



Erasmus+ Strategic Partnership Project

2019-1-SE01-KA203-060520

FOrSE



**Framework for
Organising
Studies
Entrepreneurially**

Sweden - Finland - Latvia

2019 - 2022

FORSE Strategy and Guidelines for Teachers

on Creating Framework for Organising Studies

Entrepreneurially and working within it

The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

© Luleå University of Technology, Sweden

© Riga Technical University, Latvia

© University of Lapland, Finland

© Ung Företagsamhet Norrbotten, Sweden

© LTU Business, Sweden

© Institute of Lifelong Learning and Culture VITAE, Latvia

2022

Table of Contents

The FORSE Team	4
The basics of elaboration of the strategy and guidelines	5
The target audience of FORSE strategy and guidelines.....	5
The matter and topicality of FORSE.....	6
FORSE personality (Sweden).....	7
FORSE pedagogy (Finland).....	8
FORSE activities (Latvia).....	10
Research conducted within FORSE: The Latvian case	14
The challenges highlighted by the students during the COVID-19 pandemic: Research question 1	19
The opportunities for personal growth and new businesses identified by the students: Research question 2	22
Qualities and skills activated in students during the project: Research question 3	26
Research conducted within FORSE: The Finnish case.....	29
Introduction	29
Activities in Finland	29
Research conducted within FORSE: The Swedish case.....	39
Introduction	39
The strategy (building blocks) of FORSE	39
Applying the CRITICAL framework	44
Teachers’ experiences in applying the FORSE approaches in practice.....	47
Teachers from Sweden	47
Teachers from Finland	57
Teachers from Latvia.....	62
FORSE recommendations to teachers	66
FORSE recommendations to school headmasters.....	68

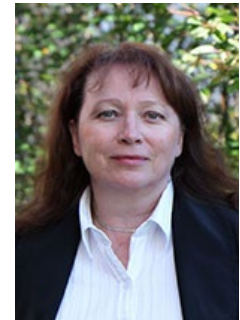
The FORSE Team



Mats Westerberg
Luleå University of
Technology, Sweden



Karine Oganisjana
Riga Technical University,
Latvia



Lenita Hietanen
University of
Lapland, Finland



Linda Strandenhed
Ung Företagsamhet
Norrbotten, Sweden



Johan Bergström
LTU Business, Sweden



Uldis Dumiņš
Institute of Lifelong
Learning & Culture
VITAE, Latvia

The basics of elaboration of the strategy and guidelines

The strategy and guidelines were elaborated based on:

1. the synergy of the experiences of the international FOrSE project team,
2. scientific literature analysis,
3. discussions of the FOrSE issues at international scientific conferences,
4. FOrSE teaching and learning practice in Sweden, Finland and Latvia,
5. research conducted for highlighting the impact of the FOrSE approach on students' outcomes,
6. FOrSE teachers' pedagogical practice and feedback,
7. analysis of students' reflections and creations within the FOrSE project.

The target audience of FOrSE strategy and guidelines

1. Teachers of different study disciplines, who are open to new pedagogical approaches for: enhancing their students' motivation for learning; promoting their autonomy and responsibility for learning outcomes; practicing creativity in problem solving; and boosting entrepreneurial manner of thinking and acting to achieve inner harmony even in most challenging life situations.
2. Researchers who are keen on exploring the impact of different pedagogical, andragogical and heutagogical teaching and learning methods on promotion of students' personality, competencies and perception of challenges and recognition of new opportunities in them.
3. School principals who are to become more informed about the growth potential and peculiarities of the framework for organising studies entrepreneurially to assist their teachers and empower their performance for the benefit of the overall development of their schools.

The matter and topicality of FOrSE

The uncertainty about today and tomorrow, drastic changes in lifestyle and dramatic consequences of COVID-19 worldwide have brought into question almost all the aspects of life organisation and values. One of the crucial issues is related to education and the way it should be organised to promote the 21st century competences to help learners enhance their self-confidence in the rapidly transforming world without getting lost in the life labyrinths, feel strong and whole, be in dialogue with their own selves and the outer world. Its importance cannot be overestimated in the reality of considerable degree of fear, worry and concern induced by the coronavirus pandemic, amplified with the unstable political and economic situation in Europe and the entire world which threaten not only physical but also mental health of people.

Gibb (1987) has been influential in building the ‘enterprise’ aspect of entrepreneurship education. In the FOrSE project our aim has been to develop strategies and guidelines that cuts across disciplines and thus are as general as possible. When deliberating FOrSE pedagogical strategies, we have found the following five aspects are central and therefore they constitute the FOrSE pedagogical strategy (See Westerberg, 2022 (IO8) for more details):

- **striving towards a growth mindset** (Dweck, 2017); Having a mindset that focuses on development and learning is therefore crucial, and we suggest all educators should strive towards a growth mindset to create a good foundation for education.
- **experiential learning** (Dewey, 1938; Kolb, 1984); Dewey’s ‘Learning by doing’ includes reflection. So does Kolb’s (1984) learning cycle. Regardless of model, educators need to work with both experiences and reflection to get action that also produces learning.
- **developing entrepreneurial competences alongside subject knowledge** (Palmér & Johansson, 2018; Westerberg, 2020); By consciously reflecting on how entrepreneurial competences and subject knowledge can be developed in tandem, both may flourish without spending more time. Palmér and Johansson (2018) could see that courage and tolerance for ambiguity (two entrepreneurial competences) helped developing problem-solving skills in mathematics.
- **working with real problems and real users—creating real value** (Lackéus, 2016); Creating value is the essence of entrepreneurship. Entrepreneurial action has the potential to create value—and this makes it highly motivational. When actions create value for others it becomes meaningful and drives intrinsic motivation. Facilitating value creation and helping the student see this is therefore important.
- **striving to develop individuals capable of self-negotiated action** (Jones, 2019). When focusing on lifelong learning and development, and adhering to the above

mentioned aspects, individuals will—over time—be more and more capable of self-negotiated action and “direct their conscious thinking and action towards an adjustment of their inner and outer worlds in order to succeed in life” (Jones, 2019:58). It is likely that this individual will be able to lead a good life while also being highly influential in developing a better society.

To build on and elaborate on these strategic pillars, a conceptual model of the guidelines framework for organising studies entrepreneurially has been developed in concert between Mats Westerberg (Luleå Technology University Sweden), Lenita Hietanen (Lenita Hietanen, University of Lapland, Finland) and Karine Oganisjana (Riga Technical University, Latvia) by integrating three dimensions of studies which regardless of the study discipline make students think, feel and act like entrepreneurs do (see the model in Figure 1).



Figure 1. The conceptual model of the Framework for organising studies entrepreneurially
 The conceptual model of the “Framework for organising studies entrepreneurially” consists of three structural elements which have mutually complementary character and emphasise its different facets – FOrSE personality, FOrSE pedagogy and FOrSE activities.

FOrSE personality (Sweden)

To promote students' development-oriented entrepreneurial mindset across a broad pedagogical practice and contexts, essential entrepreneurial skills and personality qualities with the acronym CRITIC (Westerberg, 2020, IO3) ought to be promoted:

- **Courage** to dare to be on the verge of your comfort zone, and there do what you (yet) are not fully comfortable with (Lumpkin & Dess, 1996),
- **Responsibility** - to take responsibility for both your own and your peers' learning by being a driving force that possess patience and not give up despite setbacks (Lumpkin & Dess, 1996),
- **Initiative** to be proactive and be able to act without prompting from a teacher and thus not be dependent on a leader / teacher that sets the agenda (Schumpeter, 1934; Sarasvathy, 2001),
- **Tolerance for Ambiguity**- to be able to solve tasks even though the situation is ambiguous and not fully understood (Westerberg et al., 1997),
- **Interactivity** and ability to collaborate – to be able to both give (share thoughts and knowledge) and take (absorb other's thoughts and knowledge) and based on this work with others to carry out tasks and solve problems (Parida et al., 2012; Wincent, 2008),
- **Creativity** - to be able to contribute to finding new solutions that are not trivial/conventional and are creative (Schumpeter, 1934; Lumpkin & Dess, 1996).

FOrSE pedagogy (Finland)

To promote the development of the FOrSE personality (CRITIC) and enhance the capacity for self-negotiated action, educators' input, students' enthusiasm and agreed responsibilities for the resources are varied combining approaches and tools from Pedagogy, Andragogy and Heutagogy (Jones, 2019) depending on: the study context, content, goal, and duration; students' age, knowledge, skills, interests, motivation, and experience of working independently from the teacher and peers. The levels of autonomy and self-directedness in studies are the key elements of these three “gogy”s:

- **Pedagogy** – learning is teacher-centred and focused on the content to be learnt. Teacher makes all decisions (Canning, 2010; Jones et al., 2014).
- **Andragogy** – learners take initiative independently; the teacher is a tutor/mentor supporting learners in developing their capacities to become more self-directed learners (Blaschke, 2012; Canning, 2010; Hase & Kenyon, 2007; Jones et al., 2014).
- **Heutagogy** – learners negotiate the learning holistically, they determine themselves *what* will be learned *and how*; the teacher supports learners when needed (Blaschke, 2012; Canning, 2010; Hase & Kenyon, 2007; Jones et al., 2014).

FORSE activities (Latvia)

Despite a great deal of contradictions, theories and countertheories related to the matter, structure and functions of entrepreneurship, there is one undeniable point of view shared by most scholars of the field – the central activity is opportunity identification and development (Baron, 2006; Sanz-Velasco, 2006). Therefore, to enhance entrepreneurial mindset, behaviour and worldview, different learning strategies and models have been elaborated for: opportunity exploration and realisation (Rae, 2003); opportunity recognition using cognitive, behavioral and action learning tools (Lumpkin & Lichtenstein, 2005), opportunity identification and exploitation using a creativity-based experiential learning model (Corbett, 2005), etc. A crucial role in opportunity discovery is played by prior experience and search (Tang, 2012), which are tightly linked to the process of the development of knowledge stored in the heads of entrepreneurs as cognitive structures created via interaction with the world around them (Baron, 2007), experimentation and reflection.

These cognitive structures are then processed, stretched, expanded, or combined to generate new ideas (Ward, 2004). So, the more students create cognitive structures and generate new opportunities in their study process, the more they will think and behave like entrepreneurs, and they will be able to apply such skills across a broad range of situations (Jones, 2017).

It is believed, that while passing through such a learning process, students develop also topical skills that can help them become more capable of self-negotiated action (Jones, 2019) and lead a successful and fulfilling life. Therefore, if we shift the emphasis from entrepreneurship education to organising studies entrepreneurially even within traditionally non-business-related study disciplines like physics, biology, arts, chemistry, music, literature, etc., opportunity identification, generation, development, and realisation ought to become an inseparable part of a broad pedagogical practice which implies:

- recognition of new ideas and opportunities derived from the study content and context, as well as from the situation and challenges which the living and studying conditions bring to students (Oganisjana & Laizans, 2015; Hietanen & Ruismäki, 2016; Rae, 2017),
- having clear understanding of how knowledge and skills acquired within and across study disciplines can be applied to solve real-life problems in multiple ways for creating new values through experimenting (Lackéus, 2016),
- enhancement of self-confidence based on the regular practice of getting oriented in the changing study environment (Hietanen, 2015),
- facing challenges and overcoming them, becoming more inspired learners (Dweck & Yeager, 2019),

- causing new positive emotions in students, opening new horizons for development, and disclosing new bigger needs to be analysed and met in further studies regardless of the study disciplines (Oganisjana & Matlay, 2012).

Thus, the Framework for organising studies entrepreneurially is the interweaving of 1) pedagogical, andragogical and heutagogical goals, approaches, and tools to gradually enhance students' deliberate autonomy in studying and decision making in different real-life situations (FOrSE pedagogy); 2) this creates a study ethos in which students are encouraged to recognise opportunities rather than see threats in challenges, and realise them into new values (ideas, solutions, products, services, etc.) for themselves and broader society (FOrSE activities); 3) such participation promotes students' CRITIC qualities and skills - courage, responsibility, initiative, tolerance to ambiguity, interactivity and collaboration, creativity (FOrSE personality). Ultimately, students become self-negotiated actors, better and more involved learners, self-confident individuals able to achieve balance and harmony between their inner and outer worlds by thinking, acting courageously, and succeeding despite the challenges and unpredictability that life brings to them.

Reference list

1. Baron, R. A. (2007). Behavioral and cognitive factors in entrepreneurship: Entrepreneurs as the active element in new venture creation. *Strategic Entrepreneurship Journal*, 1(1-2), 167-182.
2. Baron, R. A. (2006). Opportunity Recognition as Pattern Recognition: How Entrepreneurs "Connect the Dots" to Identify New Business Opportunities. *Academy of Management Perspectives*, February, 104-119.
3. Corbett, A.C. (2005). Experiential Learning Within the Process of Opportunity Identification and Exploitation. *Entrepreneurship Theory and Practice*, July, 473-49.
4. Dewey, J. (1938). *Experience & Education*. New York, NY: Kappa Delta Pi.
5. Dweck, C. (2017). *Mindset. Changing the Way You Think to Fulfil Your Potential*, Updated edition, Robinson
6. Dweck C. S., & Yeager, D. S. (2019). Mindsets: A view from two eras. *Perspectives on Psychological Science*, 14(3), 481-496.
7. Gibb, A. (1987). Education for Enterprise: Training for Small Business Initiation - Some Contrasts. *Journal of Small Business and Entrepreneurship*. Vol.4. No.3.
8. Hietanen, L. & Kesälahti, E. (2016). Teachers in general education defining and implementing work-related and entrepreneurial approaches in learning environments. *Periodical of Entrepreneurship Education*, 37-60.
9. Hietanen, L., & Ruismäki, H. (2016). Awakening students' entrepreneurial selves: case music in basic education. *Education + Training*, 58(7/8), 832-848.

