Entrepreneurial skills and competences in learning, teaching and school leadership in the digital age

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Author(s): Eszter Salamon and Fred Verboon, ESHA

INTRODUCTION

This research paper aims to offer a basis for policy development and implementation at different governance levels and inform the work of the European Commission (EC) on the new roles and competences required of teachers and school leaders in the digital age for inclusive quality education in all European Union Member States. To do this, we bring together recent education research with inspiring practice and policy and the views of various education stakeholders.

It has been developed by members of the European Education Policy Network (EEPN) project partnership, based on resources and examples identified by partnership members. The paper aims to offer a policy and research framework for the analysis of practical examples of inspiring practice, especially for policy transfer and policy learning.

The current paper, together with similar research carried out in interlinked fields that also require new roles and competences for teachers and school leaders in the digital age, feeds into the work of EEPN to formulate and promote policy recommendations in the field of teacher and school leader careers as well as to the future work of EEPN until 2023. The primary aim of this work, starting with desk research, is to promote co-operation, policy development and implementation at different governance levels. It supports the European Commission's policy work to assist teachers and school leaders by providing research evidence and evidence-based policy recommendations for European, national, regional and local levels.

Research question

When bringing together research, policy, and practice, we are aiming at offering an analysis of various approaches and frameworks in order to identify new roles and necessary competences in the field of entrepreneurship for teachers and school leaders in the context of the digital age. In this regard, we are looking into both the entrepreneurial competences of teachers and school leaders as a professional trait of these professionals and the roles in and competences for entrepreneurial learning of their students, framing it in the context of the digital age in order to go beyond already existing frameworks and research. Entrepreneurship education related teaching competences in school is a relatively well-researched area, thus the focus of this paper is on the entrepreneurial teachers and school leaders including a definition of these notions in the broader context of entrepreneurship understood as a behaviour and mindset and not in its narrow meaning of business management.

We are focusing on the following areas within this broad concept:

- School leaders' and teachers' competences, with the EntreComp at its core and specified for school leaders and teacher roles.
- Potential impact of teacher and school leader entrepreneurial behaviour on the wider sense of entrepreneurial education: personal development, creativity, self-efficacy, resilience, taking initiative, action orientation, i.e. becoming entrepreneurial.

INTERNATIONAL AND EUROPEAN POLICY CONTEXT

Entrepreneurial skills such as critical thinking, collaboration, taking initiative, or communication have been identified as skills that a child will need to succeed in the future as economic crises and rapid changes take place all around us. In our complex knowledge-based economies and societies, transversal skills such as entrepreneurship and entrepreneurial behaviour are essential not only to shape the mindsets of young people, but also to provide the skills, knowledge and attitudes that are central to

developing an entrepreneurial culture in Europe and beyond. They have also been identified as necessary skills for teachers and school leaders in the context of pedagogical innovation and transformational leadership in the digital age. This has been made more apparent for and in embracing opportunities the digital age and digital technologies have been offering at an accelerating speed for the past two decades.

The 2015 publication, *Rethinking Education* by UNESCO has defined education as a common good, and while it makes everybody responsible for education, it also calls upon all, including teachers and school leaders to become lifelong learners themselves to also improve as educators.

The post-Covid education situation largely depends on the entrepreneurial spirit and competences, especially change leadership of teachers and school leaders as they are the ones – together with parents, students and other stakeholders including non-formal education providers and businesses – who will "apply what they've learned throughout the process, and work together to plan and shape the future of education" (Fullan et al. 2020). Success to re-engage students and find solutions for major challenges of education (World Bank 2018) largely depends on the extent and creativity level of teachers encompassing digital technologies in daily school life.

Quality, inclusive education is one of the *UN Sustainable Development Goals* (SGD4). This implies that educators – be them professional or non-professional (e.g. parents) are supported in providing quality education according to the inclusion needs of children and for their current and future success. Entrepreneurial competences of both the educator and the child are crucial in this field.

While entrepreneurial skills are crucial for children to succeed, many educational institutions, such as school continue to focus on knowledge and are therefore not yet seen as the place to develop these skills in children. Children might finish school with a leaving certificate but uptake of entrepreneurial education at school remains a work in progress – and might be more successful in some education systems than in others (Eurydice, 2016). That is why it is of crucial importance to also empower the teachers and school leaders.

At a European level, entrepreneurial competences are among the European Union's eight key competences necessary for all members of a knowledge-based society. The European Council's *Key Competences for Lifelong Learning* recommendation outlines those competences that individuals need for "personal fulfilment and development, employability, social inclusion, sustainable lifestyle, successful life in peaceful societies, health-conscious life management and active citizenship" (European Council, 2018). Implementing this and – as part of it – increasing entrepreneurial knowledge and spirit largely depends on governments as well as regional and municipal authorities.

In the *Rome Declaration* in March 2017, EU Member States re-affirmed their commitment to providing young people with the 'best education and training'. The European Council called for training and education systems to be 'fit for the digital age' in October 2017. At Gothenburg Summit in November of the same year, the Parliament, the Council and the Commission proclaimed the *European Pillar of Social Rights*, which includes the right to quality and inclusive education, training and life-long learning. The Communication 'Strengthening European Identity through Education and Culture' is the European Commission's contribution to the discussion based on the EU Leader's Agenda on education and culture at the Gothenburg Summit setting out a vision for a *European Education Area* and approved a dedicated *Digital Education Action Plan* for the period of 2021-27 with two strategic priorities: fostering the development of a high-performing education eco-system, and enhancing digital skills and competences for the digital transformation.

