second additional research question was: How do teachers want to utilize autonomy in teaching?

In this study, the data show three basic ways in which the informants used their autonomy in regard to entrepreneurship education: exceeding the expectations set by the curriculum, working on an equal footing with the curriculum, and disregarding the curriculum.

The paper makes two important contributions to the current literature on entrepreneurship education: first, it shows that school and teacher autonomy has leverage concerning the implementation of entrepreneurship education. This seems to be the factor that allows the schools to behave opportunistically, follow their own concepts of implementation, and come up with local solutions for entrepreneurship education. Second, autonomy seems to be a force related to both excellent results and no results in the implementation of entrepreneurship education. Even more interestingly, schools and teachers that followed the curriculum closely and fell in between the two autonomous groups did not talk about their autonomy. It seems that, for the normal, expected outcome, the bare concept of autonomy seems futile. These results have multiple implications on the research of entrepreneurship education and on the promotion of entrepreneurship education.

The structure of the article is as follows: First, a presentation of the conceptual framework addressing the concept of the curriculum and teacher autonomy. Second, we briefly highlight how entrepreneurship education is positioned in the curriculum. After that we present the methodology for this study, as well as data collection and analysis. This is followed by a presentation of the findings and a discussion. Conclusions complete the study.

2. Literature Review

School autonomy is considered to work best and be conducive to student achievement in well-developed systems that hold schools accountable for their actions [8,9]. Hanushek et al. [10] agree, stating that accountability and the development of the educational system are considered to be prerequisites for autonomy. Accountability can have many meanings but, within the context of the school, it refers to school personnel being responsible for their actions [1,11,12].

Teacher autonomy is a complex concept, as the literature recognizes a range of conceptualizations [12–17]. Teacher autonomy can appear as the possibility to increase one's own knowledge and skills through development and rigorous training [14,16]. It is common for many teachers to treat autonomy as a synonym for independence, which allows teachers to decide about their teaching in isolation from others [15]. Teacher autonomy is also regarded in literature as educational autonomy; that is, teachers have the possibility to prepare their lessons independently, choose textbooks and topics to be taught, select teaching methods, engage in time planning, and assess and evaluate students [5,15,17].

Research on teacher autonomy shows that teacher autonomy provides benefits, such as better learning outcomes of learners [1,18,19], motivation and job satisfaction of teachers [12,16,17], and flexibility in teaching and learning [16]. Hanushek et al. [10] argued that, at best, autonomy allows teachers to use localized knowledge to improve performance and cooperate with outside actors in emerging opportunities, but it can also cause local schools to strive for goals beyond general standards [10].

Teacher autonomy is regarded necessary for schools to achieve learning success [13,20]. Autonomy empowers teachers, supporting their work satisfaction and professionalism [21]. In the framework of teacher and school autonomy, it is understandable that entrepreneurship education varies among schools. While some schools have disregarded entrepreneurship education, many schools have embedded entrepreneurship education in their school system, e.g., involving outside companies to provide students with a realistic picture of business life.

The concept of autonomy has been well covered in entrepreneurship education research [22–26]. These studies have, however, concentrated principally on students' autonomy as a learning outcome of entrepreneurship education. Entrepreneurship education in cooperation with companies gives students the opportunity to actively participate in companies' activities. School–company cooperation gives students the opportunity to see,

touch and feel [27–30]. Chiu [31] studied the Nordic model of entrepreneurship education and raised educational institutions' full autonomy and flexibility in the implementation of entrepreneurship education as a special feature in Nordic countries. The benefits of autonomy were related to higher teacher commitment due to the decentralized system [13,31]. However, Chiu [31] noted that the high level of autonomy leads to less ability of policy makers to monitor and control the implementation of entrepreneurship education. While school and teacher autonomy have been recognized as beneficial features for entrepreneurship education, a wide range of research has suggested that the norms and expectations set by the curricula and school and teacher autonomy are constantly seeking balance [14,32,33].