10. Hietanen, L. (2015). Entrepreneurial learning environments: supporting or hindering diverse learners? *Education + Training*, 57(5), 512-531.
11. Jones, C. (2019). A signature pedagogy for entrepreneurship education. *Journal of Small Business and Enterprise Development*, 26(2), 2019, 243-254.
12. Jones, P., Maas, G. & Pittaway, L. (2017). *Entrepreneurship Education: New Perspectives on Entrepreneurship Education, Series: Contemporary Issues in Entrepreneurship Research*, 7. UK: Emerald Publishing Limited.
13. Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development* (Vol. 1). Englewood Cliffs, NJ: Prentice-Hall.
14. Lackéus, M. (2016). *Value Creation as Educational Practice - Towards a new Educational Philosophy grounded in Entrepreneurship?* Thesis for the degree of doctor of engineering, Gothenburg: Chalmers University of Technology, Sweden.
15. Lumpkin G.T. & Lichtenstein, B.B. (2005). The Role of Organizational Learning in the Opportunity-Recognition Process. *Entrepreneurship Theory and Practice*, July, 451-472.
16. Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135-172.
17. Oganisjana, K., Westerberg, M., Hietanen, L. (2021). Organizing Studies Entrepreneurially to Adjust Inner and Outer Worlds during COVID-19. *Systemics, Cybernetics and Informatics* 19(2), 60-67. <http://www.iiisci.org/Journal/SCI/FullText.asp?var=&id=ZA846HB21>
18. Oganisjana K., & Laizans, T. (2015). Opportunity-oriented problem-based learning for enhancing entrepreneurship of university students. *Procedia - Social and Behavioral Sciences*, 213, 135 – 141.
19. Oganisjana, K. & Matlay, H. (2012). Entrepreneurship as a dynamic system: A holistic approach to the development of entrepreneurship education. *Industry and Higher Education*, 26 (3), June, 207-216.
20. Palmér, H. & Johansson, M. (2018). Combining entrepreneurship and mathematics in primary school: what happens? *Education Inquiry*. 9. 331-346.
21. Parida, V., Westerberg, M., & Frishammar, J. (2012). Inbound open innovation activities in high-tech SMEs: The impact on innovation performance. *Journal of Small Business Management*, 50(2), 283-309.
22. Rae, D. (2014). *Opportunity-Centred Entrepreneurship* (2nd edn), New York, NY: Palgrave Macmillan.
23. Rae, D. (2003). Opportunity centred learning: an innovation in enterprise education? *Education + Training*, 45 (8-9), 542-549.
24. Sanz-Velasco, S.A. (2006). Opportunity Development as a Learning Process for Entrepreneurs. *International Journal of Entrepreneurial Behaviour & Research*, 12(5), 251-271.

25. Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243-263.
26. Schumpeter, J. A. (1934). *The theory of economic development*. Cambridge, MA: Harvard University Press.
27. Tang, J., Kacmar, K. M., & Busenitz, L. (2012). Entrepreneurial alertness in the pursuit of new opportunities. *Journal of Business Venturing*, 27, 77-94.
28. Ward, T. B. (2004). Cognition, creativity, and entrepreneurship. *Journal of Business Venturing*, 19, 173-188.
29. Westerberg, M. (2020). Conceptualizing Entrepreneurial Mindset and Entrepreneurial Competences in a School Context, Working paper. *Center for Entrepreneurial Learning Entrepreneurship and Innovation Luleå University of Technology*, 1-4. Available online: <https://www.ltu.se/cms fs/1.81121!/file/CRITIC%20conceptualization.pdf>
30. Westerberg, M. (2022). Using self as case in teach-the-teacher courses in entrepreneurship to reflect on experiences as student and teacher. In Wigger, K., Aaboen, L., Haneberg, D. H., Jakobsen, S., & Lauvås, T. (Eds.). (2022). *Reframing the Case Method in Entrepreneurship Education: Cases from the Nordic Countries*. Edward Elgar Publishing.
31. Westerberg, M., Singh, J., & Häckner, E. (1997). Does the CEO matter? An empirical study of small Swedish firms operating in turbulent environments. *Scandinavian Journal of Management*, 13(3), 251-270.
32. Wincent, J. (2008). An exchange approach on firm cooperative orientation and outcomes of strategic multilateral network participants. *Group and Organization Management*, 33(3), 303-329.

Research conducted within FOrSE: The Latvian case

The research conducted within the Erasmus+ project FOrSE started in the spring semester of 2020 which coincided with the escalation of the COVID-19 pandemic, social isolation, and the beginning of active exploitation of digital tools for communication at all levels, including studies at schools and higher education institutions. In the beginning, due to objective circumstances, that unprecedented reality caused definite shock to the FOrSE team. However, gradually it became clear that we had to reorganise our activities both related to studies and research acting purposefully based on the FOrSE conceptual model. Two research cases are analysed below.

Seeing the anxiety and desperate mood caused by the COVID-19 pandemic all over the world, including Latvia, it was decided to elaborate such a project using FOrSE ideas which would inspire students, their parents and teachers as inspiration is needed for entailing motivation, energising, and directing behaviour towards a desired target using triggers, such as people, ideas, or events (Thrash & Elliot, 2003). It was necessary to show that even in tough times and hopeless situations there could be a lot of opportunities for personal and societal growth; their realisation would make us better, stronger, and more experienced.

The project “Every cloud has a silver lining” was elaborated by Karine Oganisjana and piloted in seven schools of Latvia (five secondary schools in: Dricāni, Kandava, Krāslava, Daugavpils and Ulbroka; one basic school in Stāķi and one primary school in Talsi) with 98 teachers and 988 students.

The inspirational goal of that project “Every cloud has a silver lining” was to analyse four life stories of famous people of different professions living in different countries of Europe (Julio Iglesias, a singer from Spain; Pietro Ferrero, an entrepreneur, founder of Ferrero International S.A. in Italy; Joanne Rowling, a writer from Great Britain; Kristaps Porziņģis, a basketball player from Latvia), who faced serious hardships and overcame them, becoming famous and successful owing to positive thinking, systematic hard work, talent, purposefulness, creativity, ability to find a way out of perplex situations, talent for seeing perspectives of growth and believing in the success of what they were doing.

The educational goal of the project “Every cloud has a silver lining” was the enhancement of teachers’ professional competence in elaborating interdisciplinary lessons based on FOrSE principles considering their students’ interests and experiences and promoting their self-directed learning and entrepreneurial skills.

Having received positive feedback from:

- the teachers who either tried the “Every cloud has a silver lining” in work with their students or created and tested their own interdisciplinary projects based on life stories of people living in Latvia,
- the students who identified new opportunities for themselves among the challenges they faced and created worthy ideas and product prototypes,
- the students’ parents who also became inspired and started to “see some light at the end of the tunnel”,

it was decided to run the project at higher education level as well– at Riga Technical University (RTU) during work with first year International Master students. They had arrived in a new country thousands of kilometres away from their homelands and were confined to dormitory rooms without the opportunity to socialise or move freely to familiarise themselves with the new culture and place of living. They were to start the study course “Pedagogy” as an optional study course just before the quarantine. Therefore, the study course was realised only through online and video lecturing, online consultations, and individual projects. Seeing how lost and depressed the students were at the beginning, it was decided to inspire them using the study material “Every cloud has a silver lining” adapted to their level linking that to the theme “The 21st century competencies”. After the first stage of inspiration which took place at the lesson, each student was to work individually realising the remaining four stages of the strategy for organising studies entrepreneurially (see figure 2).

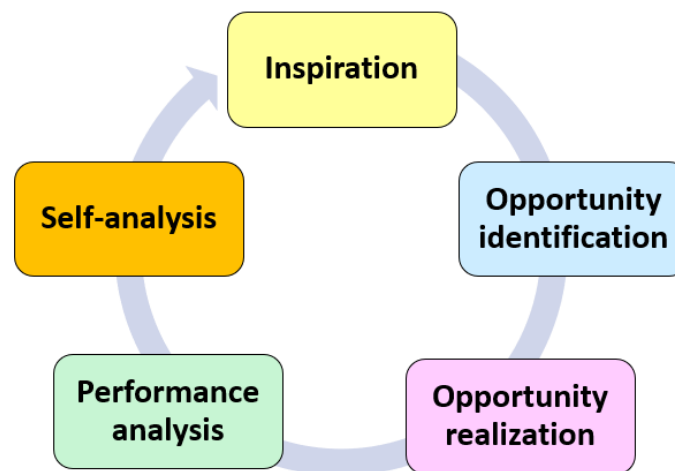


Figure 2. The five-stage strategy of organising studies entrepreneurially,
 Oganisjana, Westerberg & Hietanen, 2021 (I05)

The five-stage strategy of organising studies entrepreneurially was elaborated based on the discussions in chapter 4.3.

1. **Inspiration.** Inspiration plays a key role in entrepreneurship as it impacts creative processes and may have significant transformative effects on cognition, affect and behaviour (Wartiovaara et al., 2019). Therefore, the very first stage of the strategy of organising studies entrepreneurially was inspiring the students with exciting life-success stories of famous people. That was meant to boost students' curiosity, transform their perception of difficulties as triggers and sources for growth instead of insurmountable barriers, and enhance self-confidence in their potential success with the judgement "If those people could overcome the challenges and succeed, why cannot it be me next time?"
2. **Opportunity identification.** Students' analysis of the challenges faced by them and recognition of opportunities which could be derived from these challenges. Choosing the most inspiring opportunity from the list and setting up a goal for doing something valuable for themselves or others.
3. **Opportunity realisation.** Elaboration of individual projects by students and their implementation to achieve the goals with daily registration of the activities and progress in diaries.
4. **Performance analysis.** Writing a report by the students in which they analysed their own outcomes providing photo/video materials if possible.
5. **Self-analysis.** Students' reflection on what they understood while realising the project and what has changed in their: thinking, attitudes towards difficulties and challenges, perception of life, and behaviour.

The research goal was to study the effect of organising studies according to the Five-stage learning strategy on students' thinking, emotions, skills, perception of difficulties and the ability to identify opportunities in challenges and realise them into new values for themselves and others.

The research participants

52 Riga Technical University International Master students who were specialised in: Computer Systems, Business Informatics, Smart Electronic Systems, Telecommunications, Construction Business and Real Estate Management, Electronics, Entrepreneurship and Management,

Aviation transport and Mechanical Engineering. They came from India, Sri-Lanka, Pakistan, China, Azerbaijan, Lebanon, Egypt, Mexico, Nigeria, Ukraine, and Belarus.

The research questions

1. What challenges did students highlight in the COVID-19 pandemic?
2. What opportunities for personal growth and new businesses did the students identify then?
3. What qualities, skills, thinking and behaviour of students were activated during the project?

The research methods

1. Analysis of students’ performance described in their individual reports on the projects they designed and realised.
2. Qualitative content analysis of students’ reflection on what they had understood by doing this project and what had changed in their thinking, attitudes towards difficulties and challenges, perception of life, and the way of acting.

Data collection

The students’ reports on their individual projects formed the body of the empirical data collected from each student (see the template of the report in Table 1).

Table 1
The template for writing the report on individual projects

Name surname ...
<p>Stage 1. Addressing the students as a finalisation of the “Inspiration”</p> <p>Now you have to stay in dormitory because of the Covid-19 pandemic. Of course, you must be upset. But if you think deeper, even in this situation you might be able to identify valuable opportunities for yourself and others and realise them into something valuable like the individuals whose success stories we analysed at the lesson. They did not give up when faced difficulties. Also you can achieve a lot if you work purposefully to make your dreams come true.</p>

Stage 2. Opportunity identification

Think and write down in the right column of the table below the challenges personally you face (as many problems as you can identify) because of the COVID -19 pandemic.

Think and identify some interesting opportunities that you could realise during COVID-19 (could be things which you might have dreamt about for a long time but you always were busy with other activities and didn't have enough time for them - solving a practical problem, solving a scientific problem, developing a business idea, inventing a thing, writing a story or book, making a film, learning to dance, making a variety of interesting and valuable things, etc.). Perhaps some important idea came to your mind exactly now which could help to solve a COVID - 19 related problem. Write the list of opportunities (as many as you can see for yourself) in the left column of the table.

Interesting ideas which you could realise	Challenges you face because of COVID-19
...	...

Choose the most inspiring opportunity for you from the list and elaborate a plan/project to realise it. Formulate the goal of the project.

Stage 3. Opportunity realisation

Plan your task and start realising it step by step every day! You are given from two weeks to a month (no more!) To facilitate your work, it is offered to fill in the following electronic diary, in which at the end of each day you will write down everything you have done that day to achieve your goal.

Day Nr.	What I did today to realise my idea	Time spent	Who helped me
Day 1			
Day 2			
...			

Stage 4. Performance analysis

Write a report on your project to analyse:

- the results of your work (add photos or a video recording if possible),
- how everything was done (describe the process),
- what you might do in a different way next time.

Stage 5. Self-analysis

Please, reflect on:

- what you have understood while realising this task,
- what has changed in your thinking,
- what has changed in your attitudes towards difficulties and challenges,
- what has changed in your perception of life,
- what has changed in your way of acting,

Perhaps nothing has changed. Write about it as well.

Did you like/dislike this project? Please, explain, why.

Data analysis

After getting the students' reports, their parts were reorganised in an Excel file and prepared for qualitative content analysis through open coding to answer the three research questions:

The challenges highlighted by the students during the COVID-19 pandemic: Research question 1

The number of challenges indicated by each student in their report varied from 3 to 8 (mean = 4.93; median =5) but in some cases due to their complex nature, the qualitative content analysis (QCA) exposed a few challenges combined in one. The subsequent analysis of the 21 categories developed in the QCA revealed their relation to five domains of challenges; two of these domains – 'Psycho-emotional' (n=58) and 'Self-organisational' (n=50) are relevant to the students' inner world which can be controlled by them (see Table 2), while the remaining three domains – 'Socio-organisational' (n=79), 'Economic' (n=47) and 'Infrastructural' (n=23) are related to the outer world and were not in their control (see Table 3).