In 2016, the Joint Research Centre, the European Commission's in-house science service, developed the *Entrepreneurship Competence Framework* (EntreComp) outlining a common definition of entrepreneurship as a competence and outlining a set of 15 competences in three competences areas. The EntreComp

defines entrepreneurship as a notion 'when you act upon opportunities and ideas and transform them into value for others. The value that is created can be financial, cultural, or social' (EntreComp, 2016: 10). This definition focuses on value creation, no matter what type of value or context. The framework develops the 15 competences along an 8-level progression model. It also provides a comprehensive list of 442 learning outcomes, which offer inspiration and insight for those designing interventions from different educational contexts and domains of application. It aims to 'establish a bridge between the worlds of education and work and to be taken as a reference de facto by any initiative which aims to foster entrepreneurial learning' (EntreComp, 2016: 5). EntreComp defines entrepreneurship as 'when you act upon opportunities and ideas and transform them into value for others. The value that is created can be financial, cultural, or social' (EntreComp, 2016: 10). This definition focuses on value creation, no matter what type of value or context.
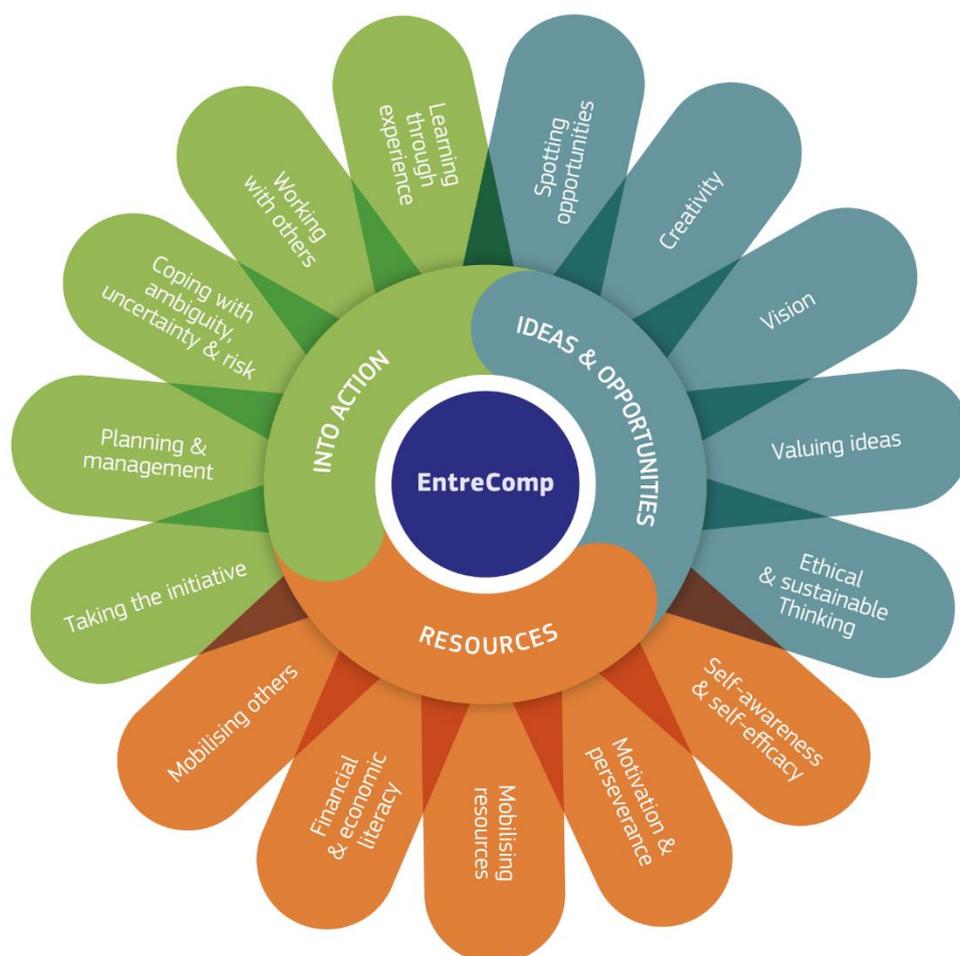

Figure 1 The Entrepreneurship Competence Framework (EntreComp)

Of further importance to the current research is the *European Council recommendation on Validation of non-formal and informal learning* (2012). It outlines that citizens must be able to demonstrate their

learning acquired through non-formal and informal means. The recommendation encourages Member States to put into place national arrangements for validation. These arrangements are meant to enable individuals to increase the visibility and value of their knowledge, skills and competences acquired outside of formal education and training: at work, at home or through voluntary activities.

RESEARCH DESIGN, METHODS AND MATERIAL

The current research is a result of a mix of internal and external desk research. For internal desk research, partners in the EEPN network provided descriptions of current research as well as inspiring practices and policies in their own fields and/or countries. Some of the material provided was only available in the form of internet links, and thus the internal desk research was directly linked with the external one: internet search for more research and practices for comparison, as well as analysis of existing EU documentation in the field. In the case of resources available in languages beyond the linguistic scope of the research team, we were relying on details provided in English by network partners.

The choice of examples analysed for the current research was based on the recommendations of EEPN project partners rather than on the research into the effectiveness or impact of the practices. At the same time, the main focus was on offering a diverse pool of examples to show diverse approaches leading to similar results to raise awareness of diversity and cultural differences.