Schools must meet the requirements of the core curriculum regarding the subjects and their scope. The Finnish core curriculum recommends schools include entrepreneurship and working life in their programs [34]. As a cross-curricular theme, entrepreneurship education should be embedded in all subjects and also in the operating culture of schools, but it can also be an optional subject. Nevertheless, the Finnish core curriculum clearly describes seven transversal competence areas that are common to all school subjects; one of these is working life competence and entrepreneurship [34]. This description has a clear message: students should be given the opportunity to become acquainted with working life and gain experience in entrepreneurship and business life. No specific guidelines have been given to schools on how to realize school–company cooperation. Instead, schools and teachers are free to apply methods of entrepreneurship education as they see fit in their teaching programs. In addition, a school can make decisions about the school culture, optional subjects, or other practical issues. As autonomous professionals, teachers can choose their teaching methods. Regarding the cooperation with external partners, schools can make the decisions or let teachers decide for themselves.

In terms of teacher commitment, Bascia et al. [35] suggested that, even though entrepreneurship is mentioned in the curriculum, teachers who are not committed to entrepreneurship education choose to follow the traditions rather than adapt new things in their teaching. In essence, entrepreneurship education can be considered an educational reform. As such, Fejes, Nylund, and Wallin [36] suggested that entrepreneurship education may suffer because of its young age as a curriculum area. Furthermore, Kelchtermans [37] and Foliard et al. [38] suggested that, in educational reforms, teachers may feel professionally vulnerable, and this may lead to abandoning the new pedagogy. This is even more probable if the new concept seems unclear to the teachers [39]. Finally, in terms of cognitive processing, Bergqvist and Bergqvist [40] suggested that, facing a reform message, teachers either accommodate or assimilate it. According to them, accommodation refers to full systematic processing—internalizing—of the message, while assimilation concerns only heuristic processing of the message. In other words, assimilation refers to being superficially aware of the new message without adopting it [40].

While all the explaining factors may have a role in explaining the implementation of entrepreneurship education, this study focuses on autonomy. In this view, teachers are considered as educational professionals who need to have the freedom to tap into the best solutions and approaches to operate with their students [21] (p. 38). This is especially relevant in the case of entrepreneurship education, that often also includes intensive interaction with outside stakeholders, usually companies. Having an outside actor from the corporate world in the education environment is a challenge to the teachers [41].

3. Methodology

3.1. Method

This study applied a qualitative research method [42,43], as the focus of the study was to understand teachers' interpretations of entrepreneurship education in the curriculum, and, in that sense, their perspectives on interaction with companies. Qualitative research enables researchers to examine social and cultural phenomena [44]. In this study, we ensured scientific rigor by applying the Gioia method in the analysis [42,43]. The strength

of qualitative research is to provide an understanding of the phenomena and points of view as seen by the participants [45,46].

The research material was collected from interviews with teachers and principals in basic education in Finnish schools. In Finland, entrepreneurship education has been part of the national curriculum for basic education since 1994. Basic education is part of compulsory education and students are aged between 7 and 16 years. The national curriculum [34] is a guiding document for all schools to follow, and it sets the objectives and core contents of all subjects. In the national core curriculum, entrepreneurship education is described as one cross-curricular theme which needs to be embedded in all subjects and in schools' operating culture. In addition, some schools have decided to offer entrepreneurship as an optional subject. The data included a total of 35 people from 23 schools. The schools were intentionally selected from geographically different parts of Finland, including urban and rural areas. This was done to obtain a rich set of material from a large area and not just from one region. As a result, our study included respondents from 19 different municipalities. Four of the municipalities are large cities with more than 100,000 inhabitants. Six are medium sized towns (50,000–100,000 inhabitants) and the remaining nine municipalities have less than 50,000 inhabitants. Out of the informants, 24 worked as subject teachers in various subjects and 11 as principals. Besides acting as heads of their schools, the duties of the principals also included teaching some weekly lessons.

3.2. Sample

Semi-structured interviews were chosen, as they allowed the respondents to explain their experiences and thoughts and to highlight their expertise. Semi-structured interviews are also flexible and allow more detailed questions to obtain material if something seems unclear in the course of the interview [47]. According to Elo et al. [48], the interviewer must be careful not to steer the interviewees to respond in a desired direction.

A framework for the interviews was constructed in advance. The interview themes are listed in Table 1. The semi-structured interviews were initiated with questions about visits outside school with the students.

Table 1. Interview themes.

1	How many visits are made per school year? How many other visits to, for instance, museums, science centers or other destinations?
2	What other kind of cooperation takes place with outside actors?
3	How do you get in touch with companies? Who takes an active role in arranging cooperation or visits?
4	What are the practical arrangements for the visits?
5	What is the purpose of the visits? How interested is the teacher in this kind of teaching?
6	How is the school work connected to the visits?
7	Which companies are located in the vicinity?
8	How do the classes plan the visits in advance?
9	How do the classes process the visits afterwards?
10	What are the teachers' attitudes to and thoughts about the visits in general?

