

Pedagogical Entrepreneurship in Teacher Education Curricula. Comparison of Latvian and Finnish Teacher Education Programs

Agnese Slišāne¹, Heidi Hyytenen²

¹ University of Latvia, Latvia

² University of Helsinki, Finland

ABSTRACT

Earlier research has shown that teachers do not feel sufficiently prepared to develop entrepreneurial competences in the classroom, both theoretically and practically, and that the lack of pedagogical entrepreneurship competences hinders the development of entrepreneurial skills in the learning processes. The aim of this study is to analyse the extent to which entrepreneurial skills are emphasised in current teacher preparation programs and to identify differences between Latvian and Finnish educational programs. Curricula and course outlines from five teacher education programs in two different contexts were analysed. Deductive qualitative content analysis was based on 14 pedagogical entrepreneurship components identified in the previous studies. The results indicate that there are major differences between the programs how entrepreneurial skills were emphasised in the curricula and course outlines. In the data from Latvia, 10 from 14 components of pedagogical entrepreneur were acknowledged fully or partly at least in one of the four programs' curricula and course outlines. In addition, four components were not identified in any of the programs' curricula. In contrast, in the Finnish teacher education program, all 14 components of pedagogical entrepreneurship were acknowledged fully or partly in the analysed curriculum and course outlines. This bears consequences for what kind of opportunities to learn pedagogical entrepreneurship students have during their teacher education studies. Based on the research findings, more attention should be paid to entrepreneurship competences in teacher education curricula.

Keywords: entrepreneurship competences, entrepreneurial skills, pedagogical entrepreneurship, teacher curricula, teacher education pedagogy

Introduction

During the last few years, there have been changes in the use of the latest technologies, digitalization, socio-economic equality, understanding of the importance of ecology, and labour market processes (Gouvernement du Québec, 2021), which led to shift in demand of education and the competencies required in the teaching profession have also changed (Fullan, 2020). The changing socio-economic situation affects all areas of life, and today entrepreneurial strategies in the context of education are a global phenomenon that emerges from politics and are an important starting point for the study of entrepreneurial skills in the context of pedagogy (Dal et al., 2016). Although the development of entrepreneurship competences has been relevant for many years, there is still no consensus on what the elements of entrepreneurship competences are (Slišāne & Rubene, 2021) and how they fit into the educational context. One of the priorities of the European Union (EU) is to develop entrepreneurship education in teacher education (GHK, 2011), because teacher education is not fully integrated into all national strategies and does not promote continuous professional development of teachers (European Training Foundation, 2010).

It is recommended that the development of competencies should primarily start from teacher education programs (Correia et al. 2010), because teachers are a vitally important factor in the progress of students' entrepreneurial skills (Akyürek & Şahin, 2013; Gardner, 2013; Hannula, 2011). However, previous research has shown that teachers do not feel sufficiently prepared to develop entrepreneurship competences in the classroom – both theoretically and practically (Slišāne et al., 2021; Gustafsson-Pesonen & Remes, 2012), and the lack of pedagogical entrepreneurship competences hinders the development of entrepreneurial knowledge, skills, and attitudes in the learning process (Gustafsson-Pesonen & Remes, 2012). To prevent this, it is essential to promote teacher education students' understanding of entrepreneurship competences (Silva, 2013) by improving pedagogical entrepreneurship during their studies.

Pedagogical entrepreneurship consists of knowledge, skills and attitudes to make the teacher more capable of successfully adapting to changing events, to be more autonomous, to form cooperation outside the classroom, school, local society, to show initiative, to be persistent, to notice opportunities and use them, to pool and combine resources to solve problems, to create strategic visions, to take responsibility, as well as to work in a team to achieve common organizational goals (Slišāne et al., 2022).

Theoretical framework of pedagogical entrepreneurship

Although the importance of generic skills, such as entrepreneurship competences, has been emphasized both in educational policy discourses and in practice of higher education (cf. Tuononen et al., 2022), there are still uncertainties

about pedagogical entrepreneurship (Slišāne & Rubene, 2021; Haara et al., 2016). Pedagogical entrepreneurship is a relatively new concept in teacher education in most countries, including Latvia. Term pedagogical entrepreneurship has been used and researched among Finnish scientists, mostly in the context of students' entrepreneurship competences in order to brainstorm business ideas and teacher role as facilitator (Deveci & Seikkula-Leino, 2016).