As for the concepts of inner and outer worlds, in the scientific literature they are defined and understood in various ways. In some sources, the inner and outer worlds are given as concepts that fix the difference between everything that refers to the phenomena of the human mental sphere (the inner world), and those that do not belong to it (the outer world) (Gusev, 2009). It is believed that the inner world is also reality, but of a different order; more of the same, knowledge of the outer world remains imperfect without knowing the inner world of a person. The inner world contains all the variety of feelings, sensations, images, and meanings of the human mental spheres which are capable of directing human life and influencing the outer

world (Katunin, 2012). Hence, the cognitive processes necessary for learning, gaining experience and skills, as well as metacognitive processes which are essential for controlling, analysing, organising, constructing, and improving the thinking process, are also constituent parts of the inner world because they belong to the human mental sphere. Therefore, in this research, psycho-emotional, self-organisational and self-developmental aspects of the challenges and opportunities identified by students are related to their inner world. Meanwhile, the economic, infrastructural, and socio-organisational challenges and opportunities linked to life organisation in society are related to the students' outer world.

Table 2

The challenges faced by the students related to their inner world during the COVID-19 pandemic

Inner world	Domains	Category	Frequency	Sum of frequencies	
	Psycho-emotional		Apathy, boredom & laziness	19	58
		Fear	15		
		Depression & frustration	12		
		Feeling lonely & lost	7		
		Missing family & homesickness	5		
Self-organisational		Poor self-disciplining	16	50	
		Disturbed daily routine	10		
		Disorganisation of diet	10		
		Forming undesirable habits	7		
		Passive & unhealthy lifestyle	7		

Together with the categories of Fear (n=15) and Depression & frustration (n=12) which were experienced almost by everyone living in the conditions of strict social isolation, there were also psycho-emotional challenges specific for this group of students who were in long-term quarantine, having just arrived in Latvia. Accordingly, all this led to apathy, boredom, and laziness (n=19), intensified with the feeling of being lonely and lost (n=7) combined with

missing family and homesickness (n=5) (see Table 2). Consequently, this state of mind and emotional decline led to failures in self-organisation. Students mentioned that they had challenges of self-discipline (n=16), as they could not always organise their daily routine (n=10) because of irregular sleep and eating, playing computer games, watching films at nights, having long skype chats, etc. In addition, they had difficulties with organising their diet (n=10) as many of them (male students) could not cook. This passive and unhealthy lifestyle (n=7) gradually formed undesirable habits (n=7) and weakened the inner world of the students.

Table 3

The challenges faced by the students related to their outer world during the COVID-19

	Domains	Category	Frequency	Sum of frequencies	
Outer world	Socio-organisational	Staying indoors	25	79	149
		Missing travel opportunities	15		
		Distance learning	11		
		Social distancing	11		
		Sedentary lifestyle	9		
		Anti-virus measures	8		
	Economic	Job related problems	24	47	
		Financial difficulties	18		
		Rise of grocery prices	5		
	Infrastructural	Public transport	15	23	
Restricted shopping opportunities		8			

As these were first year Master students who had not had any opportunities to get acquainted with each other, they complained of lack of human interaction, which negatively impacted their learning outcomes. Along with the dislike of full distance learning (n=11), the students were also unhappy with other aspects of life organisation in the society (n=79) (see Table 3), which

came into their reality from the outer world. One of the most painful challenges for them was the lack of opportunities to travel (n=15); it turned out that these young people were active travellers who suffered because of the sedentary lifestyle (n=9). Besides, the students faced serious economic challenges, as they had planned to combine university studies with a job which became too hard to realise (n=24); that caused financial difficulties (n=18) worsened by the rise of grocery prices (n=5). The restricted shopping opportunities (n=8) and the safety measures in using public transport (n=8) were infrastructure related challenges which greatly irritated the students. Thus, the students highlighted more frequently the challenges coming from the outer world (n=148) compared to the challenges conditioned by the state of their inner world (n=108) (see Tables 2 and 3).

The opportunities for personal growth and new businesses identified by the students: Research question 2

As the time given for the realisation of the project varied from two weeks to a month, the students had enough time to undertake activities that could lead to tangible results. Since the opportunities arose from the challenges faced, it was not surprising that they had some internal logical connection within definite domains of challenges which turned out to be ‘Psycho-emotional’ (n=47), ‘Self-organisational’ (n=100), ‘Socio-organisational’ (n=29) and ‘Economic’ (n=21) domains (see Table 4).

Table 4

Opportunities identified by the Master students during the COVID-19 pandemic

Dimension	Domain	Categories	Frequency	Sum of frequencies	
Inner world	Psycho-emotional	Doing hobbies	12	47	257
		Entertainment	12		
		Meditation & mental health	11		
		Yoga	8		
		Positive thinking	4		
	Self-organisational	Cooking	27	100	
		Exercising & sporting	21		
		Organisation of diet	14		
		Healthy lifestyle	9		
		Self-disciplining	8		
		Organisation of daily routine	8		

Dimension	Domain	Categories	Frequency	Sum of frequencies	
		Personal finance management	5	110	
		Life planning	5		
	Self-developmental	Learning	31		
		Enhancing creativity	27		
		Improving professional skills	16		
		Enhancing talents & abilities	14		
		Reading	12		
		Self-discovery	10		
Outer world	Socio-organisational	New value creation	11	29	50
		Spending time with family	9		
		Combating social distancing	9		
	Economic	New business ideas	21	21	

However, no opportunities were identified related to the ‘Infrastructural’ domain as the students could neither impact any aspects of public transport nor the organisation of shopping in their new place of living (compare Table 3 and 4). At the same time a new ‘Self-developmental’ (n=110) domain was formed which was the most frequently mentioned one (see Table 4).

To overcome the psycho-emotional challenges, the students took up different hobbies (n=12), meditation (n=11), yoga (n=8), positive thinking exercises (n=4), also inventing different ways of entertainment (n=12) like virtual travelling, online picnicking with families and friends, accompanying that with music, games, food, and a lot of fun.

The opportunities identified and realised within the ‘Self-organisational domain’ had very positive impact on the students as owing to them they were able to overcome the challenges mentioned within that domain – even the male students learnt to cook (photos and in some cases even the recipes of their culinary masterpieces were given in the project report) and became independent of cafes and canteens (n=27), owing to regular exercising (n=21),

healthy lifestyle (n=9) and well-organised diet (n=14), some of the students managed to get rid of extra weight gained because of the unhealthy lifestyle (they provided their before-and-after photos); instead of useless chats and internet TV shows, step by step they created a new routine to go to bed and wake up on time and manage all the daily routine and university assignments according to the schedule without procrastination (n=8); some of them even managed to analyse their expenses critically and reorganise their personal finances in such a way that they eliminated their debts and managed their finances more effectively (n=5); some students created new life plans having analysed their own experiences, likes and dislikes (n=5).

The 'Self-developmental' opportunities identified and realised by the students make the third domain (n=110) of the group of opportunities related to the students' inner world (see Table 4). Most students devoted more energy and time to the learning of different new things important for themselves (n=31); showing the certificates they got at the end of that period (n=16). Some students were so inspired that they decided to realise their dreams (drawing, dancing, creating internet blogs, composing music, growing plants on the windowsills, writing stories, reading science fiction, etc.) which before were ignored or couldn't be devoted time to for different reasons. Thus, the students enhanced their talents and abilities (n=14) and made self-discoveries (n=10).

All these opportunities are not business-oriented but are focused on the inner world of the students. They will not directly or immediately lead to the creation of some values for commercialisation today, but they were key factors in making students whole, physically and mentally balanced and happy even in the face of the COVID-19 pandemic. However, there were also opportunities identified and initiated to impact the outer world (n=50) such as: new value creation (n=11) like creating new types of learning courses on coding; elaboration of new concepts of videogames; making homemade sanitisers using natural and harmless ingredients (ayurvedic leaves like tulsi, neem and others), etc. (see Table 4).

The students purposefully started to seek new, more fruitful ways of spending time with their families (n=9) and combating social distancing (n=9) with friends; some of them even managed to elaborate business plans through Skype meetings for starting businesses with families or friends or improving the existing ones (n=21). Thus, the challenges students faced led them to the identification and implementation of new ways of overcoming them. Nonetheless, the profiles of the distribution of frequencies of the six domains for the challenges and opportunities are different (see Figure 3).

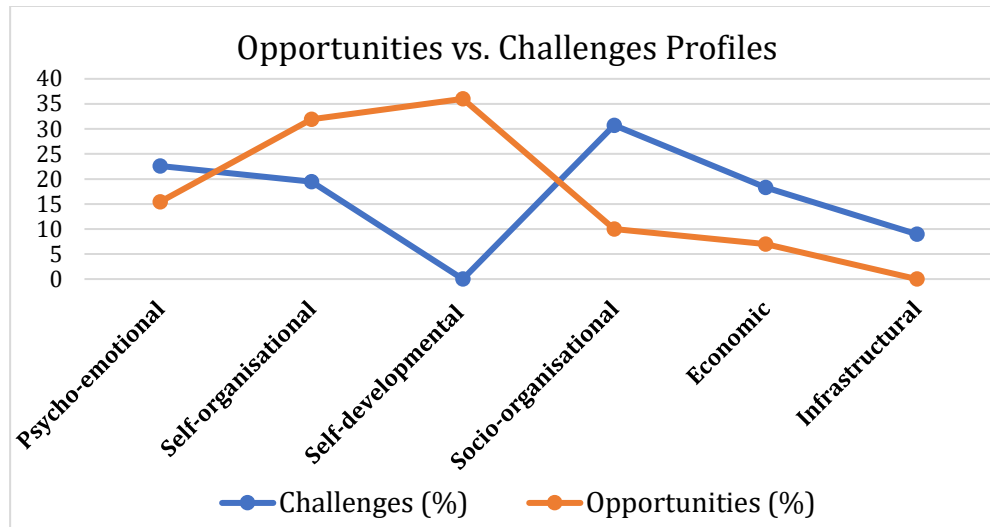


Figure 3. The distribution of frequencies of opportunities vs. challenges by the domains. This means that the numbers of opportunities identified related to each domain do not correlate with the number of challenges mentioned by the students. In this research such a discrepancy of the profiles does not play any specific role, as a summative effect of challenges which brought to opportunity identification is obvious. As for the 'Self-developmental' domain of opportunities (this did not emerge among the domains of challenges), it could be considered as subpart of the 'Self-organisational' domain, as it was made possible by the students' activities to organise their daily lives. Still, these two domains were not integrated into one with the intention to emphasise the great positive developmental by effect caused by the students' self-organisation.

Summing up all the frequencies of the challenges and opportunities related to the inner and outer world, it was concluded that more challenges were mentioned coming from the outer world while more opportunities were identified and realised for the perfection of the inner world (see Figure 4).

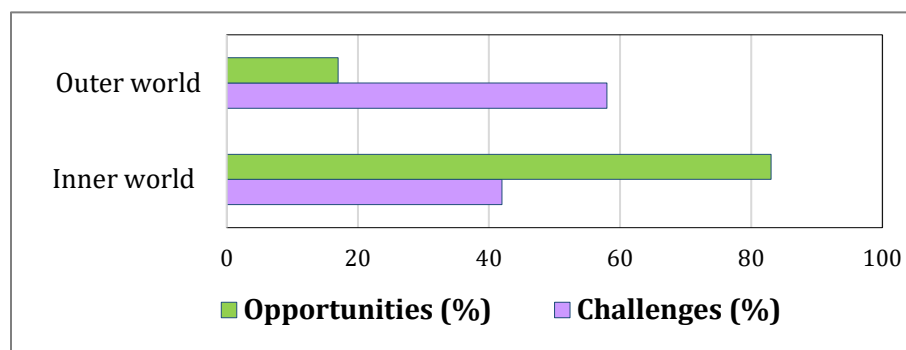


Figure 4. Analysis of the opportunities and challenges related to the students' inner world vs. outer world

This finding is very typical for humans as they usually see more problems coming from outside rather than they recognise them in their inner world as a result of critical self-analysis. And when they try to do good, they think first of all about their personal fulfilment, and only after that they direct their efforts to perfect the outer world.

Qualities and skills activated in students during the project: Research question 3

The qualitative content analysis of the texts of the students’ reflections on how everything was done; what they understood while tackling this task; what has changed in their thinking; attitudes towards difficulties and challenges; perception of life; way of acting; also including their comments on whether they liked/disliked the project, brought to six domains of categories developed in the course of the analysis (see Figure 5).