The questions focused on teachers' experiences of entrepreneurship education, especially school–company cooperation. During the interviews, further questions followed the informants' responses. When selecting the informants, it was ensured that all the interviewees were in fact teachers or principals in basic education and, therefore, were expected to conduct entrepreneurship education. However, it was a deliberate decision not to focus merely on informants who are profoundly familiar with entrepreneurship education. Instead, most of the teachers in the study were not educated to work as entrepreneurship education teachers. For this reason, the data include plenty of variety in terms of experiences of entrepreneurship education. The duration of the interviews varied from 17 to 81 min. The interviews were conducted in Finnish or Swedish, depending on the language used in the school. The interviews were audio-recorded and transcribed

verbatim. For the purposes of this paper, the selected quotations have been translated into English and adjusted slightly to make them more comprehensible in English.

3.3. Data Analysis

To analyze the data, we applied the Gioia method [42,43]. Content analysis is a method for analysing written or verbal messages [49]. Content analysis is a suitable tool for obtaining an understanding of the meaning of communication between the interviewer and the interviewee [50]. Through content analysis, the words, phrases, and statements can be tested [51]. Excel tables were used to organize the data, following the principles of qualitative content analysis [51]. The statements were divided into categories according to their context and transferred to the table, making it possible to distinguish new insights from the categorized data [52].

The data were read carefully several times. In the initial analysis, the informants' comments concerning choices for and against the implementation of entrepreneurship education in cooperation with companies were carefully examined and compared with other corresponding explanations [42,43].

Next, in the second-level analysis, the categories were formed to include issues such as the national core curriculum, school curriculum, school autonomy, teacher autonomy and teachers' practices. Through these themes, an understanding emerged of the opportunities and constraints of entrepreneurship education, as well as further curricula-based interpretations. The categories were further split into more detailed categories. Finally, similar and different statements were gleaned from the worksheet in accordance with comparative analysis. Based on the analysis, the respondents' comments on the extent of entrepreneurship education were categorized into three groups and named as: adopting and adapting entrepreneurship education, following the curriculum, and disregarding entrepreneurship education. The categorized findings are presented in the chapter, illustrated with quotations from the interviews.

4. Findings

The findings of the study seemed to suggest that, as informants, the teachers and principals could be divided into three categories in terms of how they use autonomy related to entrepreneurship education. The first category comprised of the first adopters and adapters of entrepreneurship education, the second group followed recommendations of the core curriculum by making a few visits, and the third disregarded entrepreneurship education through autonomy. The results are explained in more detail in the sections below.

4.1. Adopting and Adapting Entrepreneurship Education

In the data, there were several principals and teachers that explained their experiences of entrepreneurship education vividly. These comments create the first category. One of the informants, the principal in a school where all classes have some cooperation with companies, explained their practices. He seemed satisfied with the system and thus devotedly explained the freedom allowed by the national core curriculum and other authorities [1,53].

> Not all schools have advanced as much as our school. My superiors have given me the approval to do it in this way. Many schools do a lot of activities, but the activities are not as well planned as they are in our school. The others have activities that are more fragmented and random because it is not set in the national curriculum.
>
> (Interviewee 4, principal)

Here, the focus is on the whole school. The principal in the excerpt above was very competitive [20]. He compared his school to others and was satisfied that he can implement his own systematic plan that covers the whole school and has secured success. It seems that the principal sought to strive for goals beyond general standards [10]. Fur-

thermore, the example also highlights the benefits of autonomy as the principal sought to exceed the expectations set by the curriculum. Another approach consists of particular entrepreneurship-focused classes. This means there are classes in each of the grades that have entrepreneurship as an optional subject, and they interact and cooperate with companies. These classes work beyond normal classes and differ from other classes that have entrepreneurship education embedded in other subjects. In this sense, a principal uses their autonomy to organise the teaching in the school independently [41]. The school hours or the number of lessons are the same as in other classes, the difference is demonstrated in the combination of subjects. A principal who works at such a school explained how those classes have been working:

> If I think about the curriculum and these areas of transversal competences, what is clearly highlighted is that during their three-year long school time these classes clearly participate in the competence area of working life skills and entrepreneurship as well as the other competence areas. They will surely have obtained working life skills needed today and certainly in the future. If we read that chapter of the school's operating culture and underline everything we already have implemented, then it is a pretty well-underlined document.