Even though the term pedagogical entrepreneurship is not a widely used concept, it is a compilation of three long-known and studied concepts – competences, pedagogy, and entrepreneurship. Thus, this term emphasises that teachers need to have both entrepreneurial and pedagogical competencies (Slišāne, 2021). A systematic review of the entrepreneurship competences in higher education shows that development of it brings several benefits to students (Bacigalupo et al., 2016). For example, entrepreneurship competences help an individual to develop various aspects of personality (attitude, knowledge, skills). It promotes the implementation of business initiatives (Ismail et al., 2018) and promotes a creative atmosphere, cooperation, differentiation of the learning environment (Dal et al., 2016).

Pedagogical entrepreneurship demonstrates how teachers can use their entrepreneurial competencies to manage their professional lives in and out of the classroom. The pedagogical practices that teachers use play a key role in developing entrepreneurial skills among their pupils. To achieve the goal of entrepreneurship education, i.e., an ability to develop the learner's entrepreneurial skills, teachers themselves must actively possess entrepreneurial skills and apply it in their teaching and learning activities (Toutain & Fayolle, 2017; Slišāne & Rubene, 2021, Slišāne et al., 2021, Joensuu-Salo et al. al., 2020).

The results of the recent literature review (see Appendix 2; Slišāne et al., 2022) indicate that pedagogical entrepreneurship consists of 14 components. These components portray an ideal teacher who has entrepreneurial competencies (see Appendix 1; Slišāne, 2021; Slišāne & Rubene, 2021; Slišāne et al., 2022). The competencies are proactivity, strategic vision, flexibility, knowledge for effective pedagogical activity, attracting and using resources, professional reflection, professional determination, creating added value, effective communication, social innovations, risk-taking, problem-solving skills, leadership, and professional autonomy. It follows that entrepreneurial teachers are socially motivated individuals who are innovative, cooperative, proactive, thoughtful, present in their work, knowledgeable, goal-oriented, resourceful, tolerant of risk, focused on self-improvement, open to various opportunities and professionally manages the teaching content, methodical work.

Pedagogical entrepreneurship reflects the ability to recognize opportunities and resources to use opportunities and act. It also includes the ability to effectively implement innovative ideas, motivate students to think critically

and creatively, constantly seek new innovations, and development opportunities in the field of education, create compelling technology-based projects in and out of the classroom, and attract the necessary resources and assistance to adapt curricula, learning materials and learning tools for changes in a rapidly changing environment (Neto et al., 2017; Khorrami et al., 2018). Teachers who possess pedagogical entrepreneurship are socially motivated, innovative, collaborative, proactive, think about possibilities, are present, knowledgeable, fully committed, resourceful, risk-taking, visionary and pursue professional development (Keyhani & Kim, 2020). These features help them create an environment that fosters learner initiative, ideas, encourages experimentation, individual and social responsibility, and makes connections between life outside school and the content to be learned at school (Hietanen, 2015). As a result of pedagogical entrepreneurship, students' academic success is promoted (Turulja et al., 2020) and teacher professional development, individual achievements, confidence, and job satisfaction (Ho et al., 2020; Chawla & Lenka, 2015; Hietanen, 2015; Alipour et al., 2011; Engelen et al., 2015; Kuratko et al., 2005).

The results from earlier studies indicate that teacher education students think that they are sufficiently prepared to be able to further develop their entrepreneurial competences. However, their readiness to teach entrepreneurial competences to others is significantly lower (Slišāne et al., 2021). It should also be noted that there is a strong correlation between students' entrepreneurial competences and their readiness to teach entrepreneurial competences to others (Slišāne et al., 2021). These results are in a line with the idea that there are still some ambiguities concerning learning pedagogical entrepreneurship (Haara et al., 2016). Thus, more research is needed in clarifying the pedagogical entrepreneurship in teacher education, especially, what kind of learning opportunities for pedagogical entrepreneurship students have during their studies.