When designing the research, the above listed crucial aspects were taken into consideration. An effort was made to choose examples for analysis in all fields and with different scopes (local, regional, national). The guiding principle at analysing the practices was to explore how various examples are related to and rooted in research evidence. The aim was to offer an analysis on the basis of the methodological framework Theory of Change (ToC). This methodological tool is used by many different organizations ranging from governmental bodies to (large) corporates and NGOs to support the processes of policy and project development. However, ToC was initially developed as an evaluation tool. In this process, the ToC model's outcomes – and with that, impact – in an 'outcome pathway' (Taplin et al. 2013). The ToC framework works as follows:
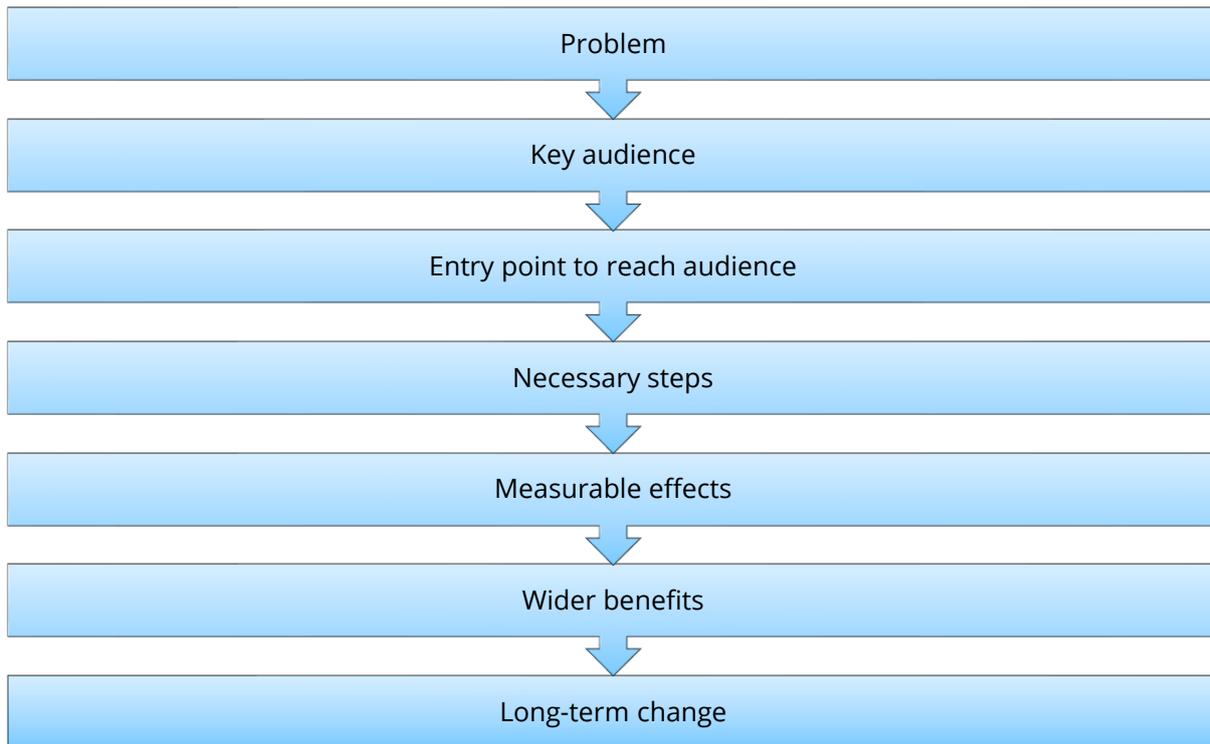
Figure 2 – Theory of Change Model

An important step in evaluating projects from the framework of the ToC is identifying what (pre-)conditions must be put in place to reach these goals. The success of this model is to be able to demonstrate progress by evaluating the outcomes as evidence to what extent the goals are achieved. Through six different questions, key assumptions will be defined that together answer the question: "What is the long-term change you see as your goal?" In this way, the ToC methodology provides a structured description and elaboration on the questions what, how and why. In doing so it shows how a specific project contributed to a desired change and how that development can be expected in a particular context.

Our scope was limited, thus the choice of examples analysed does not indicate that they are to be considered 'the best', but rather as an inspiring collection. However, the added value of the current research is that it is based on the knowledge and experiences of the diverse network of EEPN, and thus not restricted to the outreach of the research team.

CONCEPTUAL BACKGROUND

Teacher and school leader entrepreneurial behaviour is a relatively under-researched, but rapidly growing field. Many of its professional aspects have been analysed by various researchers, some focusing on the personality of such professionals, another handful on the challenges and opportunity of the digital age in relation to this. Entrepreneurial behaviour of teachers and school leaders is often linked directly with education innovation and transformational – teacher as well as institutional – leadership.

Research confirms that teacher entrepreneurship is also closely linked to universal entrepreneurship behaviour concepts, but its manifestation is largely dependent on the context. It is also confirmed by research that entrepreneurial teachers are socially motivated individuals who are innovative,

collaborative, proactive, opportunity-minded, present in their work, knowledgeable, dedicated, resourceful, risk tolerant, visionary, and self-improvement oriented. This research base is necessary for offering the right support to current entrepreneurial educators, be them teachers, school leaders or other educators, and also to help pave the way for the training of future educators who are more entrepreneurial. Educators tend to be less entrepreneurial than people in other professions (Ayaita and Stürmer, 2019) most choosing teaching careers are known to be risk averse people. One major challenge is to find a fine balance between these personality traits and the need for innovation. One of the most important skills, defined by many competence models, of entrepreneurial behavior is the ability to deal with risks. An area for further research is if this risk averse behavior negatively influences them when there is a need for innovation,

Approaches to entrepreneurship in general have been based on personality as well as competence (Wagener, Gorgievski and Rijsdijk, 2010). When it comes to personality-based approaches, they are usually more traditional ones, claiming that genetics play a very strong role in a person's entrepreneurial traits (Fisher and Koch, 2008) meaning that you are born an entrepreneur, having inherited your manifested entrepreneurial behaviour. Competence-based approaches are more recent, emphasising that people can be trained in various competence areas to become entrepreneurial (Robles and Zárraga-Rodríguez, 2015). Using the EntreComp as a common EU-framework, this study follows the second approach and aims for analysing inspiring practices having it in mind that teaching and learning are essential for educating people with entrepreneurial mindsets, be them teachers or learners.