> (Interviewee 11, principal)

The principal was seemingly proud of the accomplishments of her school—the freedom to implement the curriculum created a deep commitment to fulfil all the expectations [21,31]. The principal described the operating culture as inspiring and explained that teachers at school dare to take challenges and start something that may not be crystal clear at the beginning but will be accomplished together with students [15]. In other words, any teacher regardless of the teacher's professional teaching subject is capable to act as a contact person for a host company and develop practices in class-company cooperation. Cooperation is part of the schoolwork for those classes, and it is supported by the principal and colleagues [3,54]. She continued as follows:

> Perhaps it shows that the teachers agree that they should not be the only ones who the students seek answers from, but together they [the teacher and the students] seek answers and find things out. This is good and may on the other hand even be better so. In recent years we have changed our entrepreneurship education, and at the moment teachers in arts, Finnish and religion are responsible for our entrepreneurship-focused classes. In the past, I as entrepreneurship education teacher was responsible for all those classes and had to manage all their projects. I found it pretty heavy going.

> (Interviewee 11, principal)

Hanushek et al. [10] emphasized the teachers' autonomy to use localized knowledge to improve performance. The citation above suggests that the teachers used their autonomy to create knowledge together with their students, turning the learning situation into a socially-constructed process [55]. Innovative teachers conducted projects and made company visits to acquaint students with business and working life [53,56]. They planned the company visits within the timetable of their own lessons as far as possible. Inevitably, this did not work in all situations, and teachers needed to negotiate with other teachers about rescheduling lessons and other issues. They seemed to find it laborious at times, but they were enthusiastic and committed to continue in their own field, arranging company visits [31]. They usually managed to make several visits during the school year, but sometimes the number of visits remained minimal, as one of the enthusiastic teachers put it in words:

> Within entrepreneurship education, we go on a number of visits to companies. It varies depending on how they fit into our schedules and how much I am able to do. And we usually visit companies during the 9th grade [students around 15 years] within the framework of social science. There is a section about entrepreneurship and the curriculum recommends visiting different kinds

of companies as much as this can be arranged. Our visits are in line with the national curriculum and the school curriculum. Let's say we do not make a visit on some school year. In such case, we can say that the teacher is going against the guidelines of the curriculum. We should go outside school to study as much as possible. But sometimes it is not possible, mostly due to the schedules.

(Interviewee 12, teacher)

In the excerpt above, something seems to occur in the discourse: when teaching took place within the frames of the curriculum, the teacher talked about 'us', but, if the curriculum was not followed, it was about the teacher. Even if the school followed the curriculum, the teachers' autonomy to make up their own minds was not limited. Another enthusiastic teacher felt that she was supported and helped by another teacher who was also interested in cooperating with companies [5]. She explained that they were interested in school–company interaction, they managed to visit interesting companies and stated that the students had also enjoyed the collaboration. She finished by adding:

You really need to be active yourself. I don't think a fraction, if anything of this would be done, if you were alone. At least two teachers are needed, absolutely.

(Interviewee 26, teacher)

4.2. Following the Curriculum

The second category consists of respondents who described organizing some entrepreneurship education events with external actors. These respondents more or less followed the main message of the core curriculum without striving for anything new or extraordinary [40,57]. Some of them worked in schools that have entrepreneurship education as optional studies (for instance, at a certain grade), which offers the students the possibility to choose it [24,26]. Implementation depended on the teacher's capability and interest, be it interaction with companies or keeping things just in classroom settings [14,58]. Some teachers explained that students actively participated in finding interesting companies that they could visit [57]. One of the informants responsible for entrepreneurship education explained the students' participation in the selection of companies:

Often in the last few years, we have had visits to companies which the students have selected. They followed their gut feelings a bit when they chose a company. It was like that for the bakery industry. A group chose McDonald's of all possible companies. And I said, of course we can go and see it.