Research questions

In this study, the aim is to explore how the components of pedagogical entrepreneurship (Slišāne, 2021; Slišāne & Rubene, 2021; Slišāne et al., 2022) are represented in teacher education programs (specifically in the intended outcomes) in the Latvian and Finnish teacher education systems. Our specific research questions are:

1. To what extent are entrepreneurial skills emphasized in curricula and course outlines of the current teacher preparation programs?
2. What kind of differences can be detected between Latvian and Finnish teacher education programs?

Context

In this study, curricula, and course outlines of five teacher education programs from two different contexts are analysed. Four of the analysed teacher programs are from the Latvia and one program is from Finland.

In Latvia, teacher education is provided at four universities and three academies including programs of pedagogy, diversity in pedagogical solutions, educational sciences, preschool education teacher, social pedagogue, teacher, career counsellor, youth specialist, education, sport specialist, sport sciences, special education, religious pedagogy (Užule, 2020). As a general education pedagogue, with the exception of a preschool education pedagogue, can work 1) individuals who have higher pedagogic education and relevant subject teacher qualification, 2) individuals with higher education in the field of science corresponding to the subject and teacher's qualification, 3) individuals who have acquired study program related to pedagogy within the higher education study program in the amount of at least two credit points or at least 72 hours, 4) individuals with a master's or doctoral degree in education or pedagogy and the scientific work developed to obtain it is related to the content and didactics of the subject (Rules on education and professional qualifications necessary for pedagogues and procedures for improving the professional competence of pedagogues, 2018). In this study, the following programs were selected second-level professional higher education program "Teacher", professional bachelor study program "Teacher", professional bachelor's study program "Elementary education teacher", first-level professional higher education study program "Preschool Teacher".

In Finland, teacher education is provided at eight universities including programs of class teacher education, subject teacher education, home economics teacher education, craft teacher education, special education, and kindergarten teacher education. Finland does not have a detailed national curriculum for teacher education (Cao, 2021; Tirri, 2014). Hence, the eight universities have autonomy in organising their own teaching and research activities. In this study, we focus on one of the Finnish class teacher education programs. Class teacher education consists of two degrees; students complete a first-cycle higher education degree (Bachelor's; 180 credits) before completing a second-cycle higher education degree (Master's; ETCS 120 credits). It follows that all class teachers have a Master's degree in educational science (ETCS 300 credits). This degree qualifies to serve as a classroom teacher and as a pre-school teacher. Class teacher education curriculum includes studies in educational sciences and multidisciplinary studies in subjects and cross-curricular issues taught in basic education (ETCS 140 credits, including teaching practice, thesis, research methods), compulsory minor subject (ETCS 60 credits), optional studies (ETCS 75 credits) and orientation studies (ETCS 25 credits, including language and communication studies, digital skills and data management studies, and career orientation; see Cao, 2021).

Materials and data analysis

The data consist of curricula and course outlines from above mentioned five study programs. The data were analysed using qualitative content analysis with deductive approach (Elo et al., 2014). The deductive content analysis was based on the 14 pedagogical entrepreneurship components identified on our previous study, namely proactivity, strategic vision, flexibility, knowledge for effective pedagogical activity, attracting and using resources, professional reflection, professional determination, creating added value, effective communication, social innovations, risk taking, problem-solving skills, leadership, professional autonomy (Slišāne, 2021; Slišāne & Rubene, 2021; Slišāne et al., 2022). The definitions and criteria of entrepreneurship components are presented in more detailed in the Appendix 2. Data from each study program was first analysed separately and then the findings from each dataset were compared and combined. During the analysis, written description for each pedagogical entrepreneurship how it manifested itself in curriculum and course outlines was made. The first author was responsible for the analysis of Latvian data, while the second author analysed Finnish dataset. The results and interpretations of analysis were jointly discussed and negotiated by the authors until consensus was reached to ensure the reliability of the findings. It should be noted that general learning outcomes were analysed rather than specific courses, so it is possible that a criterion could not be directly identified in the specific course presented in the course outlines.

Results

Overall, the findings reveal substantial differences between the teacher education programs analysed. The main findings of five study programs are visualised in the Table 1 where columns Latvia 1–4 represent results of Latvian teacher training programs and column Finland represents results of Finnish teacher program. For the readability of the results, the green colour of the Table 1 highlights the entrepreneurship components that take place in the specific study programme's curriculum and course outlines, with a yellow that the components occur partially, and with red, if no evidence was found that the component was being implemented.