There are three main areas of research in the field of teachers in the entrepreneurship education field. In one batch of research teacher entrepreneurs are considered to be ones who developed and enhanced entrepreneurial skills in their students (Peltonen, 2015). Some other researchers focus on the entrepreneurial competences of teachers claiming that they have to be entrepreneurial themselves in order to properly foster entrepreneurial mindsets in their students (Heinonen and Poikkijoki, 2006).

In this second batch, there was still a main emphasis on competence transfer to students for the students to become entrepreneurs (Peltonen, 2015). This is often researched looking at teachers' second life being one of a traditional entrepreneur, having their own businesses for generating sufficient income to complement low teacher salaries. This area of research has not been a focus for the current paper.

The third category and a category of interest for the sake of this research is looking at entrepreneurial teachers and school leaders who use their competences in their classroom or school context (Oplatka, 2014). This last category has been viewed by researchers in two ways totally opposing each other. Teacher entrepreneurship is considered as a negative behaviour determined externally and forced on teachers and school leaders by some researchers (Groundwater-Smith and Sachs, 2002) while other, especially more recent publications consider it a positive and innovative phenomenon (Martin et al., 2018). Analysing available research, it seems that perception of entrepreneurial behaviour of teachers and school leaders largely depends on cultural contexts rather than policy environments, and positive image drives policy ensuring autonomy rather than the other way around. For the sake of this research, we are considering the first batch (teacher competences for entrepreneurship learning of their students) and the last one (looking at positive and innovative aspects of teacher entrepreneurship) in line with the beliefs of the authors and current evidence-based policy.

The literature available on teacher entrepreneurship using the above-mentioned perspectives of this paper makes a strong link to a high number of fields and competences historically common for entrepreneurs in general.

Entrepreneurial teachers are often described as visionaries, risktakers, proactive people, socially motivated change agents, opportunity-minded, and innovative. This is very much in line with general characteristics of entrepreneurs with regards to perception, uncertainty, change, risk, and innovation (Carlsson et al., 2013). This might be a personal trait rare among teachers given that the overwhelming majority of professional educators have proven to be risk-averse (Ayaita and Stürmer 2019). It needs more research to find whether the main driver of most teacher entrepreneurs being also employed as teachers is that schools provide them with a stable basis income to compensate their risky, sometimes not so successful entrepreneurial endeavours.

While it is clear that certain elements of entrepreneurship are universal, there are specialities of various fields. One of these with regards to teaching and school leadership is the conscious educational aim, also present to a certain extent in traditional entrepreneurship (apprenticeships).

In general, teacher entrepreneurial competences are in line with what is described in literature about social entrepreneurship, being highly responsible (Maak and Stoetter 2012) and present in their work (Teise and Urban 2015). Timmons and Spinelli (2016) define entrepreneurship as "a way of thinking, reasoning, and acting that is opportunity obsessed, holistic in approach, and leadership balanced for the purpose of value creation and capture" (p. 3).

School leaders play an important role in creating the work environment for teachers. School leaders can foster and enable teacher entrepreneurial behaviour and encourage their staff to freely innovate by creating an open and flexible space allowing for mistakes and experimentations (Hanson, 2017). Collaboration has also proven crucial to teacher entrepreneurs' work and can also be facilitated by school leaders fostering school-to-school but also internal exchange of experiences.

As teachers' entrepreneurial competences can be developed, findings of this paper could also have an impact on pre-service and in-service teacher training, an area of development for policymakers and educational leaders of teacher education programmes to consider especially in view of the findings related to desk research in Year 1 of EEPN on teachers as more likely to be risk-avoiders (IBF, 2014).

ANALYSIS OF CHOSEN EXAMPLES

EC4SLT – Entrepreneurial School Leadership

Entrepreneurial Competences for School Leadership Teams (EC4SLT) is a two-year Erasmus+ KA2 Strategic Partnership project, funded from 2014–2016. EEPN partners ESHA (NL), University of Jyväskylä (FI) as well as the University of Primorska (SLO) and Bucharest University of Economic Studies (RO) participated in the project.

It is aiming at improving the quality and efficiency of school leadership through improved creativity, innovation and entrepreneurship. Based on identifying successful key entrepreneurial competences in the business world, it was adapting them to a school leadership context and has developed training modules to equip school leadership teams for accelerating the pace of school improvement as well as to enhance their ability to lead and manage in an environment of greater school autonomy.

At the time of developing the project, EntreComp was still in development and only a few earlier studies had sought to define "entrepreneurial leadership" in educational settings. Hentschke (2009) argues that until recently there had been no compelling argument that school leaders require entrepreneurial attributes, and hence there has been no consensus about the attributes that are desirable or essential in school leadership teams.

A number of changes in the education landscape have created challenges and opportunities for educational leaders to demonstrate certain entrepreneurial characteristics or attributes. The shift of

government oversight of education from compliance to performance, and the emergence of new forces and new forms of publicly supported educational establishments, services and goods demand leaders who are resourceful, opportunistic, creative, and risk-taking (Leisey and Lavaroni 2000, cited in Hentschke p.147). These changes also created a demand for new forms of professional learning and development opportunities for school leaders that are designed, delivered, assessed and incentivised to embrace the notion of educational entrepreneurialism.