(Interviewee 14, teacher)

Some schools seemed to consider visits to public places, such as science centres or museums, as sufficient outside activities from school. The purpose of such visits was to strengthen an understanding of a phenomenon; teachers seemed to interpret the message of the core curriculum superficially, in a self-satisfying way [36,40], by taking field trips somewhere outside school to bring a glimpse of real life into the school world. These visits seemed to be subject-related, for example a phenomenon in physics or dramatic art in arts and culture.

In these schools, students are annually offered some opportunities to go on visits, which they plan and put on their school calendar in the autumn when the school starts. In other words, it is important that the visits take place outside school. One of the teachers explained:

Every student makes at least five study visits per school year, so for example, all of the students in the 7th grade usually visit the science center [name of the science centre], all the students in the 8th grade visit the art museum [name of the art museum] and all of the students in the 9th grade visit the Finnish parliament and the District Court. All students visit the yearly book fair. We have many visits in our programme and we have a system everyone makes at least five

visits. But we do not have regular company visits, we have not taken that in the program.

> (Interviewee 2, principal)

Another informant explained a similar standard pattern that was used in his school. He seemed to be satisfied with the system, but also noted company visits were less common. The informant explained the practice of the activities outside school:

> Basically, the students in the 7th grade have just the orientation day in [name of place]. In the 8th and 9th grade, it becomes more advanced in various subjects. Of course, there could be an industrial visit or something similar, at least once a year.

> (Interviewee 24, teacher)

4.3. Disregarding Entrepreneurship Education

The third category comprises respondents who appeared to disregard the message of the core curriculum [36,59]. They were aware of it but considered it only a recommendation. They appeared to believe that the curriculum provides them freedom to choose whether to adopt entrepreneurship education in their teaching system or not and willingly leave it out. In their opinion, they have a well-functioning school system, and their most important task is to provide students with sufficient knowledge to become good citizens. They produced a plethora of reasons why they do not need to seek more interaction with companies [60]. This category includes teachers and principals that had good excuses not to adopt entrepreneurship education and to have less interaction with companies. Some seemed to foster the idea that a mandatory work practice program compensates for their missing entrepreneurship education. Interaction with companies was a strange thought, as one informant explained:

> I do not think we will go on any company visits. But I know that students have the opportunity to learn about business during their practical training period when they spend two weeks in a company in the 9th grade or so... There they have company contacts, but not in normal teaching, no.

> (Interviewee 1, principal)

One of the informants argued that minimized company interaction is not only due to the school policy. She stated that companies should actively contact schools and invite cooperation. Then, it would be easier for a school to select some events. Some other teachers agreed with the recommendations of the core curriculum but always found a reason why they could not begin taking a new approach in their teaching. They followed a hidden curriculum, with the same pattern from year to year [35,61]. In general, these schools have not adopted entrepreneurship in their school programmes. One of the principals saw the situation like this:

> One might be a little surprised to have a group of 20 surly 14-year-old students on a visit, and no one may be greatly interested. The person who receives visitors has a responsibility to be prepared and to understand the target group and its mission. If you do not know these companies and do not really know what they have to offer, it can happen that you go there and realize that it was completely wasted time.

> (Interviewee 2, principal)

Uncertainty seemed to prevail among teachers in this category, as the previous quotation shows. Another teacher, who knew the recommendations of the curriculum well and was able to accept interaction with companies in principle, acknowledged that it is, nevertheless, a big step to take. She explained her opinions and thoughts as follows:

> It is all about the complexities since there are no ready channels. It means that even if you had a thought that this would be good, it may not be implemented

when you face all the obstacles along the way. If there were clear models and ready channels, then you perhaps would do it. I do not think the reason is that teachers do not want to, but I think, because it takes too much effort and resources to implement it.

(Interviewee 17, teacher)

In these cases, autonomy was used to make it easier for the teacher—following the curriculum would be too laborious. This suggested that the school and teachers considered the message of the curriculum but decided not to follow it [35]. For some teachers, entrepreneurship and working life aspects of the curriculum were difficult to understand. They claimed the text in the curriculum about entrepreneurship education is long and complex and its implementation is not clearly expressed [57,62]. The content of the curriculum could be clearer and more direct, as one informant said:

It [the curriculum] is incoherently written. It is very difficult to deal with if you think a new teacher should read it and get something out of it. I think we have big problems with the new curriculum. The previous curriculum was better. I think the idea is good, but problems arise when there are so many people who have written it, the text is not easy to read. It contains 350 pages, I have not read it from cover to cover, but I have read many parts quite carefully and noticed that it is difficult. You may understand the idea, but it is written in a very difficult way. I wish that in [name of the municipality] we could have a more specific local curriculum. Such things are more important to a teacher than all the nice words about how everything should be done.