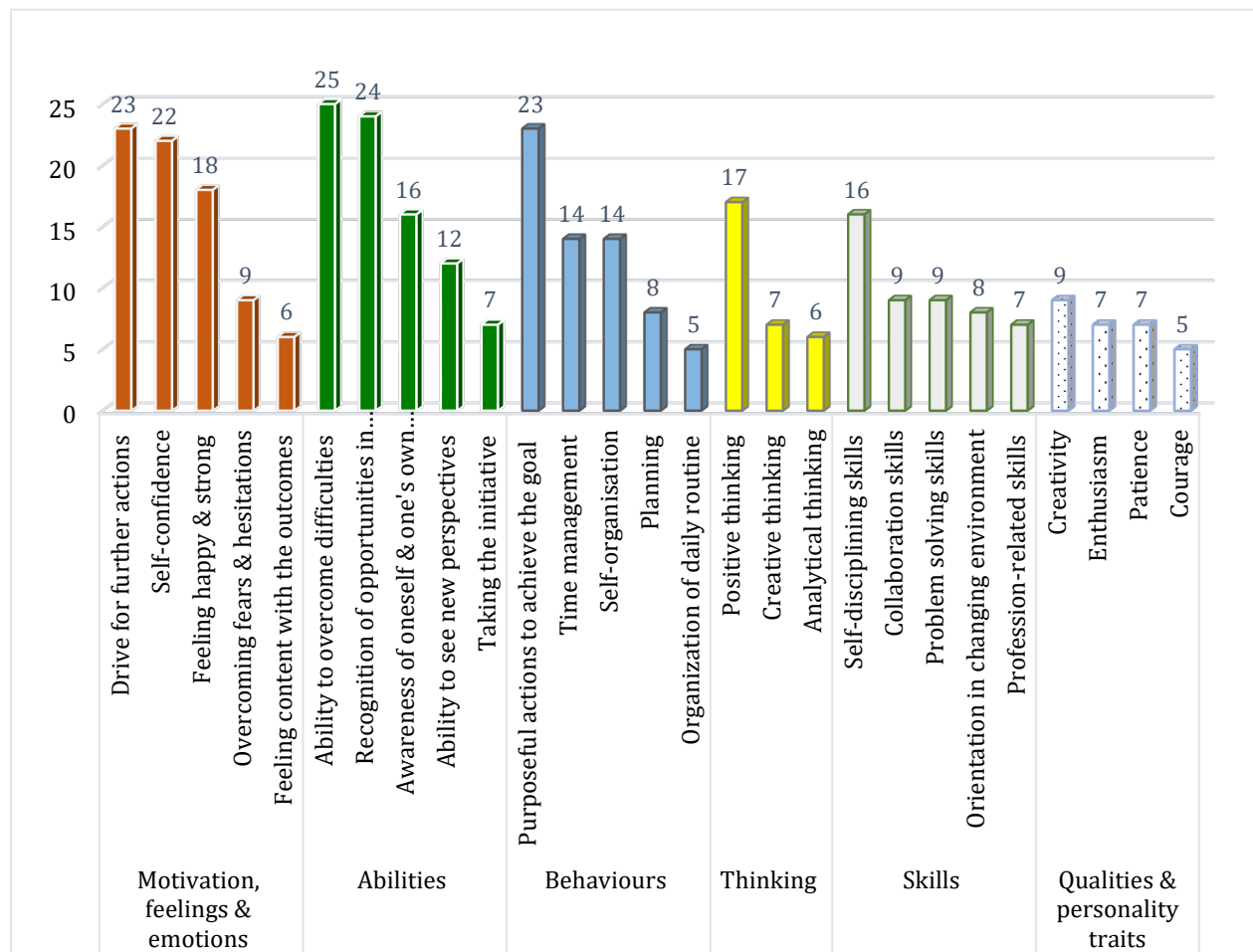


Figure 5. Qualities and skills activated in students during their projects

The six domains ‘Motivation, feelings & emotions’, ‘Abilities’, ‘Behaviours’, ‘Thinking’, ‘Skills’ and ‘Qualities & personality traits’ which emerged in the qualitative content analysis show a serious and many-faceted impact of the project on the students. It could not have been forecasted in advance, as it was impossible to guess what kind of projects the Master students would elaborate and realise and what response they could have to the entirely new type of work online based on the FOrSE ideas. But even only the categories of the first domain which show that the students got ‘Drive for further actions’, enhanced ‘Self-confidence’, started ‘Feeling happy & strong’, ‘Overcame their fears & hesitations’ and ‘Felt content with the outcomes’ give evidence of the fact that the study process realised according to “The five-stage strategy of organising studies entrepreneurially” energised them and caused positive transformations in themselves, their thinking and behaviours. As a result, they managed to organise themselves becoming more disciplined, they collaborated, solved problems, got oriented in the changing environment, thought and acted entrepreneurially broadening their thinking horizons, acting purposefully and realising the opportunities identified among challenges (see Figure 5).

Conclusion

This was a trial of promoting students’ self-directed learning by integrating “The five-stage strategy for organising studies entrepreneurially” into a university study course of Pedagogy. The autonomous learning organised according to that model activated several qualities, skills, behaviours and emotions which are typical for people with entrepreneurial mindset. Students learned to organise their learning, living and real-life problem solving through identifying and realising opportunities despite the crisis. By doing so, students adapted their inner world to the outer world, revealed and strengthened their potentials, self-confidence, became better organised and sharpened their awareness of their own state of mind, talents, and dispositions. Thus, the Five-stage strategy of organising studies entrepreneurially can be considered as an appropriate approach to the making students self-negotiated actors able to succeed in life and feel happy.

Though this strategy has been used in work with more than 300 RTU Master students since the spring semester of 2020 within the study course “Pedagogy”, to generalise the findings of this research, this strategy should be tested also within other school and university study courses.

Reference list

1. Gusev, S.S. (2009). Inner and Outer World (“*Внутренний и внешний мир*”). In *Encyclopedia of Epistemology and Philosophy of Science* (Энциклопедия эпистемологии и философии науки, pp. 115-116.). Moscow: Канон.
2. Katunin, A. V. (2012). The observable and unobservable in the inner world of man, unobservable I (*Наблюдаемое и ненаблюдаемое во внутреннем мире человека, ненаблюдаемость я*), Human inner world (*Внутренний мир человека*), *Psychology and*

3. *psychotechnics (Психология и психотехника)*, 3(42), 12-25.
4. Kolb, D. (1985). *Learning styles inventory*, USA.
5. Oganisjana, K., Westerberg, M., Hietanen, L. (2021). Organizing Studies Entrepreneurially to Adjust Inner and Outer Worlds during COVID-19. *Systemics, Cybernetics and Informatics* 19(2), 60-67. <http://www.iiisci.org/Journal/SCI/FullText.asp?var=&id=ZA846HB21>
6. Thrash, T. M., & Elliot, A.J. (2003). Inspiration as a Psychological Construct. *Journal of Personality and Social Psychology*, 84(4), 871-889.
7. Wartiovaara, M., Lahti, T, & Wincent, J. (2019). The role of inspiration in entrepreneurship: Theory and the future research agenda, *Journal of Business Research*, 101, August, 548-554.

Research conducted within FOrSE: The Finnish case

Introduction

During the spring semester 2021, there were some interpretations about the FOrSE activities carried out in Latvia, Sweden, and Finland, presented in common international webinars. Referring to the original project plan, at the University of Lapland, the cases have in an appropriate way and extent been developed further through applying the appropriate details and ideas in five university music courses during the spring semester 2022. Also, the C-R-I-T-I-C as the theoretical basis of the project, has been noticed during the courses.

The core in the ERASMUS + FOrSE project plan: case Finland/University of Lapland

The target group:

- teachers at the Teacher Training School (Comprehensive school, grades 1-9)
- student teachers in the primary school teacher education
- teacher educators at the Faculty of Education

The goal:

- as original: student teachers interpreting entrepreneurial approach while their teacher training periods and contributing the development process in FOrSE
- Mainly due to the COVID-19, the teacher training periods have been partly or totally remote – or the teacher educators have not been able to physically visit the Teacher Training School.

=> To confirm the implementation of the FOrSE ideas, the appropriate details of the previous cases in the three participating countries (carried out in spring semester 2021) have been applied in the student teachers' teaching-learning situations in their music courses, also in their pedagogical training moments in the face-to-face lessons at the university (spring semester 2022).

The change: instead using the lessons during the teacher training periods, the contexts have been music studies in the music courses at the university.

Activities in Finland

NERA-conference, Turku, March 2019

Concepts defined a) according to the educational sciences, and b) according to the entrepreneurial sciences => a tool to teachers in general education (coming from educational sciences) to understand the “entrepreneurial language”.

A little data sampled from about 10 student teachers who participated in a entrepreneurship education lesson at the University of Lapland AND wanted to share their understanding how

they had studied entrepreneurially when remotely due to the COVID-19 in spring semester 2020.

A little data sampled from some in-service teachers at the Teacher Training School and teacher educators – focusing on the way to think on another way due to COVID-19 (collected autumn 2020).

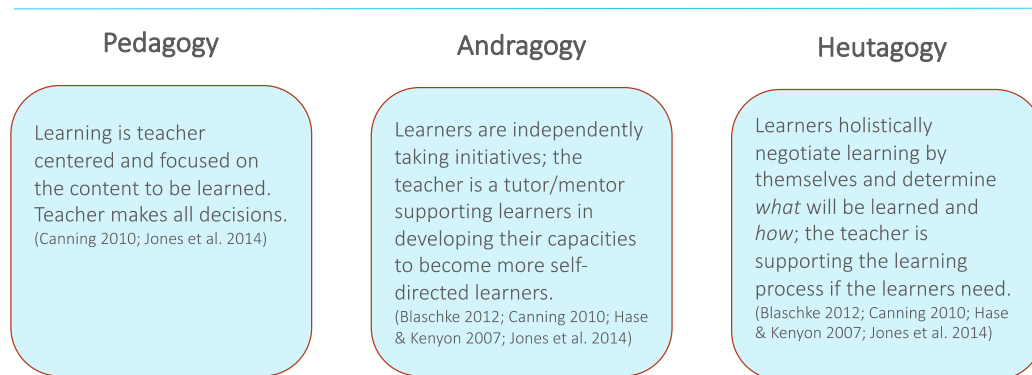
⇒ Paper1 to be published in a journal in the field of education

Spring semester 2021: three in-service teachers at the Teacher Training School designed three examples about how to utilize P-A-H -approach with the courses at the basic education

- Three different ways to utilize the PAH, which was the theoretical basis for the cases (FIN cases 1, 2, and 3)
- Presented in the project online international webinar in spring 2020 and parts of them as developed face-to-face in Riga in October 2021
- two student teachers also presented in spring 2020 in the online international webinar their interpretations about their own cases (FIN cases 4 and 5)



Pedagogy – Andragogy – Heutagogy:
developing a capacity for self-negotiated action (Jones 2019)



A capacity for self-negotiated action needs all three 'gogys': educator inputs, student enthusiasm and agreed responsibilities around resources and responsibilities (Jones 2019)



FIN case 1: How are we working in the future? Organizing studies entrepreneurially in social studies.

- 6 x 45 minutes lesson
- Participants: 47 pupils on the 9th grade (16-year-old)
- Goals: To study social studies with the theme: Working life in the future
- The pupils were allowed to decide whether
 - a) To study alone or in groups

b) To follow pedagogy, andragogy or heutagogy approach

Pedagogy	3 pupils	studied in a traditional way according to the teacher's instructions
Andragogy	18 pupils => at the end: 28 pupils	worked in Google Classroom; teacher was helping with scheduling and assisted by providing the framework of the content by slides - was guiding when needed and asked.
Heutagogy	26 pupils => at the end: 16 pupils	worked autonomously deciding by themselves all matters related to the task.

FIN case 2: Training distance learning in contact teaching in classroom in Swedish studies

- 45 minutes lessons:
- Lessons 1, 3, 5, etc: exercises and instructions in Google Classroom; pupils studying with own computers; teacher and special education teacher supporting when needed (at the end: easier/more challenging task to be chosen)
- Lessons 2, 4, 6, etc: teacher cantered part, and exercises “as usual”: teacher and pupils in classroom
- Participants: 3 groups/70 pupils on the 7th grade and 3 groups/70 pupils on the 9th grade
- Goals: To examine the pros and cons in distance learning – and the needs/usefulness of entrepreneurial skills; to strengthen the pupils’ awareness about ‘learning to learn’ (Transversal competences in the Finnish curricula)
- All the tasks were in videos in Google Classroom => able to do alone or in groups

Pedagogy	Some pupils studied mainly pedagogically with the teacher's tight support and guidance	The difference between 7 th and 9 th graders was not remarkable.
Andragogy	Most pupils were able to study andragogically	
Heutagogy	Some pupils started straight in the beginning to search for heutagogical approach; only few were able to study that way	

FIN case 3: Pupils' study paths in mother tongue

- 6 x 45 minutes lesson: exam at the end
- Participants: 24 pupils on 7th grade
- Goals: to study grammar in Finnish language entrepreneurially and learning to learn (according to the transversal competences defined in the curriculum)
- All the tasks were in videos in Google Classroom => able to do alone or in groups

Pedagogy	4	The pupils needed such continuing teacher-centered teaching, but took more responsibility for their own learning as usually: the approach was between pedagogy and andragogy.
Andragogy	20	They were responsible for their own time planning – had to control their own schedules Teacher’s support was mainly needed in the beginning of the lesson as enhancing pupils to begin Some pupils were interested in heutagogical approach, but they still needed teacher to confirm the basis of the grammar and if their solutions were right or not, also to help with scheduling
Heutagogy	-	(See ahead of)

FIN case 4: Developing entrepreneurial skills of university students in collaboration with entrepreneurs

- 3 university students in Entrepreneurship education studies and one entrepreneur (also primary school student teacher just before her graduation) guiding the students’ task in their course focusing on entrepreneur’s digital skills.
- The task:
 - To support the students to design online training course for one company’s management and a plan how to enact the course
 - The students were allowed such freely to create the way to carry out the task
 - The project was a circle: the students created ideas by negotiating in their own group – presented the ideas to the firm owner – students elaborated the ideas using the feedback the owner gave – one more negotiation with the owner => then the students completed the task.
 - The project was a real one and the students carried it out with the real big firm – which they appreciated a lot

Pedagogy	Very few limits
Andragogy	In the phases where the students <ul style="list-style-type: none"> • received the order/task and had to notice the limits • used the owner’s feedback
Heutagogy	<ul style="list-style-type: none"> • when creating the first draft

***FIN case 5: Bachelor thesis: process between pedagogy – andragogy – heutagogy
The thesis focused on one project (Curricula in pedagogical studies including the topic: Elderly people using mobile devices)***

- Participants: one student in media education at the faculty of education who self-assessed her bachelor thesis process through an ‘entrepreneurial lens’ searching for her entrepreneurial self (Hietanen & Järvi, 2015; Krueger, 2009).