While entrepreneurialism is often associated with profit making and a performance ideology (Laviolette, 2016), it is also about value-creation (Lackeus, 2018), driven by social, political, economic and cultural factors. Leadership development that employs diverse, socially interactive, reflective and experiential methods can motivate entrepreneurial thinking and cultivate leadership ability in educational contexts (Roomi and Harrison, 2011). The EC4SLT project have been built on the belief that incorporating the development of an entrepreneurial mindset in new leadership development resources can help to address the Erasmus+ priorities of improving the leadership and management of schools and unlock potential in school leadership teams across Europe.

EC4SLT's main audiences were school leaders and their teams in the participating countries. During implementation the consortium audited the systems and leadership development programmes in the partner countries as well as successful entrepreneurial practices in the world of work and their relation to the competence needs of school leadership teams. As a next step an enquiry network was established to identify inspiring practices as well as gaps in provision in the delivery of four key areas of entrepreneurial competence: strategic thinking and visioning, team building, personnel management and development, communication and negotiation skills and financial resources: mobilization and optimization.

Based on this, a methodology of using professional enquiry and action research to examine real life cases in schools and other educational settings was developed. Through this, a set of training modules for leadership teams in both primary and secondary sectors in the 4 programme countries was built addressing the four key areas mentioned before. The training was piloted, assessed and refined in collaboration with leadership teams from the four countries.

The project had a direct and measurable impact on participating schools, primarily the competences and practices of leadership team members trained. The partnership had carried our longitudinal research into the processes used and their impact**.**

A positive outcome of the EC4SLT project is that it has consolidated university–school partnerships as a means to promote school leadership team development. Many of the participating schools have expressed their eagerness to continue to develop the EC4SLT enquiry methods as a vehicle for distributed and entrepreneurial leadership that promotes professional learning across the school and capitalizes on the individual and collective strengths of team members.

Among the wider benefits of the project, we can list an enhanced level of risk management at schools. There are specific risks in education that can generally be assigned to three categories, strategic and legal risks, financial and sustainability risk, and social and demographic risks. Participants reported an increased ability to counterbalance all of these risk areas, implementing different entrepreneurial education leadership strategies. In general, implementing the programme made schools more resilient to change and challenges.

The participatory nature of the programme also led to enhanced participatory processes in the context of the whole school leading to increased engagement of main stakeholders and a growing feeling of ownership of the school and learning, thus increasing inclusion and a sense of belonging in the school. It was made even more apparent through joint definition and refining of school values and processes, engaging stakeholders beyond the leadership teams. Stakeholder engagement also led to a stronger

collaboration of the school and local communities, leading to a better understanding of teaching professions as a flexible and changing domain, moving towards being entrepreneurial. It has also led to a discussion between school and the world of work and a mutual appreciation of each other's work and competences.

The participation of ESHA as well as the international networks of universities as partners has contributed to outreaches in countries and school leadership communities beyond the piloting ones, supporting a change of culture and practices for better learning provisions and equitable inclusion of a growing number of children and young people. The participation of universities enabled the support of the integration of training modules developed into a joint European master's degree programme.

Learning points:

1. Collaboration between schools and other actors (universities as well as businesses) is key in fostering new school leader competences.
2. Developing entrepreneurial competences of school leaders help them manage uncertainties and changes that are natural parts of today's school life.

ASE Teacher training activities

Walloon Agency for Economic Stimulation (ASE) acts as the umbrella organisation for boosting economic development and business creation in Wallonia. The ASE also works with students and teachers – from all levels, but mainly secondary and higher education, because in their experience these are the levels where the most significant impacts can be achieved. The ASE aims to develop entrepreneurship in Wallonia in various ways, among them awareness raising activities about entrepreneurship spirit as well as business creation.

Entrepreneurship spirit has been defined by the ASE around six core competences, namely team spirit, self-confidence, creativity, spirit of initiative, sense of responsibility, and perseverance. The *Entrepreneurship Spirit Programme* essentially targets teachers (at all levels), because they are considered by the ASE to be the best actors to transfer entrepreneurial behaviours to young people.

The programme is focused around different axes, some of which are directly targeting students and/or entrepreneurship in its meaning of business creation that is outside of the scope of the current paper. However, some elements are focusing on in-service as well as pre-service teachers such as

- Having an operational team of 'awareness-raising agents', i.e. teachers sent on secondment, who promote the ASE's activities, methods and tools in schools and monitor the actions set up by teachers and heads of schools in relation to entrepreneurship.
- Annual funding opportunities to develop entrepreneurial projects at schools. The objective of these grants is to support teachers/heads of schools in setting up innovative actions, developing their networks with other schools and helping their pupils/students to become more entrepreneurial.
- Pedagogical tools prepared by the ASE which were provided to teachers/future teachers. So far, eight pedagogical tools have been made available to teachers (paper and/or electronic version), material on entrepreneurial pedagogy and games to stimulate reflection and develop entrepreneurship spirit among them.
- Awareness-raising activities ('acculturation') for future teachers.
- Partnerships with universities as well as student organisations.

In 2012 the ASE commissioned a 'Survey on Entrepreneurship Spirit in Education' in order to measure the impacts of the programme. Its objectives were to evaluate how teachers and heads of schools in Wallonia understand and perceive entrepreneurship spirit and how they integrate it in their

professional activities. The survey also aimed at assessing the effectiveness of the ASE's actions on their target groups. Impact was essentially measured at the individual level (teachers/heads of schools). To some extent, the results can be extrapolated to the level of pupils/students (individual) and schools (organisational).