Analysis revealed that common to all Latvian teacher program curricula was that they emphasized flexibility, knowledge for effective pedagogical activity, professional reflection, and professional autonomy within all the four study programs. In contrast, we found that the Finnish teacher program curriculum and course outlines included all fourteen components of pedagogical entrepreneurship. The four components that were identified in all five study programs are: *flexibility, knowledge for effective pedagogical activity, professional reflection, and professional autonomy.*

Table 1. The occurrence of pedagogical entrepreneurship components in the five study programs curricula

No.	Criteria	Latvia1	Latvia2	Latvia3	Latvia4	Finland
1.	Proactivity					
2.	Strategic vision					
3.	Flexibility					
4.	Knowledge for effective pedagogical activity					
5.	Attracting and using resources					
6.	Professional reflection					
7.	Professional determination					
8.	Adding value					
9.	Effective communication					
10.	Social innovations					
11.	Risk-taking					
12.	Problem solving skills					
13.	Leadership					
14.	Professional autonomy					

Flexibility referred to an ability to plan, implement, evaluate, and develop professional activities independently. It was connected to teacher education students' and pupils' personal growth by taking into account the social importance and function of education as a contributor to lifelong learning. Knowledge for effective pedagogical activity referred to comprehension of the most essential concepts, key theories, research methods, regularities of the field of educational sciences in the contexts of the teacher's professional activity in different levels and types of education. Besides knowledge, also skills to apply that knowledge (based on research) into practice, awareness to promote ongoing issues, for example equality, were also emphasized. Professional reflection was represented as knowledge and skills of the techniques of self-analysis, self-evaluation and self-reflection

of the pedagogical activity. This component included skills to plan, implement and evaluate student-centred teaching and to identify the factors that promote and impede learning. Professional autonomy was comprehended through ability to be professionally independent, i.e. to plan and carry out educational research, to plan, implement, evaluate, and develop professional activities, and to evaluate student-centred teaching independently, and to identify the factors that promote and impede learning and to be able to take them into account in teaching activities. Although these four components were represented all five study programs' curricula, there was one crucial difference between the Latvian and Finnish programs. The Finnish curricula and course outlines emphasized research as a basis for knowledge and performance. This expanded the mind-set of the components. It was more than the implementation of the curricula and flexibility within the changes but it also included an ability to be proactive and look two steps ahead.

The following components were identified in the Finnish program and some of the Latvian teacher education programs: *Strategic vision*, *Professional determination*, *Effective communication*, *Social innovations*, *Problem solving skills*, and *Leadership*. There were differences whether these components were fully or partly represented in the Latvian programs. Strategic vision was fully presented in the Finnish curricula and in three out of four Latvian programs. Strategic vision indicated long-term vision. It included an ability to strategically choose the most effective and appropriate pedagogical approach in order to achieve intended learning objectives. In terms of strategic vision, one of the Latvian programs emphasized teachers' roles in development of the educational institution that aims to think outside the classroom.

Professional determination was fully represented in the curricula of two of Latvian and the Finnish teacher education programs, and partly in one of the Latvian programs. Professional determination was about targeted self-directed improvement in the educational field that involved an ability to set appropriate goals and see how to fulfil them.

Social innovation was fully embodied in the Finnish and two Latvian programs' curricula and in one of the Latvian programs is partly. This component referred to an ability to conduct, implement scientific research to make a socially significant impact, and comprehended teacher's role in a wider social context. In of the Latvian programs, it was identified partly due to the fact that description doesn't include the implementation of the scientific research.

Problem-solving skills were fully represented in the Finnish and two Latvian programs. Additionally, in one of the Latvian programs, it was emphasized partly. Problem-solving skills were connected to the teacher's everyday work. The problem-solving was related to challenges of individual pupils, classes, and within the organization and educational system as a whole where problems can be solved either individually or incorporated.

Leadership was not identified in two of the Latvian programs at all and partly in other two of the programs. These two Latvian programs highlighted leadership as individual self-management. However, in the curriculum and course outlines of the Finnish program, leadership referred not only to individual self-management but also to action of leading a group of people and management of resources.