Heutagogy	Choosing the topic	<p>INITIATIVE: Contacting one project leader and receiving from her the exact topic for the study.</p> <ul style="list-style-type: none"> ⇒ Collaboration ⇒ Networking ⇒ Professionality <p>Strengths, skills, goals, competence => reflection, critic</p> <p>RESPONSIBILITY: noticing that need to be more responsible for the project schedule => self-determined learner</p>
Pedagogy	Finding out the rules	To follow the ethical and quality bachelor thesis guidelines defined at the Faculty of Education.
Andragogy Heutagogy	Designing the study process	<p>Applying the instructions given by the teacher and searching for an own way to become a self-directed learner.</p> <p>Completing the study plan, including a realistic timetable.</p>
Andragogy Heutagogy	Carrying out the research, and writing the thesis	<p>Confirming the scientific requirements to be enacted (purpose – goal – RQ:s – discussion).</p> <p>Methodological decision: the lecturer’s knowledge vs. the student’s knowledge => both utilized.</p> <p>INITIATIVE: asked feedback from teacher when needed.</p> <p>RESPONSIBILITY: Actively asked guidance when noticing problems with the methodological issues.</p> <p>Self-determined learner: Got some extra-job to do from the project-team.</p>
Between Andragogy And Heutagogy	Summary of the self-assessment concerning the entire process	<p>Individual guidance -> previous understanding and active experience applying it in the thesis.</p> <p>The learning goal formulated mainly by the student.</p> <p>Collaborative seminar sessions: the lecturer encouraged learners to work as a research group.</p> <p>The lecturer does not give straight answers -> students’ initiative and responsibility for their own work and learning process.</p>

		<p>Reflection in action (Schön, 1987): Follow up your goals throughout the entire thesis process.</p> <p>The lecturer's role: supportive, guiding and giving feedback.</p>
--	--	--

NERA-conference, Odense, November 2021

- Paper presenting the three cases carried out in the Teacher Training School in spring 2021
- PAH and to some extent the CRITIC as the theoretical basis in the study
- ⇒ Paper2 to be published in a journal in the field of education

Spring semester 2022: FORSE as an approach in the music courses at the university (FIN cases 6a, 6b, 6c, 6d, and 6e): some ideas about the Finnish, Latvian and Swedish implementations (the implementations, which were carried out and presented internationally in the project meetings in spring 2021) ***applied in five music courses in the primary school teacher education programme at the University of Lapland: two groups of student teachers.***

Application of the previous FORSE implementations in different FORSE-countries and presented in spring semester 2021, interpreted in the Finnish music courses in spring semester 2022:

Inner world is here focused on:

- **C-R-I-T-I-C** (Westerberg 2020), especially tolerating ambiguity (Oganisjana et al., 2021)
- identifying and realizing opportunities, maybe also creating them further (Oganisjana et al. 2021)
- following self-determination as much as possible – towards self-negotiated action, but supported by a teacher when needed (Jones et al., 2014; Jones, 2019; Oganisjana et al., 2021).

Outer world is here focused on:

- challenges and opportunities linked in the teachers' profession in the future concerning the teachers' teacher educators' and student teachers' pedagogical solutions and trials, including collaboration

Between inner and outer world:

- Sustainable development goals: Goal 4: Quality Education (The 2030 Agenda for Sustainable Development: United Nations Member States, 2015)

FIN case 6a: Music course to study a triad as a tool when designing accompaniment for a song

- a part of one of the music courses in the compulsory music studies (about 0.5 credit points/ECTS)
- 90 primary school student teachers participating
- The task:
 - to design an accompaniment for a song, based on the triads and to be played both by a keyboard and a xylophone
 - to write the accompaniment by notes
 - to present the accompaniment to the peer students with a description about the used theoretical music principles, suggested pupils' previous skills and knowledge to enable them to play the accompaniment, and the musical knowledge the pupils are supposed to learn by training and playing the accompaniment
- Teaching-learning situations were organized combining the following elements (Hietanen & Ruismäki, 2017):
 - Lecturer-led situations (defining the limits for the mainly creative task)
 - Student teachers creating their own production (an accompaniment)
 - Lecturer-student teacher interaction
 - Student teacher-student teacher interaction
 - Student teachers learning by doing (Cope & Watts, 2000)

FIN case 6b: Music course to study and practice music from a didactical and pedagogical view: a curriculum implementation course

- one of the music courses in the compulsory music studies (1.0 credit point/ECTS)
- 90 primary school student teachers participating
- The task:
 - In smaller groups, the student teachers enact the goals and contents in music, noticing also the six transversal competences (including Working life competence and entrepreneurship education)
 - Each group design a plan for one music lesson focusing on the given view in music (singing, playing, listening, composing etc.) and demonstrate it with the peer students
 - Collaborative reflection on action from both a music pedagogical and the transversal competences' view
- Teaching-learning situations were organized combining the following elements (see Hietanen & Ruismäki, 2017):
 - Lecturer-led situations (lecturer defining the limits for the mainly creative task)
 - Student teachers creating their own way to implement the curriculum as a plan and as demonstrating the teaching-learning situations
 - Lecturer-student teacher interaction
 - Student teacher-student teacher interaction (both in
 - Student teachers learning by doing (Cope & Watts, 2000)

- Student teachers reflecting on their pedagogical solutions and transversal competences been implemented and strengthened by the “pupils” (their peer learners) (see Hietanen & Kesälahti, 2016; Sepp et al., 2022)

FIN case 6c: Music course to study piano playing as a tool for primary school teacher to lead musical activities with the pupils

- one of the music courses in the obligatory, advanced music studies (based on the compulsory music courses at the university) (3 credit points/ECTS)
- 19 primary school student teachers participating
- The task
 - The student plays a song he/she wants to – as well as can.
 - Based on the student’s presentation, the lecturer comments playing from a view of piano as a pedagogical tool
 - The lecturer presents some possible examples about how to develop further => the students may develop their playing either following some of the lecturer’s proposals or creating an own way. In any case, the student has to complete the idea in the development by her/himself (the lecturer shows only ideas, but not clear models to repeat)
 - The described interaction by playing and negotiating is repeated few times, but finally, the student teacher chooses a song he/she wants to and applies the practiced different ways to play into the song – and may create some more new ways, too. The lecturer and the student are together assessing the (recorded) playing – from the view of piano as a pedagogical tool (Sepp et al., 2022)
 - In smaller groups, the students are playing in a little school band, and finding out a way how to lead the band by playing piano; the lecturer shows some examples, what the students mostly such carefully follow
- Teaching-learning situations were organized combining the following elements (Hietanen & Ruismäki, 2017):
 - Lecturer-led situations (defining the limits for the mainly creative task)
 - Student teachers creating their own production (an accompaniment)
 - Lecturer-student teacher interaction
 - Student teacher-student teacher interaction
 - Student teachers learning by doing (Cope & Watts, 2000)

FIN case 6d: Music course to study about the roles of different elements in music (rhythm, melody, harmony, etc.) and to create different tasks for pupils on different phases on their musical paths

- one of the music courses in the obligatory, advanced music studies (based on the compulsory music courses at the university) (2 credit points/ECTS)
- 19 primary school student teachers participating
- The task:

- Each smaller group considered one element of music and its role in different styles of music
- Each smaller group created a model about how to focus on that element when musicking, composing or listening to music, and demonstrated it
- Each smaller group created - to be played in the given instruments in certain song - three different phases to play, which challenges pupils in different ways (to notice diversity among the pupils) and demonstrated them
- At the end of the course, the student teachers were applying all the created phases when playing some other songs, also creating the phases further, if wanted so
- Teaching-learning situations were organized combining the following elements (Hietanen & Ruismäki, 2017):
 - Lecturer-led situations (defining the limits for the mainly creative task)
 - Student teachers creating their own production (an accompaniment)
 - Lecturer-student teacher interaction
 - Student teacher-student teacher interaction
 - Student teachers learning by doing (Cope & Watts, 2000)

FIN case 6e: Music seminar to deepen and widen the studied music contents and understanding about music and teaching music as phenomena

- one of the music courses in the obligatory, advanced music studies (based on the compulsory music courses at the university) (3 credit points/ECTS)
- 19 primary school student teachers participating
- The task:
 - To study one issue in music teaching at comprehensive school, which has not yet been studied in depth during the previous music courses (e.g., assessment in music, using iPad-instruments in group musicking, how to participate every pupil in musicking simultaneously, etc.)
 - To demonstrate the issue by presenting the problem and then – after searching for some previous best practices (using internet) or previous research focusing on the issue – creating one possible solution to the problem
 - Finally writing a report of the process with the references
- Teaching-learning situations were organized combining the following elements (Hietanen & Ruismäki, 2017):
 - Lecturer-led situations (defining the limits for the mainly creative task)
 - Student teachers creating their own production (an accompaniment)
 - Lecturer-student teacher interaction
 - Student teacher-student teacher interaction
 - Student teachers learning by doing (Cope & Watts, 2000)

Disseminations about the FORSE at the University of Lapland:

Theoretical basis, implementations in the project, and the guidelines for the future applications and development trials

- The staff at the Teacher Training School (May 2022; about 30 participants)
- The staff at the Primary School Teacher Education programme at the Faculty of Education (May/June 2022; about 25 participants)

Research conducted within FOrSE: The Swedish case

Introduction

In Sweden the collaborating teachers have been testing and applying the FOrSE frameworks in their teaching. We have mainly worked with the CRITIC framework and so far the empirical material collected through Loopme and other sources has not been fully analysed and put in paper format. Instead, the research from Sweden has been more conceptual in developing the CRITIC framework (see IO4) and the FOrSE pedagogic strategy (see IO8). Next, we will give a more practical outline of the two aspects based on Powerpoint presentations.

The strategy (building blocks) of FOrSE

In this text we reproduce text from Westerberg (2022, IO8) alongside with powerpoints presented in the final Riga conference (M1) as well as for Swedish teachers (M2).






As Jones (2019) notes, it is important to know which form of entrepreneurship education you are involved in—the more transactional entrepreneurship education where mainly self-selected students work with ventures and business, or the more transformative enterprise education where any student may experience personal development. However, regardless of the approach to entrepreneurial education, we hold that the following five pillars are important building blocks of the entrepreneurially organised education:

- striving towards a growth mindset (Dweck, 2017)
- experiential learning (Dewey, 1938; Kolb, 1984)
- developing entrepreneurial competences alongside subject knowledge (Palmér & Johansson, 2018; Westerberg, 2020)
- working with real problems and real users—creating real value (Lackéus, 2016)
- striving to develop individuals capable of self-negotiated action (Jones, 2019).

Building block 1 when working entrepreneurially...
Carol Dweck's Mindset Theory

Summary of Dweck's *Mindset*

Fixed vs Growth

<u>ability is static</u>		<u>ability is developed</u>
avoids challenges		embraces challenges
gives up easily		persists in obstacles
sees effort as fruitless		sees effort as necessary
ignores useful criticism		learns from criticism
threatened by others		inspired by others' success


The leader focuses on assessment and selection

The leader focuses on coaching and inspiration

LULEÅ TEKNISKA UNIVERSITET

UNDERSÖKNING

12



Regarding building block 1, Dweck's (2017) theory on fixed versus growth mindset is powerful in entrepreneurship education as it is about changing focus from performing (looking good) to learning (getting better). Entrepreneurs constantly have to learn to be able to cope and prosper wherever they are and regardless if they are striving towards commercial, social, or other goals. This is true for any entrepreneurial action where uncertainty and ambiguity will be present. Having a mindset that focuses on development and learning is therefore crucial, and I suggest that all entrepreneurial educators should strive towards a growth mindset in all they do to create a good foundation for their educational activities.

Building block 2 when working entrepreneurially...

Applying a learning by doing approach

Make room for (real) action

Make room for (deep) reflection

Use design thinking

LULEÅ
TEKNISKA
UNIVERSITET

LULEÅ TEKNISKA UNIVERSITET UNDERVISNING 13

Turning to building block 2, ‘Learning by doing’ is a well-known phrase linked to experiential learning. However, as Dewey (1938) noted, experience without reflection will not lead to learning. Many researchers have thought about this since Dewey’s time, and perhaps Kolb’s (1984) learning cycle is the best-known model, where he also includes abstract conceptualization and active experimentation as well as experience and reflection. Regardless of the model, entrepreneurial educators need to work with both experiences and reflection.

Building block 3 when working entrepreneurially...

Develop student’s entrepreneurial competences

Entrepreneurial competences is a means for getting things done – for being able to seize opportunities and create value for others – i.e. behave as an entrepreneur

- Strong evidence in the entrepreneurship literature that entrepreneurial orientation (risk-taking, proactiveness, autonomy and innovativeness) is linked to better value creation
- Recent studies in education show that entrepreneurial competences facilitates learning subject matter (Palmér & Johansson, 2018)

Palmér, H. & Johansson, M. (2018). Combining entrepreneurship and mathematics in primary school: what happens? *Education Inquiry*. 9. 331-346.

LULEÅ
TEKNISKA
UNIVERSITET

LULEÅ TEKNISKA UNIVERSITET UNDERVISNING 14


Looking at the third building block, it is evident that entrepreneurial education should lead to development of entrepreneurial competences. However, it is important to understand that entrepreneurial action is always linked to subject knowledge outside the entrepreneurship domain. By consciously reflecting on these linkages, it is possible to develop better both entrepreneurial competences and subject knowledge. Palmér and Johansson (2018) found in their study that entrepreneurial competences (e.g. tolerance for ambiguity) were key to developing problem-solving skills in mathematics. If the educator can help the student see the link between improved entrepreneurial competences and improved subject skills, this can boost learning.

The fourth building block is focusing on that entrepreneurship aims to create value. It is the essence of why entrepreneurship exists. Entrepreneurial action has the potential to create value—and this makes it highly motivational. Experiencing your actions creating value for others makes them meaningful and drives intrinsic motivation. Therefore, the entrepreneurial educator should facilitate value creation and help the student see how they create value for others.