The results notably show, through the comparison of teachers/heads of schools who were previously 'visited' by awareness-raising agents and teachers/heads of schools who were not (indirect control groups), that those who were already aware of entrepreneurship spirit have a better comprehension, more positive attitude and set up more actions related to entrepreneurship. These school leaders and teachers agreed to a large extent with the following statements as compared to the control group's positive answers being far lower:

- Entrepreneurship spirit is useful in the socio-educative sector (89%);
- Entrepreneurship spirit already starts at the primary level (85%);
- Entrepreneurship spirit is a topic that concerns education/teaching (80%);
- Entrepreneurship spirit is a trend (74%).

While entrepreneurship spirit is largely associated with establishing businesses or becoming independent, around 80% of these teachers believe that entrepreneurial spirit must be fostered at all levels and forms of education. In their daily practice, most of these teachers adapt their regular courses in a way that is entrepreneurial and thus fosters entrepreneurship in their students, too. Over 90% of teachers who were reached by awareness raising also used tools made available by the ASE in their pedagogical practice.

Learning points:

1. Raising teacher and school leader awareness about entrepreneurship leads to more positive attitudes and also an active outreach to find methodologies and tools in the field in an entrepreneurial way.
2. Business development organisations can play a major role in fostering entrepreneurial spirit and competences of teachers and school leaders.

Edu ja Tegu

The Entrepreneurship Education Programme *Edu ja Tegu* is implemented in 2016–2023 under the leadership of the Ministry of Education and Research in Estonia with the aim of promoting entrepreneurship education and an entrepreneurial attitude at all levels and types of education – general as well as vocational. The strategic goal of the programme is to systematically implement entrepreneurial learning and entrepreneurship education at all levels and types of education and to make schools more entrepreneurial, so that entrepreneurship education and entrepreneurship development, as well as the development of knowledge and skills, are a natural part of the education system. To this end, entrepreneurship and entrepreneurship education methodologies, curricula and supporting instructional materials, as well as training programmes and trainings, have been developed to enable schools to provide entrepreneurship opportunities for all learners. While the primary aim of the programme is fostering student entrepreneurship, the project is relevant for the current research as it focuses on an entrepreneurial culture at school and the training needs of teachers for that. Furthermore, the programme is also aiming at embedding the development of entrepreneurial competences in all subject areas and considers teacher entrepreneurial skills and competences as a pre-requisite for that.

A special work strand of the project is focused on teachers and school leaders in order to help them improve their skills and knowledge through in-service training and offering them opportunities of cooperation through special seminars. The trainings of the Entrepreneurship Education Program are

aimed at supporting the development of basic entrepreneurship skills and competences of teachers together with supporting them in the implementation of entrepreneurship education modules and general practices fostering entrepreneurship in all curricular areas. The in-service training is designed in such a way that everything learned can be applied immediately and a network of cooperation is created during the training. The training is provided by a collaborative team coming from academia, innovation and youth entrepreneurship.

The programme is supported by ongoing research conducted in schools that provides a snapshot on the current situation and aspects that need to be developed. It focuses on often neglected sub-topics such as entrepreneurship in humanities, in creative activities, in rural contexts and social entrepreneurship. The in-service training programme has a specialised module on entrepreneurial school leadership focusing on the management of development teams.

Learning points:

1. Entrepreneurship education can be made part of all areas of curricula if teachers' and school leaders' entrepreneurial competences are developed.
2. Professional networks play an important role in teacher and school leader entrepreneurship becoming a reality.
3. Impact assessment and research are key elements of the feedback loop on the need to develop teacher and school leader competences.

ParENTrepreneurs

ParENTrepreneurs is a 30-month Erasmus+ KA2 project coordinated by EEPN member Parents International (NL). The partnership has members from the entrepreneurship scene (MateraHUB (IT), Inova Consulting (UK), Bantani Education (BE)), academia (VAMK (FI)) and policy (Junta de Extremadura (ES)). Its focus is to support parents and caregivers in developing their own and their child's entrepreneurial mindset and skills; especially a sense of initiative, self-awareness and self-efficacy, creativity, and developing a growth mindset. The project is built on an evidence-based competence framework footed on the EntreComp that outlines entrepreneurship as a competence where entrepreneurship is understood as value creation where the benefit may be financial but may also be cultural or social.

ParENTrepreneurs is aiming at offering a complex and context-sensitive solution to help parents as the primary (not only first, but also most impacting) educators of their children develop their educator skills to raise resilient children. For this, the project consortium has identified parents' entrepreneurial competence development as a pre-requisite. It has been understood that in case the environment and its actors (in this case parents) are not ready to transfer entrepreneurial competences, skills and knowledge, the community will not be able to start thinking, acting and seeing itself as entrepreneurial. The outcomes of the project can be translated to the context of teachers as well. At the outset, the project defined teachers and school leaders as a secondary target group for need of developing their skills and competences for the necessary competence transfer, too.

The outcomes of the project address individual parents as well as those empowering and training parents. Schools and kindergartens are very important entry points, but other professionals that parents have a trustful relationship with also support outreach to parents who are open to building their own competences and thus becoming on the one hand more entrepreneurial and resilient themselves, and on the other hand better educators of entrepreneurial children.

The programme is based on an evidence review that was aiming at defining parent entrepreneurial competences as well as entrepreneurship educator competences of parents. A competence framework, based on the EntreComp, has been developed defining parentrepreneurial competences in 10 domains

and 4 progression levels also linked to the developmental levels of children. This complex framework forms the basis of an action learning programme, a combination of face-to-face and self-directed online learning for those at progression levels 1 to 3. It is accompanied by a validation tool to make not only learning visible, but also acknowledge skills and competence development via this non-formal training. The training is being piloted in two phases, first with an international audience, and then in national Barcamps in contextualised, localised versions. For parents at progression level 4 – having high levels at all competences and a drive to support and train others – a handbook is being delivered. This is accompanied by an interactive social learning platform with a growing library of resources and a built-in social interaction platform for peer support. A competence validation framework is also developed in collaboration with employers to support the recognition of entrepreneurial competences acquired through parenting for better employability.