Effective communication was fully covered in four out of five programs. One Latvian program covered it partly, because their curriculum emphasised cooperation with colleagues. However, they did not signify the importance of cooperation with parents, student, members of scientific community, administration other stakeholders inside and outside the school like the other four programs.

In any of the four Latvian programs, we did not identify following components: *proactivity*, *adding value*, *risk taking*, *attracting* and *using resources*. Although these criteria were acknowledged in Finnish curricula, risk taking was partly recognised due to the fact that an ability to cope with uncertainty was acknowledged. However, an ability to evaluate the consequences were not emphasized. Additionally, to have knowledge of how to assess the probability of risk occurrence and to reduce risk occurrence or related losses were absent.

Proactivity was characterised as the ability to proactively search, notice, explore opportunities related to professional activity and to take advantage of opportunities and challenges in the classroom or educational system, in society as a whole and to understand the meaning of scientific and (teacher) professional activities as part of society and to be able to participate in public debate. Attracting and using resources highlighted an ability to attract and manage the necessary resources (human resources, finances, material resources), to understand the importance of education and curriculum, to be able to examine educational policy from the historical, social, cultural and individual starting points, to be familiar with and able to apply methodological approaches in a wide range, and to be able to collaboration with different stakeholders. Creation of added value was associated with an ability to create added value at the level of the student, class, organization, to understand issues of equality and to promote equality among pupils as well as at the class and organization level, and to have comprehension how to take into account sustainability in teacher profession.

Conclusions

By exploring current curricula and course outlines from five teacher education programs in two different contexts, this study offered insights into pedagogical entrepreneurship. This study has educational significance in identifying differences between the programs how entrepreneurial competencies are emphasised in the curricula and course outlines. The results acknowledge what kind of learning opportunities teacher education students have during their studies. The

situation differs between and within Finnish and Latvian programs. Differences within Latvian programs can be explained with diversity of the target audience and emphasis of teaching, for example, pre-school teacher education has different task than elementary teacher education. However, on the other hand, pedagogical entrepreneurship as a generic competence is found to be beneficial in all spheres of life (Tuononen et al., 2022), and the components of pedagogical entrepreneurship as proactivity supports teacher professional development within all levels of education (Slišāne, 2021). The differences in pedagogical entrepreneurship between Finnish and Latvian programs were obvious: where the curriculum of Finnish teacher education program intends to develop all components of pedagogical entrepreneurship (cf. Slišāne, 2021; Slišāne & Rubene, 2021; Slišāne et al., 2022), Latvian programs have only four fully covered components. If the components of pedagogical entrepreneurship are not emphasised in the curriculum, there is a risk that these topics become incidental in a random selection of courses. Thus, to ensure the learning of entrepreneurship competencies, it is important that curriculum is carefully and systematically designed to teach these skills (see Tuononen et al. 2022). However, the first step is to raise awareness of what is meant by the concepts of entrepreneurship competencies and pedagogical entrepreneurship among teacher educators and those who are responsible for the developing curricula (cf. Haara et al., 2016).

The major limitation of this study was the small number of the teacher education programs whose curricula and course outlines were analysed. Moreover, the results were based on an analysis of the curricula and course outline documents, and thus we do not know how the teacher educators in these programs are using these documents when they are planning and implementing their teaching activities.

Teacher education has been identified as an important context in which to facilitate the entrepreneurship competencies (Fullan, 2020). However, we know from our prior research that students' readiness to teach entrepreneurial competences to others is limited (Slišāne et al., 2021). Thus, knowledge and comprehension about the components of pedagogical entrepreneurship need be a steppingstone for the improvement of the future teacher training programs in order to support future teachers in their life long professional activity.

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About the authors

Heidi Hyytinen, PhD, is Senior Lecturer in Higher Education at the Centre for University Teaching and Learning in University of Helsinki. Her research focuses on generic skills, performance-based assessment, self-regulation, and pedagogy in higher education. Hyytinen has authored over 40 publications and her research work has been funded, for instance, by Ministry of Education and Culture, and the European Union. Hyytinen has led and co-led several national and international research projects on higher education.