Building block 4– working with real problems and real users makes for a motivational situation

- Entrepreneurship is about
 - Identifying/creating opportunities that can be realized
 - Creating value (economical/cultural/social) for others

- This creates an intrinsically motivating situation by offering
 - A strong autonomy – room to influence
 - Meaningfulness – as you bring value to others
 - Rich work content linked to something you are good at
 - Ample feed-back from the process



LULEÅ TEKNISKA UNIVERSITET
UNDERVISNING
16

The fifth and final building block is about the long-term goal with entrepreneurial education. When focusing on lifelong learning and development, by engaging in real problems and real users, and through constantly applying action and reflection, leading to value creation and developing both entrepreneurial and subject-specific competences, the individual will—over time—be more and more capable of self-negotiated action (Jones, 2019). Such an individual will be able to lead a good life at the same time as being highly influential in developing a better society.

Building block 5— striving for self-directed learning

LULEÅ TEKNISKA UNIVERSITET

Pedagogy,
Andragogy,
Heutagogy
compared.

Heutagogy:
The
management of
self-managed
learners

	Pedagogy Children's learning	Andragogy Adults learning	Heutagogy Self-directed learning
Dependence	The learner is a dependent personality. Teacher determines what, how and when anything is learned.	Adults are independent. They strive for autonomy and self-direction in learning.	Learners are interdependent. They identify the potential to learn from novel experiences as a matter of course. They are able to manage their own learning.
Resources for learning	The learner has few resources – the teacher devises transmission techniques to store knowledge in the learner's head.	Adults use their own and other's experience.	Teacher provides some resources but the learner decides the path by negotiating the learning.
Reasons for learning	Learn in order to advance to the next stage.	Adults learn when they experience a need to know or to perform more effectively.	Learning is not necessarily planned or linear. Learning is not necessarily based on need but on the identification of the potential to learn in novel situations.
Focus of learning	Learning is subject centred, focussed on prescribed curriculum and planned sequences according to the logic of the subject matter.	Adult learning is task or problem centred.	Learners can go beyond problem solving by enabling pro-activity. Learners use their own and others' experiences and internal processes such as reflection, environmental scanning, experience, interaction with others, and pro-active as well as problem-solving behaviours.
Motivation	Motivation comes from external sources – usually parents, teachers and a sense of competition.	Motivation stems from internal sources – the increased self-esteem, confidence and recognition that come from successful performance.	Self-efficacy, knowing how to learn, creativity, ability to use these qualities in novel as well as familiar situations and working with others.
Role of the teacher	Designs the learning process, imposes material, is assumed to know best.	Enabler or facilitator, climate of collaboration, respect and openness.	Develop the learner's capability. Capable people: <ul style="list-style-type: none"> • Know how to learn • Are creative • Have a high degree of self-efficacy • Apply competencies in novel as well as familiar situations • Can work well with others.

One way to work with these strategies and building blocks is to develop “rules” for your own teaching. I call these my pedagogical principles—others might call them their teaching manifesto or educational philosophy. Regardless of their name, they are a collection of statements about important aspects in your teaching practice. For me, this is like a mission statement as a teacher. Much like the mission statement of an organization, it should describe what is important in your practice as educator and of course reflect what you actually do with students. I always share my pedagogical principles at the start of every course and they are currently as follows:

Mats pedagogical principles

to adhere to a growth mindset and build entrepreneurial competences

- ✓ **Learning supersedes control**
(focus activities on learning rather than control)
- ✓ **Creativity and initiatives are sought for and appreciated**
(Supplies learning opportunities – for both teachers and students)
- ✓ **Students and teachers share responsibility for making the course a success** (True participation increases motivation and ability to track own learning)
- ✓ **It is allowed to fail – and thus to be able to perform excellent...**
(Point to the obvious – where there are no mistakes learning is lacking)
- ✓ **Let's learn and have fun together...** (Hard work without enjoyment is an impossible combo in the long run)

LULEÅ
TEKNISKA
UNIVERSITET

When working with these, it is important to have in mind that each educator need to develop their own “pedagogical principles”. The goal is to come up with pedagogical principles that:

- are easy to understand for students
- can be logically linked to better conditions for entrepreneurial education (by adhering to the five proposed building blocks)
- have a personal connection to the educator.

Applying the CRITICAL framework

There are many ways to apply the CRITICAL framework and every educator need to find their own way of doing this. However, an important starting point is to discover how the entrepreneurial competences can improve teaching and learning of the subject area.

Ways Entrepreneurial Competences can Promote Learning

If a student has more CRITICAL competences (Courage, Responsibility, Initiative, Tolerance for ambiguity, Interactivity and collaboration and Creativity)...
...he or she can better take advantage of the learning opportunities by, for instance...

- (C) Daring to be more active – for instance ask questions
- (R) Seeing the task/assignment through – not giving up
- (I) Trying out different approaches proactively – not waiting for teacher guidance
- (T) Handling and making sense of ambiguous inputs and outcomes
- (I) Extending knowledge by collaborating with others in the process
- (C) Figuring out a novel approach or solution

...giving many opportunities to extend learning! Deeper knowledge of the subject matter at the same time as you develop entrepreneurial competences – a virtuous circle



As noted above in relation to the third building block, we have seen that students become better lifelong students and it might be a good idea for teachers on their own and together with colleagues extend how building CRITIC competences facilitates learning and then address this also in class so that students become aware of this and perhaps can extend the list.

References

- Dewey, J. (1938). *Experience & Education*. New York, NY: Kappa Delta Pi.
- Dweck, C. (2017). *Mindset. Changing the Way You Think to Fulfil Your Potential*, Updated edition, Robinson
- Jones, C. (2019). A signature pedagogy for entrepreneurship education. *Journal of Small Business and Enterprise Development*, 26(2), 2019, 243-254.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development* (Vol. 1). Englewood Cliffs, NJ: Prentice-Hall.
- Lackeus, M. (2016). *Value Creation as Educational Practice - Towards a new Educational Philosophy grounded in Entrepreneurship?* Thesis for the degree of doctor of engineering, Gothenburg: Chalmers University of Technology, Sweden.
- Palmér, H. & Johansson, M. (2018). Combining entrepreneurship and mathematics in primary school: what happens? *Education Inquiry*. 9. 331-346.

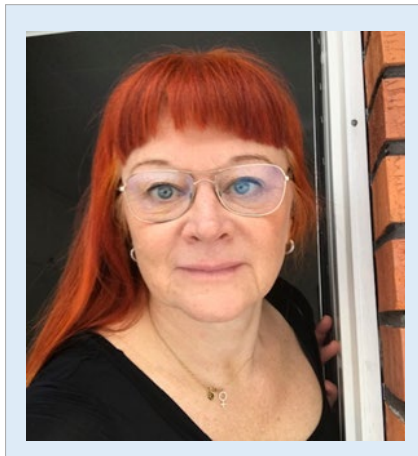
Westerberg, M. (2020). Conceptualizing Entrepreneurial Mindset and Entrepreneurial Competences in a School Context, Working paper. *Center for Entrepreneurial Learning Entrepreneurship and Innovation Luleå University of Technology*, 1-4. Available online: <https://www.ltu.se/cms fs/1.81121!/file/CRITIC%20conceptualization.pdf>

Westerberg, M. (2022). Using self as case in teach-the-teacher courses in entrepreneurship to reflect on experiences as student and teacher. In Wigger, K., Aaboen, L., Haneberg, D. H., Jakobsen, S., & Lauvås, T. (Eds.). (2022). *Reframing the Case Method in Entrepreneurship Education: Cases from the Nordic Countries*. Edward Elgar Publishing.

Teachers' experiences in applying the FORSE approaches in practice

During the three years of the FORSE project there have been several lectures, seminars, workshops, webinars and transnational learning and development sessions for teachers from Sweden, Finland, and Latvia. What their experiences were in applying the FORSE approaches in practice, are shared below.

Teachers from Sweden



Annika Sannerström

Certified teacher in Theatre, Aesthetic Communication and Arts and Society

When teaching in theatre, I have worked according to the theory and ideas about CRITIC that Mats Westerberg presented at the beginning of the project. I have found it very valuable to run a theater project with that approach to learning. Often when we work with theatre projects in the Arts program, we have a clear goal with a set that will meet an audience. I have long lacked a theoretical background to the way I work and now I feel that I have got one that suits me.

I started the LÄNK project, which is a collaboration with the Riksteatern (National Theatre) and regional county theatres. In my case Norrbottensteatern and Västerbottensteatern, early in the autumn of 2021 together with the students. We read and analysed the play and agreed on a set idea. The students formed different working groups similar to those ones found in a

professional theatre. Then we worked intensively with the rehearsals in various groups. The students have been involved and driven in all aspects of both scenography and directing. Communication within the ensemble has been very important but also time consuming. Doubts arose along the way with more restrictions on the corona pandemic and the world situation. As a teacher, however, I have worked purposefully and refused to give in to all obstacles that have come my way.

We premiered on 23 March 2022 and then had a successful gig during the LINK festival at the end of March in Skellefteå. The students have been able to take part in workshops, performances, and festivals. They have also been offered the opportunity to have a mentor among the students at the Theatre Academy in Luleå. After completing the project, I evaluated the project with the students based on the CRITIC and went through the thoughts on entrepreneurial learning. In summary, the work has been successful and participation in the FOrSE project has been valuable to me as an educator.



Applying the FOrSE principles in teaching and learning theatre



UNCERTAINTY

- Where are we going?
- Trust each other!

COURAGE

- Riksteatern LINK the project
- Plays for a young ensemble
- A clear goal
- Premiere March 23 in Luleå
- Link festival tour 26 March Skellefteå

RESPONSIBILITY

- How do we tell a story with a serious theme?
- Working together
- Be patient



INITIATIVE

- Taking responsibility for all groups
- Costume
- Scenography
- Music
- Worm
- Marketing

CREATIVITY

To find scenic solutions and create, change, improve all the time and have a clear goal.



CRITIC

- We reflect and evaluate our learning.
- Feedback to each other

The students' feedback

The students' evaluation, which I did in three groups last week after finishing the project was very positive. A small pick:

- Go outside the comfort zone
- Improved patience
- Collaborate better
- Take personal responsibility

- Take a seat (on stage, in meetings)
- Listen to each other
- Own direction
- Work independently
- Team spirit
- Learn from seeing other performances, how they act
- How to run a project
- Become an ensemble
- Dare to trust the process, dare to believe.

On April 27, while we were having our last meeting in the FOrSE project, I received a call from Riksteatern. Our play *The Manhattan Project* had been selected for the National Festival 13–15 May in Stockholm, to showcase our performance. The group will represent the Northern Region during the festival. In fierce competition among 80 groups, 8 were selected and the motivation for our ensemble was as follows:

Kulturgymnasiet, Luleå - *Manhattan Project* - The interaction in the ensemble is as impressive as the actors' individual performances. The choreography in the introduction transports us wonderfully to the New York of the forties and the play. We are sucked into the adventure where a seductive Maxime, dangerous Nazis and Albert Einstein help Katja wake up from her real nightmare, her parents' broken marriage. Luleågruppen's production is filled with warmth, humour, and a crystal-clear storytelling.

What I experienced in the FOrSE project

It has been rewarding to meet and work in groups. Meetings digitally have worked but meeting each other in real life is very important. Too bad we could not go to Rovaniemi. I had been looking forward to that. I find it very interesting to work in this way and exchange experiences. How wonderful it was to visit Riga and see all the fantastic architecture. Interesting informal conversations about entrepreneurial learning. It is good for one's personal development to learn from colleagues both Swedish, Finnish and Latvian. I believe that my teaching entrepreneurially has become better and clearer.



Annsofi Edin

Vocational teacher

Strömbackaskolan Piteå

I am a vocational teacher and teach mainly at the Business and Administration program which is a vocational program.

In trying to achieve lifelong learning ability for the students I work a lot with real projects, many times in cooperation with different company's in Piteå. This is some examples on how I try to organize studies entrepreneurially in my classes

The first project for the first-year students is to organize and host the very first parent meeting. The students get divided into groups and are responsible for one part of the meeting each. The student's task is for example to explain and show the parents where and how they can find information about the school, such as school menu, schedule, different courses, and a lot of more information that the parents need to know. We, the teachers, tell the students what part of the information they are supposed to present and then students need to find the information on their own, and then practice for presenting it for the parents. It is very appreciated by the parents and after the meeting the students are relieved, and we all have a Swedish fika.

Another project we take part in is with the company Nolia, they do events and fairs. Every year they do a "Career fair" for graduating students and my first-year students participate as hosts guiding visitors and helping with different things.

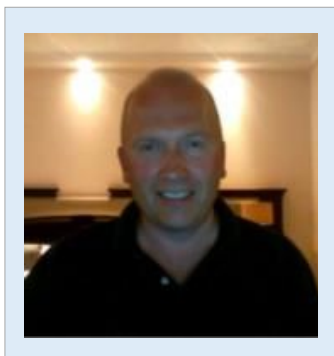
This winter, Piteå arranged SM (Swedish championship) with a lot of competitors from all over Sweden. We had students helping as guides and hosts.

I also work with JA (Junior Achievement) which is a perfect way to practice everything that has to do with entrepreneurially skills. I set the framework and the students work in every way they want (almost) to get the result that they want. Working with entrepreneurship is really "learning by doing" and many mistakes are done during the year. In my experience, the JA company that makes the most mistakes, and solves them, also learns the most.

By working with real projects and with people outside the school, the students practice every competence that is described in CRITIC as well as getting the students more self-directed. They

practice **Courage** – contacting, networking and even presenting in front of people they have never met. They take **Responsibility** by learning what they need to learn because they want to, and also because it is real projects and real people they are working with. They of course practice **Interactivity** and ability to collaborate at the same time. In some projects, for example JA, they learn **Tolerance for ambiguity** as well as **Initiative** and **Creativity**, by solving problems, not really knowing “how to” and getting started on their own. Students are also having workplace learning which also makes the students grow, personally as well as in terms of knowledge

It has been very rewarding being part of this FORSE project. I know have a deeper knowledge of how to teach or maybe how to “not teach” so much. I will try to increase students’ responsibility for their own learning and maybe use more of the heutagogical way and not so much pedagogical way.