The direct impact on the parents participating in these trainings is partly intangible (higher level of educator motivation, awareness of their role as well as their own competences) and partly tangible (knowledge acquisition, posterior use of the techniques learnt for their daily practices as educators as well as in their professional lives in various areas of the economy). The local/regional community around each participating group is also more aware of the need to work on new approaches towards entrepreneurship. The online and internet-based tools developed in the project have the potential to multiply the number of families reached. The social learning platform and social media are two powerful tools make the engagement of people from any part of Europe and beyond possible. This impact is enhanced by the availability of the tools in languages of countries with relatively low levels of English: Italian and Spanish (as well as Finnish).

Building on the cornerstone of society, the family, a new vision for entrepreneurship is created, making new generations of parents as educators aware of the "entrepreneurial way" for their own future careers as well as that of their children, and of the need to be proactive in life. It motivates local community actors to build a local entrepreneurship hub, also raising local/regional awareness of the need to train any professional in entrepreneurship competences and adapt lifelong training programmes to it. It also supports the creation or enhancement of a positive vision of local entrepreneurs. It also creates a local/regional network of professionals and dedicated parents that foster entrepreneurship.

The wider benefits of the project are, first of all, on the local communities participants belong to. By having community members aware of their entrepreneurial competences as well as the importance of them in life and for the future of their children, they can influence the local public and create an understanding of a new approach towards entrepreneurship as well as the way education reaches young people. It subsequently raises awareness of the need to change lenses entrepreneurs and business are seen through, with an attitude-shift towards commitment to education provision and a positive image of entrepreneurship. The fact that the project is mainly built on digital technology creates the link between entrepreneurship and the utilisation of opportunities provided by the digital age.

Other parents and educators, such as teachers and school leaders, are to be inspired by those who received training in parentrepreneurship to develop their own competences and to interact with more proactive and more entrepreneurial parents and educators.

The project is creating a long-term change first of all by building a community of parents and educators who are devoted to support the entrepreneurial transformation of further generations of parents and other educators. This is amplified by policy makers operating in a community aware of the importance of entrepreneurship for all, thus being able to create a policy environment more supportive of entrepreneurship and enhancing it. Children and young people educated by direct or indirect beneficiaries of the programme will become more entrepreneurial citizens of Europe in the future

being aware that they should be able to have a proactive attitude towards life and an enhanced sense of initiative. By the validation procedure, employers as well as the adult education and VET sectors and trainers in these fields will gain awareness of skills and competences of educators acquired informally and non-formally. Furthermore, these sectors benefit from the development of innovative tools and techniques to work on entrepreneurial competences. By utilising digital technology for mutual learning and mutual support of educators, an international self-supportive community is built, resulting in a snowballing effect.

Learning points:

1. The EntreComp provides a good basis for framing entrepreneurial skills and competences of educators.
2. Educators outside of school can inspire teachers and school leaders in their entrepreneurship competence development.
3. All educators need similar entrepreneurial skills and competences, and they need to collaborate for role model education approach.

REVIEW / CONCLUSIONS

In line with the main objective of the EEPN project, the aim of this research paper is to advise policy making on the main topic of this year, new roles and competences of teachers and school leaders in the digital age. In the scope of this paper, it offers an analysis of various approaches, inspiring practices, and frameworks in order to identify new roles and necessary competences in the field of entrepreneurship for teachers and school leaders.

Research quoted in this paper clearly shows that professional educators tend to be less entrepreneurial than people in other professions and are known to be risk averse people. Research also confirms that entrepreneurial competences are necessary for teachers and school leaders, and it is especially true when it comes to transforming education to fit realities of the digital age – a period that has been a global reality for decades now, but largely escaped formal education until the Covid-19 school closures. One of the main challenges is that the future of education largely depends on the ability of less entrepreneurially skilled persons to act in an entrepreneurial way.

When concluding the current research paper and moving towards tentative policy recommendations drawn from research and the analysis of successful programmes, we need to call the reader's attention to the design framework depicted below in order to keep the focus on desired outcomes.
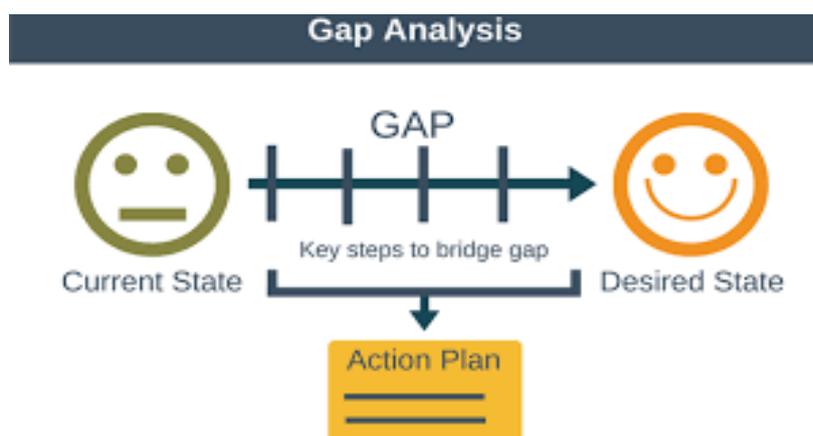
Figure 3 – Gap Analysis Model

Case studies analysed in this paper together with quoted research describe the state of play, highlighting that in those localities where the importance of entrepreneurial competences of teachers have been acknowledged and subsequently there are programmes in place to foster them, the level of awareness is substantially raised, and relevant practices are more widely used. There is some evidence in the paper showing that there is a certain level of mindset change present in teachers taking part in programmes related to teacher and school leader entrepreneurship.