Agnese Slišāne, Bachelor in engineering economics and entrepreneurship, Riga Technical University. Mg.Ed., research assistant and Ph.D. candidate of the Faculty of Pedagogy, Psychology, and Art, at the University of Latvia. Her research interests are pedagogical entrepreneurship, intrapreneurship, entrepreneurial behaviour in the context of education, and entrepreneurial teachers or teacherpreneurs. 10 years of experience working in a school as a teacher of entrepreneurship and economics, author of methodological materials and teacher trainer. Scientific cooperation in developing the dissertation research part with the University of Helsinki.

Appendix 1

Characteristics of entrepreneurial teacher

No	Category	Characteristics
1	Proactivity	Proactively seeks (Borasi & Finnigan, 2010, Omer Attali&Yemini, 2017), notices, and explores opportunities related to professional activity. Proactivity is demonstrated by seeking and using opportunities, creating innovations, attracting and managing resources, making contacts (Keyhani& Kim, 2020). Take advantage of opportunities (Borasi & Finnigan, 2010, Omer Attali&Yemini, 2017) and challenges in the classroom, educational institution or system (van der Heijden et al., 2015).
2	Strategic vision	Decisions are made strategically, based on how they want to see the future. When making decisions, available data is used to optimize and streamline those decisions (Dennis & Parker, 2010). For example, they get involved in foreign intermediate projects in order not only to provide students with knowledge of the content, but also to develop competencies in the learning process.
3	Flexibility	Able to adapt to changes (Neto et al., 2019; van Dam et al., 2010), but critically evaluates and analyzes reforms, others' opinions and own actions (Keddie, 2017; van der Heijden et al., 2015).
4	Knowledge for effective pedagogical activity	Creates a learning environment that promotes student growth and collects, evaluates, uses various data sources and processing approaches to confirm or deny assumptions and knowledge about students (Dennis & Parker, 2010). Modifies curricula to ensure that they meet the needs of students (Oplatka, 2014). Familiar with classroom management, content and methodology (Dennis & Parker, 2010; Hunzicker, 2017; Martin et al., 2018; Nash, 2014). Have a good knowledge of the content being taught as well as knowledge of the education system, school, students, families and society (Berry, 2013). The acquired teaching experience is used to ensure more effective transfer of learning content and use appropriate teaching methods (Amorim Neto et al., 2017), while existing and current information is used to create unique value (Hunzicker, 2017).
5	Attracting and using resources	Knows how and knows how to attract the necessary resources (human resources, finances, material resources), to do this, uses various methods, for example crowdfunding (Bulger et al., 2016), using his contacts, political and public support (Bills et al., 2015), forming strategic partnerships (Martin et al., 2018). Competently manages various resources – technological (Borasi & Finnigan, 2010), human capital (Nash, 2014), time (Hanson, 2017) and informational data (Amorim Neto et al., 2019).
6	Professional reflection	Relying on their own intuition, derived from experience and knowledge of the educational organization in which they work (Borasi & Finnigan, 2010). On the way to success, one learns and builds on the acquired professional experience (Bulger et al., 2016; Schimmel, 2016), for example, reflects on the mistakes made and optimizes one's activity.