Kari Tikkala

Msc in Business economics,
vocational teacher, Business and
Administration Programme
Tornedalsskolan, Haparanda

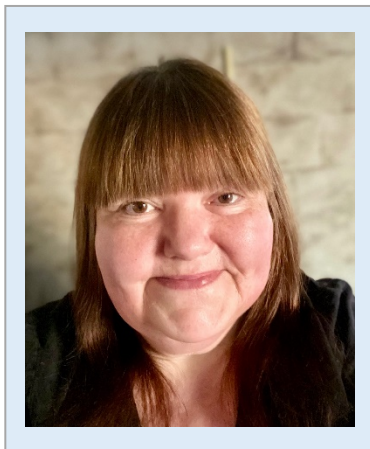
We have **observed** during our lectures and workshops with students that an opportunity can become a strategic resource and lead to increased entrepreneurial learning. The location of our school is at the northernmost post of the Baltic Sea and the Gulf of Bothnia where Sweden has a border with Finland. Haparanda and Tornio is a meeting point for three languages, two time zones, two currencies and a new market with new opportunities and risks.

One practical example; many Haparanda students drive with their EPA-cars (a special car that cannot drive more than 30 km/h but can legally be driven by 16-year-olds). They need diesel fuel to drive these vehicles. When they realize that diesel prices are lower on the Finnish side of our twin town, they just take the initiative and buy the needed fuel from there with Euros. An opportunity becomes a resource which leads to increased use of CRITIC.

Our **observation** leads to a **hypothesis**. Is it so that an opportunity becomes a resource which generates increased use of courage, responsibility, initiative, tolerance of ambiguity, interactivity and ability to collaborate and creativity? In other words CRITIC.

We want to test our hypothesis, with Haparanda students functioning as a test group.

If our hypothesis is right, then opportunity identification becomes an important tool to increase entrepreneurial learning.



Eva Stjermström

Vocational teacher, Business and Administration Programme
Tornedalsskolan, Haparanda

During my teaching hours, I try to get the students to be involved and decide the structure for how to work with the subject, as a teacher I give the framework, but the students have the opportunity to influence the content. To get the students to think for themselves develops their motivation to learn new things. JA (Junior Achievement) is a typical experience-based learning, by doing things in "reality" then reflecting and learning from it.

My students have worked more independently, used a more dynamic approach, and produced material / done assignments. When you reflect on the learning, their experience is that it was fun, and that they can retell the project in their own words, which strengthens their own learning. They can affect their own learning situation, in controlled ways. As a teacher, I also dare to be more creative.

Students are familiar with the concept of CRITIC and can use it to understand their own learning process.

The trip to Riga, was fantastic, we got an insight into many different ways of teaching entrepreneurially, and it would be exciting to continue that work. Even during our Zoom

meetings, we have used different aids, such as Flinga, Padlet etc. which I have tried to learn from, I think I will use more interesting digital tools when teaching in the future.



Madelene Aheinen Westerlund

Certified teacher in mathematics and natural sciences
 Hornavaskolan, Arjeplog

It has been an energy-boost to see and learn from what’s going on in Finland and in Latvia. The way of thinking is close to mine, but we have different challenges. I really like to see how individuals are developing their skills from their own resources and personalities. During this project, we have been given tools and have learned about the latest research on entrepreneurship. I like to see how students become aware of the importance of choices for themselves in business and aware that they are actors in their own life. The tool that CRITIC brings is useful for both teachers and students. You start to see many perspectives and different learning-areas. During the project we have also had very good digital meetings. Speakers have been good. To participate in Riga on the big conference was awesome. I liked to meet other teachers and students. We worked long days and I found new colleagues with different backgrounds and perspectives. It was challenging to host a practical exercise during this conference, but it made it very memorable for me.



Ulrika Sundell

Certified teacher in Business Administration
 Örnsköldsviks gymnasium – Nolaskolan,
 Örnsköldsvik

Examples of entrepreneurial learning with high school students.

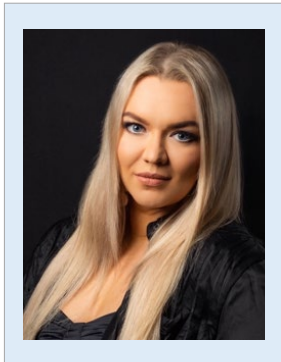
In the courses business administration and marketing, I gave the students an exercise in selling cinnamon buns to other countries. To get their creativity going, they got to roleplay as, for example, Donald Trump, Maria Montazami or Zlatan Ibrahimovic. When all groups had presented how to market these buns abroad, we connected the exercise with the UN Global Goals, they had to choose to address one or more of the goals and adapt their marketing strategy accordingly.

Instead of just reading and getting lectures about the Romanticism and the Enlightenment, the students had to create their own content by preparing a time travel where they had to go back in time to either the Age of Enlightenment or Romanticism. They also prepared to argue their case for a prospective traveler. I gave them a short review of these eras with tips on interesting people, places and events that could be investigated to give them something to start with. All groups chose to use at least one tip. The time travels were sold in through an oral presentation which we also linked to the course Marketing. The students were very committed and worked hard to create the best and most interesting journey and they were creative when they made their presentations.

To give the students an overall picture of moving away from home, we created a collaboration between Social Studies, Business Administration, Mathematics and Private Law, where the students got different roles that they acted out during the project. They started by finishing high school and then either applied for a job or further studies. Then, different things happen in the lives of their characters. Some will move in together and will then sign a cohabitation agreement. Someone is accused of stealing from the workplace and someone will have a house party that the neighbors complain about. Everyone must make a monthly budget for their living costs and find out for themselves what needs to be included. They must also plan to get their own apartment in five years, find out what an apartment costs and calculate how much they need to save each month to afford the cash contribution of 15%. Everyone will live completely different lives and various things will happen along the way so sometimes they go to have dinner at someone's house (that means we make groups of students) and then they get to discuss what is happening in "their life".

In the courses Law & Society and Criminology, the students attended a theater performance 'Find Home' about the Holocaust. At the theatre, the teacher did the opposite of what she otherwise does and told the students NOT to take notes during the performance. After the lesson, she instead gave the students the notes she had made during the performance and welcomed them into her head. Based on these notes, the students would choose 3-4 points that they would continue to think about. The students thought it was difficult, since they had to come up with the questions themselves, but in the end, everyone had a lot of thoughts and they could also relate their own thoughts to the ideas of the teacher.

Business Administration students worked a whole day with implementing and evaluating a project. Each group had just bought a hotel and got their own theme, for example ‘music’ or ‘love’. They decided where the hotel was, what it looked like, what facilities the hotel had and the name of the hotel. During the day, they got assignments such as determining the target group, creating a logo, making an appealing poster about what happens at the hotel next week and finally sell the hotel to a company that wants a kick-off for 45 people next month. After the presentation, we also did an individual evaluation of the whole day.



Teachers from Finland

Mirka Aila

Master of Education

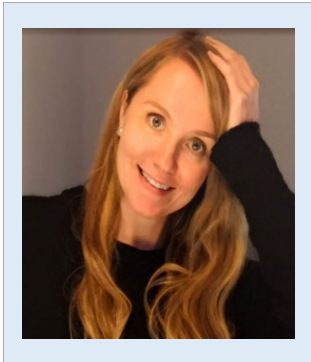
Beautician, entrepreneur

Master educator at the Lashlovers

I participated in FIN case 4: “Developing entrepreneurial skills of university students in collaboration with entrepreneurs”.

It was great to be part of a FOrSE project. The ideas produced by the other Finnish teachers for the development of entrepreneurship education in teaching provided various opportunities to implement teaching in a self-directed manner. Ideas on how to move from pedagogy to andragogy and heutagogy helped to outline entrepreneurship education in practice. In language learning in particular, the opportunity for students to choose the most appropriate way to study will certainly help to identify themselves as learners.

In my experiment to direct university students to entrepreneurial activities, I found that the realism of the project motivates them to work effectively. If such a model were to be implemented in primary school, the goal would be good to define some realistic event or playful enterprise experiment. Then the children would be more motivated towards the goals. In addition, the opportunity to produce content yourself within a set framework, creates community spirit, develops networking skills and interaction, and provides space for a child’s creativity.



Noora Nampajärvi

M.A.

PhD -student in cultural history

History and social studies teacher

Teacher training school of University of Lapland

I participated in FIN case 1: “How are we working in the future? Organizing studies entrepreneurially in social studies”

FORSE has taught me a lot as a teacher and researcher. Through the project, I have begun to reflect on my own teaching from the perspective of entrepreneurship. The experiment I conducted in the spring of 2021 encouraged me to test an entrepreneurial approach more broadly in my teaching.

After being in FORSE I have sought to provide my students with more study periods in which it has been possible to approach the subject andragogically and heutagogically. This has diversified the teaching of history and social studies and has provided students with better opportunities to explore their own learning.

Exhaustion and nausea among young people have been high in the headlines in Finland recently, and with FORSE I have begun to consider whether adopting an entrepreneurial attitude could help young people with these issues? Inspired by FORSE, we have launched a collaboration between secondary school and upper secondary school to explore this issue more broadly in point of view of history and social studies.



Nina Savolainen

M.A.

PhD -student in education

Language teacher (Swedish)

Teacher training school of University of Lapland

I participated in FIN case 2: “Training distance learning in contact teaching in classroom in Swedish studies”

Focusing on entrepreneurial skills in FORSE has helped me as a teacher...

- to be more aware of pupils’ different phases in pedagogical-andragogical-heutagogical scale (I really like Karine’s idea “*FORSEgogy*”!!)
- to be more aware of me letting the pupils to find the solutions and answers by themselves and to lead their own learning
- to understand that entrepreneurial skills are certainly not limited in business life - they are skills needed in everyday life and can be trained in every subject in all grades
- to develop my teaching routine: the small entrepreneurial teaching experiment that I did in my classroom has become a part of my teaching - without changing anything in the contents or evaluation

Some primary school student teachers' comments – arisen when getting familiar with the ideas of the FORSE:

Riikka Laitila, Primary school student teacher (3rd year), Faculty of Education, University of Lapland

Participated in

- FIN case 6c: Music course to study piano playing as a tool for primary school teacher to lead musical activities with the pupils
- FIN case 6d: Music course to study about the roles of different elements in music (rhythm, melody, harmony, etc.) and to create different tasks for pupils on different phases on their musical paths
- FIN case 6e: Music seminar to deepen and widen the studied music contents and understanding about music and teaching music as phenomena

Some thoughts about FORSE-project to implement the transversal competence *Working life competence and entrepreneurship* in the Finnish curricula:

It is important to organize space for pupils'/students' creativity. However, we always have to remind us about the activities appropriate for the pupils in certain ages (especially noticing the needs of the youngest ones). We always have to plan different ways to act and possible more detailed guidance, if the pupils are not able to start the activity by themselves. Every now and then it is necessary to practice to tolerate uncertainty, and allow the pupils to find their own solutions, own ways how to act using their creativity. The pupils should know beforehand the goals and time they can use with the required task, that they may not get too worried about if their good work is not enough at the moment it is going to be assessed. Feedback and assessment during the process is highlighted; not so much the assessment of the quality of the final product. Collaboration and developing the cooperation skills and competence is important.

Some thoughts which arose during Johan Bergström's workshop:

The task was nice to carry out in a group. It was easy to notice, that planning new ideas requires to combine and negotiate many thoughts and ideas from several people: then the designed new service can be appropriate. The power of collaboration and cooperation skills and competence seemed to be in a core.

Alina Johnson, Primary school student teacher (3rd year), Faculty of Education, University of Lapland

Participated in

- FIN case 6c: Music course to study piano playing as a tool for primary school teacher to lead musical activities with the pupils

- FIN case 6d: Music course to study about the roles of different elements in music (rhythm, melody, harmony, etc.) and to create different tasks for pupils on different phases on their musical paths
- FIN case 6e: Music seminar to deepen and widen the studied music contents and understanding about music and teaching music as phenomena

Some thoughts about FORSE-project to implement the transversal competence *Working life competence and entrepreneurship* in the Finnish curricula:

Entrepreneurship education develops students' self-esteem and enhances youngsters' interest in training their skills and competences needed in the unknown future. I would apply entrepreneurship education in every subject by inviting the students to participate in planning the teaching-learning sessions. As an example, the students could decide some of the topics they could study, and how they could search for the results in their research-based activities. This way they could find out and train how to affect the common issues in general.

Mirjam Paaso, Primary school student teacher (3rd year), Faculty of Education, University of Lapland

Participated in

- FIN case 6c: Music course to study piano playing as a tool for primary school teacher to lead musical activities with the pupils
- FIN case 6d: Music course to study about the roles of different elements in music (rhythm, melody, harmony, etc.) and to create different tasks for pupils on different phases on their musical paths
- FIN case 6e: Music seminar to deepen and widen the studied music contents and understanding about music and teaching music as phenomena

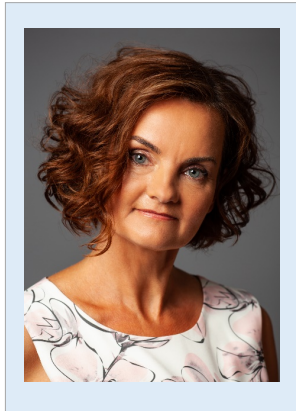
Some thoughts about FORSE-project to implement the transversal competence *Working life competence and entrepreneurship* in the Finnish curricula:

Pupils/students should have positive experiences about entrepreneurial attitude. Some essential working life skills are initiative and understanding and taking care of your own responsibility for the common goal. Working with peers as in pairs or groups develop students' studying and learning. Thus, these models to act on the lessons should be utilized as much as possible.