(Interviewee 24, teacher)

The interview material revealed that teachers may alter their views on company interaction. For example, a person who previously did not wish to be in any way involved in entrepreneurship education suddenly became surprisingly interested in it. This change in heart required something to trigger a new direction in thinking and alleviate fear and uncertainty shackling teachers' attitudes. The trigger may have been a positive experience, but exposure to such a positive experience often occurred through an external factor, so teachers were less likely to expose themselves to what they are uncertain of. One informant described her own experience of how she had initially thought she could not be interested in entrepreneurship education and cooperate with companies. She explained:

I teach religion. When the school adopted entrepreneurship into the school pro-gramme as an optional subject, I was asked if I could teach that subject. At first, I said, well, I have never imagined myself as an entrepreneur or anything like that. But then, I usually get excited about new things and I cannot say no to emerging opportunities. So, I decided to try and noticed that it totally inspired me.

(Interviewee 11, teacher)

The direction of the shift from one category to another can also happen in reverse: starting from an attitude of working with companies to not wanting to have anything more to do with them. In such cases, there may not have been any support from the principal or other teachers and the teacher has struggled to organize the company visits alone. One informant explained how her energy declined and she stopped:

It became tougher and the municipality only paid for travel on public transport, and still more, the teachers had to organize the tickets. So, it took more time and the students sometimes had to walk a long way from a bus stop to the visiting destination. Then, the students came home later than normally and began complaining. Also, if one teacher has a visit that takes several hours, and the students should have lessons in other subjects at that time, it is a problem. We would have had to reschedule the lessons with other teachers. So, after some attempts, I thought that no, I can no longer cope with that.

(Interviewee 20, teacher)

If a teacher was alone trying to help students become familiar with companies and provide them with entrepreneurship and working life skills, it proved to be very cumbersome and even impossible. It was easier when the whole school was committed and shared the challenges.

5. Discussion of the Results

Efforts made in promoting the status of entrepreneurship education in national curricula have been based on the idea this would help guarantee the implementation of entrepreneurship education in schools [63]. The findings in our study challenge this assumption. It would seem advisable to settle the balance between the expectations set in the curriculum and the school and teacher autonomy in the daily work in schools. In this paper, we focused on the school and teacher autonomy on the implementation of entrepreneurship education. Our analysis suggests three approaches to the curriculum: teachers and schools using their autonomy to do more than expected, doing only the expected, or using their autonomy and refusing to do what is expected.

Our study seems to indicate that teachers' and schools' autonomy is an important factor in determining the implementation of entrepreneurship education. At its best, autonomy made it possible for schools to embrace opportunities, follow their own concepts of implementation, and come up with local solutions for entrepreneurship education. However, autonomy also brought an element of surprise as, in some cases, the outcomes of autonomy appeared counterproductive towards entrepreneurship education. That is, in the implementation of entrepreneurship education, autonomy seemed to be a force related to both excellent and non-existing results. While autonomy seemed to be a source of motivation, commitment, and competitiveness in schools, it also left room for ignorance concerning the expectations set out in the curriculum. In this sense, the problems with accountability suggested by Chiu [31] are very visible in our study.

The approaches of teachers exceeding expectations indicated firstly that entrepreneurship education was embedded in the whole teaching system, regardless of the teaching subjects. Secondly, in schools that successfully implemented the entrepreneurial aspects of the core curriculum, some classes or subjects emphasized entrepreneurship. Thirdly, it was important that some teachers in the school wanted their students to become acquainted with entrepreneurship and working life and, from the interviews, it was clear that some teachers pursued this. These schools accommodated the national core curriculum very well. In addition, as autonomous schools, they created their own systems to integrate entrepreneurship education in the schoolwork. In their view, the curriculum offers a good opportunity for this, as it already includes entrepreneurship and working life skills as one of the transversal competence areas and recommends cooperating with surrounding companies to provide students with working life skills [36]. The teachers seemed to feel that they were rewarded for their effort when they saw their students enjoy learning [13,20]. Our data suggest that, in some cases, the principals even asked for permissions to exceed the expectations of the curriculum. These cases show how the curriculum can be a starting point for school-level activities. To make this happen, co-operation at many decision-making levels is called for, involving at least teachers, principals, and their superiors. We suggest further research to uncover the decision-making chains related to these patterns.