Appendix 1. Continued

No	Category	Characteristics
7	Professional determination	Demonstrates determination and perseverance (Borasi & Finnigan, 2010; Hanson, 2017) to achieve set goals and realize a vision, for example, seeing opportunities for social innovation, creating added value inside or outside the classroom, gradually and consistently implements goals despite obstacles and limitations (Martin et al., 2018).
8	Creating added value	Creates added value – at the level of the student, class, organization or extra-organization. Creating added value mobilizes and optimizes resources, is based on a specific need and creates a solution whose contribution is greater than the necessary development/production costs. It creates different value at the student and classroom level, taking into account the different needs of students.
9	Effective communication	Collaborates with colleagues, educators, field professionals to share and gain new knowledge (van Dam et al. 2010), jointly evaluate and implement innovations, and create exclusive educational experiences (Oplatka, 2014; Schimmel, 2016). Creating cooperation outside the classroom provides opportunities for students to gain interdisciplinary experience, which promotes the teacher's pedagogical entrepreneurship and students develop entrepreneurship by training communication, cooperation, etc. skills.
10	Social innovations	Introduces innovations. Innovation is the main driver of the entrepreneurial process and it can manifest itself in different aspects (Keyhani& Kim, 2020), for example, in the context of a teacher's work, it can be innovations in the topics taught or new functions that a teacher can take on (mentor, consultant, etc.), new ways of teaching (e.g. practice-based learning), new students to teach (e.g. students with special needs, students from socially disadvantaged backgrounds), new resources to use (e.g. new technology), and new ways of organizing learning, process or any of its elements (for example, new forms of cooperation with other teachers or external institutions). Teachers' social innovations are mainly focused on unique situations they face in their daily and professional activities and new ways of using pedagogical entrepreneurship to create added value for a student, class, organization, society or educational system (Keyhani& Kim, 2020).
11	Risk taking	Takes risks, for example in the classroom, school or education system, implementing innovative ideas and/or experimenting with technologies (Amorim Neto et al., 2019; Berry, 2013), yet carefully evaluates the consequences (van Dam et al., 2010) and makes calculations (Martin et al., 2018; van der Heijden et al., 2015), which involves choosing a strategy using one's knowledge and experience to minimize risk-related losses (Borasi & Finnigan, 2010), such as money, reputation and time (Schimmel, 2016). Developed research supports that teachers take risks when they feel confident enough to handle uncertainty, embarrassment, and emotional stress.

Appendix 1. Continued

No	Category	Characteristics
12	Problem solving skills	Socially motivated problem solving at the student and classroom level (Dennis & Parker, 2010). At the community level, they try to create social change (Berry, 2013). Challenges and problems are seen as an opportunity to create social change (van der Heijden et al., 2015) and through change, innovation is introduced (Keyhani& Kim, 2020) – new teaching methods, such as practice-based learning (Dennis & Parker, 2010).
13	Leadership	Leadership skills and financial literacy strengthened by education and/or work experience in business. Van Dam et al. (2010) believe that knowledge of marketing, understanding of product demand and supply, ability to manage risks are the most essential knowledge required. Research shows that when teachers know what entrepreneurship is and what it consists of, they are more likely to be entrepreneurial (van Dam et al., 2010).
14	Professional autonomy	Possess professional autonomy (Yemini & Bronshtein, 2016) and adaptability skills (Hanson, 2017; Nash, 2014), thus independently make decisions in their activities, evaluating the changing environment and context. Feels responsible for students' needs and wants to provide high-quality educational opportunities both at the classroom and school level (van der Heijden et al., 2015) and uses extracurricular opportunities. Values one's growth (Keyhani & Kim, 2020) and feels the need to strengthen one's inner self. Trying to improve their knowledge and working conditions, looking for opportunities for professional development (Amorim Neto et al., 2019; Bulger et al., 2016; van der Heijden et al., 2015). Striving for personal achievement is the desire for interesting and challenging work (van der Heijden et al., 2015), as well as the satisfaction of adding value as a result of one's work (Martin et al., 2018). Enthusiastically seeks opportunities for professional development (Amorim Neto et al. 2019) and personal achievement by taking on work that is both interesting and challenging (van der Heijden et al., 2015). Motivated by personal benefits such as competitiveness, networking/ collaboration, financial rewards, recognition, and peer feedback (Shelton & Archambault, 2018).