Some thoughts which arose during Johan Bergström's workshop:

Entrepreneurial way of thinking and acting are increasing inside at school as well as outside in working life. Therefore, the students should be encouraged to be entrepreneurial, creative, and collaborative, and capable to dare themselves even in the most challenging tasks.

Teachers from Latvia



Inga Treimane

M.Ed.

Teacher of English, Project manager

Riga State Gymnasium No 2

I often integrate the concept of promotion of FOrSE skills in my English language lessons and some project activities as I consider them to be topical for the formation of a broadly thinking self-negotiated personality of my students. How I do it, I will demonstrate with a few examples.

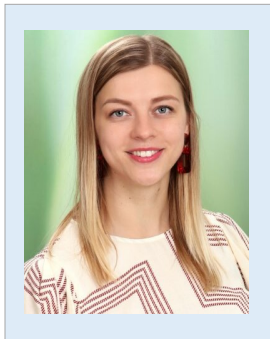
Interactivity and ability to collaborate are fostered when students are learning about topics that are not explained in the textbooks. As a rule, there always is a small group of students, who explore the topic, prepare a presentation with facts and statistics for their classmates, and chair a class discussion about the topic. These topics are mainly related to global issues such as: poverty, equality, mental health, alternative education systems, artificial intelligence, etc. The rest of the class learn to perceive ideas presented, complete the tasks, and offer solutions to problems. Thus, students learn to cooperate in groups, split responsibilities, take responsibility for the lesson outcomes. Such learning requires definite level of maturity and interactive and cooperative behaviours from all the students.

To promote students' courage and creativity, I offer them to research concepts which they do not know at all and create solutions which are principally new to them. For example, I offered my students to explore the matter of Fairtrade and create a Leaflet/Brochure to promote Fairtrade activities in the local area. To carry out this task we had a mix of class activities with (videos, texts) and independent research (visits to local shops to understand what kind of Fairtrade products are available there, compare the prices, check the websites offering activities for promoting Fairtrade). Then we studied the basic requirements for the text type Leaflet/Brochure.

Courage is required to think and act in a new way being ready to hear peer assessment on your performance. The leaflets demonstrate creativity of students and their flow of ideas for various unconventional promotional activities.

I am all for both inviting professionals to school and motivating students to participate in out-of-school projects under the guidance and motivation from professional experts.

I would like to express my gratitude to the FOrSE project partners and coordinators for the valuable input into my professional growth and inspiration to organise studies entrepreneurially.



Elina Spolite

Teacher of Geography and Chemistry
 Marupe State gymnasium

The project “Framework for Organising Studies Entrepreneurially” was a useful experience to me as it gave insight into new opportunities to promote students’ creativity, thinking “out of the box”, cooperation and decision-making skills, as well as critical thinking. During the project I gained new ideas and approaches of how to incorporate entrepreneurial elements into the learning process discussing them with entrepreneurs and project participants.

I use the method “What if?” and regularly offer my students to apply knowledge acquired at the lesson in practice for creating new ideas and values. I will illustrate how we do it describing the lesson on the topic “Europe's climate is changing”. It was stated that these changes will affect almost every aspect of our lives - increased intensity and frequency of rainfall in many parts of Europe will cause frequent floods. In southern Europe, on the contrary, higher temperatures and reduced rainfall will bring to droughts. After the introductory part, students were divided into groups to discuss “What if ...?”

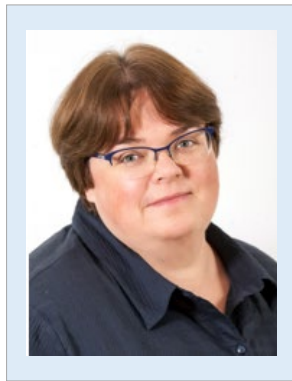
- a. ... there were temperate climatic zone all over Europe?
- b. ... the Gulf Stream were cold?
- c. ... the monsoon were the main wind in Europe?
- d. ... in Eastern Europe the tropical air masses did not blow in summer?
- e. ... the inhabitants of Northern Europe receive the most heat from the sun and light?

Such discussions promote deep understanding of how a change in one factor might influence weather and climate. After the discussion and evaluation of the website information, the students suggested solutions to stop changes in the climate. Some of them offered to:

- a. create cheaper materials from which to produce solar panels.

- b. make electric cars accessible to the general public.
- c. reduce the amount of plastic packaging by stopping buying it. Invent food edible packaging.

Students enjoyed “What if ...” approach to solving problems because it allowed them to be **creative** and **tolerant** for ambiguity, listen to others’ opinions and ideas. The solutions were based on research and complex knowledge. Of course, it was not easy to them. At first, they did not have a lot of enthusiasm and did not let their imagination flow; they just clung to the facts given in the textbook. However, by the end of the lesson, little by little they got engaged in the process and felt satisfied with the research, discussion, discoveries and the conclusion that it is possible to learn from mistakes.



Ieva Andersone

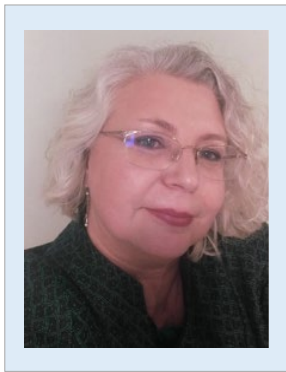
Dr. oec.,
 Assistant professor
 Director of Academic Master study
 program “Entrepreneurship and Management”
 Riga Technical University

I use the lateral thinking techniques which were acquired in workshops organised within the FOrSE project in the study course “Development of Innovative Products”. Its goal is to promote Bachelor students’ competencies in planning and developing new products. When students were working on finding innovative solutions for generating ideas of new products, they were offered two Eduardo de Bono methods of creativity – “Lateral thinking” and “Six thinking hats”. The use of a random word in the problem solving boosted broad variety of associations that the word evoked and multiple functions which gave birth to unexpected and original qualities which were integrated into the idea of new products. Several tables with six different words numbered from 1 to 6 had been prepared for the lesson in advance; each team threw a dice to take the corresponding word from the table with the same number. When getting the task, the first reaction of students was that it was impossible to link it to the development of a new product. There was often a desire to change the word, but after giving extra time to work, teams found a solution that often surprised the group with its originality and attractiveness. The more remote the word seemed from the problem to be solved in the new product, the higher was the innovative power.

The positive feedback of the students shows that the idea works:

- I discovered new qualities in myself and realised that I also have a creative mind and can generate new ideas so quickly.
- It was interesting to develop creative thinking, to work out unusual solutions to everyday situations which was beyond my imagination before.
- The course made me believe that it is possible to create a new product from initially unimaginable ideas.
- Thank you for the opportunity to get out of the comfort zone and find the ability to continue, even when, in my opinion, it was not possible.

The methods, tools, and techniques introduced in the FOrSE project encouraged students to be patient, courageous to try new ideas and not give up, find a solution to problems in unforeseen situations, work together in teams, and take responsibility for their actions.



Inese Pitkeviča

M.Ed.

Deputy Director for Education

Riga Secondary School of Cultures

FOrSE activities are closely linked to project-based interdisciplinary teaching and learning which in the case of Riga Secondary School of Cultures initiate an unusual professional collaboration between teachers of Culture and Natural Sciences. Within this collaboration our students elaborated and realised three sequential projects: “From land rocks to a cultural and historical object”, “Art filter for the purity of nature” and “How the natural element turns into...”

Exploration of an art object is not conducted only through the prism of culture, but also from the perspective of natural processes - changes in the ecosystem, environment, chemical composition of raw materials, etc. These projects created an opportunity to gain a full understanding of the relationship between man and the environment, as well as the responsibility of the man for environmental processes. An interdisciplinary perspective helps young people see events, objects or processes in their entirety and seek solutions based on different everyday or scientific assumptions. Encouraging diversity of opinions and practising the need to ask questions and seek answers promotes students’ deep understanding, courage to think and act in their own way and critical thinking which are the starting point of the

organising studies entrepreneurially. My experience shows that to promote effective learning, it is crucial that students are given freedom in choosing the study content; they should study in a positive learning environment full of joy and acceptance, which foster their faith in their own strengths and mobilise their self-control in achieving the desired goal.

FOrSE recommendations to teachers

Based on the summarisation of the recommendations from the FOrSE team, to organise studies entrepreneurially, teachers should follow several recommendations.

- Establish a ***learning environment for growth mindset***, where students feel free, emotionally safe and supported; they dare to take action and learn from their achievements; they experiment, apply their knowledge, try new ideas for solving real life problems and reflect without the fear of failure, making mistakes or being criticised; on the contrary, they should be encouraged to do, research, create, and learn also from their mistakes and get benefit from them.
- Foster ***collaborative culture*** where students are inspired by and create value for each other by giving developmental feedback. This should be thoroughly organised teamwork with a plan, split roles depending on interests and strengths, responsibilities, execution, presentation of results, evaluation, and assessment of outcomes; this should be realised over a period of several weeks and even months during the lessons and outside them.
- Use ***elements of brainstorming, competitions, and games*** for giving drive to the study process.
- Apply various teaching methods and provide opportunities for multiple ways of learning with different ***levels of autonomy and responsibility*** for students combining pedagogical, andragogical and heutagogical approaches depending on students' age, experience, level of development, interests, needs, learning goal and situation.
- Promote students' ***self-directed learning skills and complex competences*** through organising project-, problem-, challenge-, inquiry-, case-, experience-based, and other types of learning which demand highly developed critical, analytical, logical, creative, inductive, deductive, holistic, interdisciplinary, and other types of thinking.

- Achieve students' ***interest in learning and understanding*** that they ***need to learn for gaining experience*** but not just for getting a certificate.
- Organise mix-scheduled lessons and independent work of students ***outside the regular lessons and outside school/university premises*** (outdoors, other schools, universities, shopping centres, etc.) to get the feeling of real-life experience as much as possible.
- ***Inspire students with life stories of famous people*** who faced several challenges, overcame them working hard, and succeeded; such role models enhance students' achievement motivation.
- Find a way to ***work with students' enterprises*** in a deliberate fashion and show the world and community what you are doing; every little positive outcome promotes development and gives a huge drive.
- Promote the development of ***CRITIC qualities and skills of students*** (courage, responsibility, initiative, tolerance to ambiguity, interactivity and collaboration, creativity) which turn them into self-negotiated individuals who take responsibility for their own learning experience and adjust their inner and outer worlds.
- Nurture ***students' proactiveness and orientation towards long-term development*** in the changing world with purposeful actions to elaborate multiple ways for solving problems and achieving the goals set.
- Enhance students' understanding and strengthen their belief that ***challenges carry opportunities*** which are to be identified, developed, and realised into new values instead of perceiving them as hindrances or barriers to progress.
- Create learning situations which provoke students to ***come out of their comfort zone***, think outside the box, overcome fears of speaking and contacting unfamiliar people of different professions, evolve creativity and imagination with different methods like "What if ...?", Random Entry and Escape techniques of lateral thinking, etc.
- ***Be openminded, listen and learn from students.***

- Listen to students and ***integrate their ideas and wishes in the activities and tasks*** to make the learning content closer to their experience and interests.
- ***Organise regular evaluation of learning outcomes*** with students to find out how things are progressing and plan activities for the next period.
- ***Engage students in real business projects in companies***, as well as involve professionals and experts from businesses, universities, schools, governmental and non-governmental organisations in the learning process for giving students valuable and professional feedback on their performance, sharing their stories with students to inspire them with particular role models.
- ***Be reflective and attentive professionals***, analyse the teaching and learning process and find success moments to be based on in the future.
- ***Not be afraid to try to organise studies entrepreneurially***.
- Make a network of contacts and ***share classroom experiences with other colleagues*** so that more teachers get inspired and try the FOrSE principles at work.

FOrSE recommendations to school headmasters

Teachers' efforts are successful when they get overall support from the school administration. The set of recommendations for school headmasters to implement are given below.

- ***Be an entrepreneurial leader yourself*** so that both teachers and students follow you, give your teachers direction but let them devise their own path to that goal.
- ***Be open to new developmental suggestions***, get acquainted with the main ideas of the Framework for organising studies entrepreneurially and its value regardless of the topic/study discipline.
- ***Give teachers and students support*** if they want to do things in other ways.

- ***Trust in your staff, listen to them, be interested*** in what they are doing entrepreneurially, ***identify and demonstrate the benefits and advantages*** of this way of teaching.
- ***Discuss new FOrSE approaches***; reflect on them openly together with your staff; ***select the best practices*** to promote and popularise in your school; organise some events for teachers; notice, appreciate and reward those teachers who pay special attention to skill development and work unconventionally.
- ***Organise a flexible schedule and classroom*** for interdisciplinary teaching and learning which support and encourage collaboration of teachers of different study disciplines, give them more time to realise different projects, like Junior Achievement, international exchanges, etc.
- ***Support your teachers and students to elaborate and realise projects*** building relationships with business organisations and companies which share interest in programs given in your institution, invite them to school and find how you can assist them to achieve best results.
- Promote the ***formation of self-negotiated individuals*** that will benefit society their whole lives.
- Provide opportunities for ***scheduling cooperation between school and junior achievement***.
- Empower your ***staff and students to find opportunities for earning money*** by realising projects in the local community outside school.
- Promote ***collaboration among teachers of different study disciplines*** within real-life projects; encourage them to try teaching and learning entrepreneurially and exchange their both positive and negative experiences with each other at seminars /meetings specially organised for such co-learning.
- Organise the development of entrepreneurial competencies, talk regularly about the importance of this task, and ***evaluate entrepreneurial competencies along with subject knowledge and skills***.
- ***Help to build relationships and collaboration with parents*** to motivate them to assist in the realisation of the changes needed in the school activities, explaining to them why they are different today.

- ***Network with other schools***, especially with those where you can learn new ways of organising studies entrepreneurially.
- ***Collect feedback from students*** (eg. via Edurio questionnaire) to understand which approaches have worked best.