The teachers who followed the norms of the core curriculum did not change their programs often. Year in year out, they made some visits outside school and wanted to continue this [40,64]. These visits may be local events, for example, or events between schools. They did not necessarily contribute to entrepreneurship education, but nevertheless were an excursion into society from school and were supported by teachers. Teachers seemed to have the authority to decide the number of visits each student is entitled to make during the school year. They assimilated the core curriculum's message and felt that they followed the norms [40]. Strikingly, this group of teachers was familiar with the curriculum and tried to follow it. However, in doing so, they did not appear to find the possibility of autonomy important. This finding is significant as it shows that even if the schools appeared to fulfill

the curriculum, their activities clearly did not meet the implicit expectations. It is important to determine which aspects of the curricula, or the ways they are communicated, lead to superficial interpretations [40] of the curriculum message. Further studies are needed concerning the teachers' perceptions of the relationship between the curricula expectations and the implementation of entrepreneurship education.

Teachers who disregarded the curriculum message formed a third group. In their view, there are sufficient training periods in the current studies to meet the expectations set for entrepreneurship education. Teachers were convinced that students gain sufficient knowledge of working life during those periods and thus the school need not engage in special activities to fulfil the curriculum expectations. This behavior was evidently related to the teachers' negative conceptions of the workload related to entrepreneurship education. That is, these teachers saw many obstacles that made it impossible to collaborate with companies. These obstacles included, for instance, a lack of time, a lack of resources of the school, or the unclear conceptual basis of the curriculum. This group is especially interesting as it seemed to indicate that the messages set in the curriculum did not reach this group of teachers or activate them in any way. It is noteworthy, that entrepreneurship education has been included in the Finnish national core curricula for basic education for more than 25 consecutive years. As such, this should not be a new phenomenon for teachers. Earlier studies [62,65,66] reported that teachers have difficulties in implementing the entrepreneurial aspects of the core curriculum. Our data suggest that, in many cases, these teachers intentionally decide not to follow the curriculum. This situation could lead to an increase in control and accountability of teachers to follow the curriculum, thus limiting their autonomy at work.

The role of the principal was important if the school wanted to bring about some change in, for example, school–company cooperation. If a school uses its autonomy and makes decisions that affect the whole school, it reduces the autonomy of teachers to make their own decisions. If the school management wants the whole school to use a common teaching strategy, the role of the principal is to act as a rapporteur and negotiator of the strategy. Through school autonomy, the whole school can incorporate entrepreneurship education into the teaching program and implement it in cooperation with companies.

6. Conclusions

This study sought to examine in which way the autonomy of schools and teachers is related to the implementation of entrepreneurship education. These results have multiple implications on the research of entrepreneurship education and on the promotion of entrepreneurship education. In terms of further research, we suggest that the autonomy of schools and teachers should be taken into account when observing the entrepreneurship education practices in schools. That is, there is a high probability that autonomy is related to the sophistication of the teaching methods used in the implementation of the curriculum, as well as the commitment of the educators. In terms of practical implications, the message is twofold: first, it seems that school and teacher autonomy brings excellent results in implementing entrepreneurship education and, in these cases, the message of the curriculum works as fuel for the activities carried out by the school and the teachers. At the same time, some groups of schools and teachers disregard the curriculum for multiple reasons. The educational authorities nationally and locally need to consider this and weigh the pros and cons of the situation. Should the implementation of curricula be controlled? What would the implementation of entrepreneurship education be if it were carried out by uncommitted teachers?

7. Limitations of the Present Study and Suggestions for Future Research

As any study, this study had limitations. First, the data was gathered from one country only. As suggested earlier in this study, teachers in the Nordic countries are quite autonomous in their work. This is likely to affect the generalizability of the results of the study. Nevertheless, the questions of teacher autonomy and the need to control teachers'

activities is also of wider interest internationally. Therefore, we suggest that our results may be of interest to international readers. Second, the qualitative data was gathered from teachers and principals. Research on the relationship between teacher autonomy and entrepreneurship education is close to non-existent. We suggest that wider quantitative studies are required to observe the mechanisms related to the teachers' autonomous behavior and its effects on entrepreneurship education.

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