Appendix 2

Criteria for evaluating pedagogical entrepreneurship

No.	Component	Expression of criterion
1.	Proactivity	<p>Skill: proactively search, notice, explore opportunities related to professional activity. Take advantage of opportunities and challenges in the classroom or in the education system, in society as a whole.</p> <p>Knowledge: where to look for opportunities in professional activities, knowledge necessary for the context to take advantage of opportunities in professional activities.</p> <p>Attitude: curiosity, attentiveness, openness to new possibilities.</p>
2.	Strategic vision	<p>Skill: make strategically beneficial decisions using the available data.</p> <p>Knowledge: how to create a strategy to achieve a vision.</p> <p>Attitude: determination, rationality/ strategicity.</p>
3.	Flexibility	<p>Skill: adapt to change, critically evaluate, and analyse reforms, opinions of others and their actions.</p> <p>Knowledge: about alternatives to implementing the desired result.</p> <p>Attitude: openness, flexibility.</p>
4.	Knowledge for effective pedagogical activity	<p>Skill: apply and adapt the necessary class management, curriculum, and methodology. Use knowledge to create unique added value – ensure more efficient transfer of learning content and use appropriate teaching methods.</p> <p>Knowledge: about content, pedagogy and pupils, communities, and families.</p> <p>Attitude: desire to learn, to follow the latest developments in education.</p>
5.	Attracting and using resources	<p>Skill: attract the necessary resources (human resources, finance, material resources). Manage various resources – technological, human capital, time, and informative data.</p> <p>Knowledge: different methods to attract resources – crowdfunding, contacts (networks), political and public support, strategic partnerships.</p> <p>Attitude: openness to corporation and open-minded view.</p>
6.	Professional reflection	<p>Skill: to build on and learn from the acquired experience in order to move towards success – reflect on the mistakes made and optimize activity.</p> <p>Knowledge: how to reflect and how to optimize activities based on the evaluation carried out (reflection techniques).</p> <p>Attitude: responsibility to students' needs, self-analysis, desire to improve their activities and provide high-quality educational opportunities at both class and school level, as well as taking advantage of extracurricular cooperation opportunities.</p>
7.	Professional determination	<p>Skill: to set and consistently take the necessary actions to achieve the set goals, overcome difficulties and cope with obstacles (restrictions).</p> <p>Knowledge: about the methods of setting goals.</p> <p>Attitude: determination and perseverance.</p>

Appendix 2. Continued

No.	Component	Expression of criterion
8.	Adding value	Skill: to create added value – at pupil, class, organisation, or non-organisation level, taking into account different needs. Knowledge: about new product creation strategies. Attitude: the desire to innovate, to bring about change.
9.	Effective communication	Skill: to communicate and cooperate with students, colleagues, administration, stakeholders outside the school. Knowledge: how to create effective communication, business etiquette. Attitude: openness to communication with those involved in education (class, school, extracurricular), willingness to cooperate.
10.	Social innovations	Skills: innovate in the topics to be taught and/or take on new functions (mentor, consultant, etc.), introduce new forms of learning (e.g. experience-based learning), test different resources (e.g. new technologies) and different ways of organising learning (e.g. new forms of cooperation with other teachers or external organisations). Knowledge: about the topics to be taught, methodology, techniques to be applied to create value. Attitude: the desire to create, to improve. Openness to new innovations.
11.	Risk-taking	Skill: cope, respond adequately and act in case of occurrence of risks. Perform calculations and evaluate the consequences. Choose a strategy that minimises risk-related losses. Ability to cope with uncertainty, embarrassment, and emotional stress. Knowledge: how to assess the probability of occurrence of a risk and reduce the occurrence of risk/associated losses. Attitude: willingness to take risks, to learn from mistakes.
12.	Problem solving skills	Skill: tackling problems at pupil, classroom, and community level to create social change. Challenges and problems are seen as an opportunity and innovate through change. Knowledge: knowledge appropriate to the professional context, which helps to solve the problem that arises. Attitude: social motivation to solve problems.
13.	Leadership	Skills: to work autonomously, to make decisions independently, assessing the changing environment and context, to manage human resources. Knowledge: human resources management, including motivation, marketing, product/service demand and supply. Attitude: taking responsibility for global processes.
14.	Professional autonomy	Skill: to plan the learning process – to work independently and plan the time. Plan the learning process, define individualized goals of the learning process, plan training activities, systematically evaluate the course of the learning process and create learning goals and assessment criteria. Implement the learning process – create a learning environment, promote cooperation, provide feedback and evaluate teaching methods. To improve professional competencies – to reflexively and critically evaluate pedagogical practice, taking into

Appendix 2. Continued

No.	Component	Expression of criterion
		<p>account the learning results achieved by students, feedback provided by colleagues, the standard of the teaching profession and the latest current events in pedagogy, strategically plan and organize professional development. To develop an educational institution and the field of education – to understand the strategic development vision of the educational institution and to engage in the achievement of the planned goals within the scope of its competence. Delegate tasks.</p> <p>Knowledge: about learning process, methodology, management, and time planning. Knowledge of current events, challenges, and organizational/ individual professional development opportunities in the field of education.</p> <p>Attitude: the desire to professionally improve and develop the organization in which you work.</p>