However, the low number of available initiatives also make it clear that a lot more effort is to be invested by policy makers to achieve the desired state, having a professional educator force ready and able to transform education. Research gaps show that there is a need for more targeted work in the field to support policy making, especially in the areas of further specifications of desired competences, analysing the deeper impact of well-working practices, mindset change as a result of entrepreneurship programme.

It has also been proven by research done in the framework of the case studies provided that the EntreComp is a suitable tool for defining and further refining teacher and school leader entrepreneurial

competences. It can be used as a basis for developing a new competence model specifically for teachers and school leaders.

Another clear conclusion is that a holistic and comprehensive open schooling approach is the best for fostering these competences. Successful practices identified during this research all have a collaborative element: collaboration with the business sector, universities, families and youth organisations have proven to be effective for better performance. Our analysis also shows that future teachers and school leaders need competence development in this field from the pre-service stage.

Case study analysis within this paper shows that given the necessary orientation, support and tools, teachers take on new roles enterprising with curricula, introduce the development of entrepreneurial spirit in all levels and areas of education. Supporting them with tools raising the entrepreneurial spirit has also shown better results in specially challenging contexts such as rural or disadvantaged schools. The importance of networks – both that of peer professionals and those consisting of various other stakeholders – has also been proven by research and practice. It has also been clearly shown that awareness raising is the most important pre-requisite in creating an open discussion about the topic. Based on these findings, the authors have come up with specific tentative recommendations in the field of policy support for teacher and school leader entrepreneurship.

RECOMMENDATIONS BASED ON THE CONCLUSIONS

1. Policy should aim for defining and promoting entrepreneurial roles and related competences of teachers and school leaders, using the EntreComp as a starting point.

2. Awareness raising among in-service professionals as well as those planning to choose a teaching professional pathway about the importance, breadth and impact of entrepreneurial competences of teachers and school leaders should be a priority.

3. Programmes that engage other stakeholders, especially businesses, universities, families and youth organisations in the spirit of open schooling, considering the school as a learning organisation are key.

4. There is a need to invest in research as well as practice in improving teacher and school leader entrepreneurship. In the case of practice measuring impact, upscaling, mainstreaming and localising are of a large importance.

5. Incentives and methods need to be introduced to attract people with entrepreneurial mindsets to the teaching professions – especially to become teachers and school leaders -, including incentives for alternative pathways to teacher and school leader careers for those wishing to change from the world of non-profit or for-profit enterprises to education. This should be regulated by national legislation in a way that provides the possibility for smooth and easy transition while providing for high pedagogical quality.

6. Initial training as well as in-service training needs to embed teacher and school leader entrepreneurship, and this needs to be reflected in related policies.

REFERENCES

Amorim Neto, R., Picanco Rodrigues, V., & Panzer, S. (2017). Exploring the relationship between entrepreneurial behavior and teachers' job satisfaction. Teaching and Teacher Education, 63, 254–262. https://doi.org/10.1016/j.tate.2017.01.001

Ayaita, A. & Stürmer, K. (2019). "Risk Aversion and the Teaching Profession: An Analysis Including Different Forms of Risk Aversion, Different Control Groups, Selection and Socialization Effects." Education Economics. doi:10.1007/s10902-019-00189-5.

Bacigalupo, M., Kampylis, P., Punie, Y., Van den Brande, G. (2016). *EntreComp: The Entrepreneurship Competence Framework*. Luxembourg: Publication Office of the European Union; EUR 27939 EN; doi:10.2791/593884

Berry, B. (2013a). Teacherpreneurs: A bold brand of teacher leadership for 21st-century teaching and learning. Science, 340(6130), 309–310. https://doi.org/10.1126/science.1230580

Berry, B. (2013b). Teacherpreneurs and the future of teaching & learning. International Journal of Innovation, Creativity and Change, 1(2), 25–34.

Carlsson, B., Braunerhjelm, P., McKelvey, M., Olofsson, C., Persson, L., & Ylinenpää, H. (2013). The evolving domain of entrepreneurship research. Small Business Economics, 41(4), 913–930. https://doi.org/10.1007/s11187-013-9503-y

Castner, D. J., Schneider, J. L., & Henderson, J. G. (2017). An ethic of democratic, curriculum-based teacher leadership. Leadership and Policy in Schools, 16(2), 328–356.

Cedefop (2014). *Terminology of European education and training policy: a selection of 130 terms*: 2nd edition. Luxembourg: Publications Office. https://www.cedefop.europa.eu/en/events-and-projects/projects/validation-non-formal-and-informal-learning/european-inventory/european-inventory-glossary#V

COM (2018) 189: *Key Competences for Lifelong Learning*

COM (2012) 398: *Validation of Non-Formal and Informal Learning*:

COM (2016) 381: *A New Skills Agenda for Europe*.

COM (2017) 673: *Strengthening European Identity through Education and Culture*.

COM (2018) 22 *The Digital Education Action Plan*

COM (2020) 625: *Achieving the European Education Area by 2025*

Curth, A. et al. (2015). *Entrepreneurship education: A road to success. A compilation of evidence on the impact of entrepreneurship education strategies and measures*, European Union Publication Office, Luxembourg

Douglass, A. (2018). Redefining leadership: Lessons from an early education leadership development initiative. Early Childhood Education Journal, 46(4), 387–396. https://doi. org/10.1007/s10643-017-0871-9

EUCO 14/17: *European Council conclusions of 19 October 2017*.

European Commission/EACEA/Eurydice (2016). *Entrepreneurship Education at School in Europe.* Eurydice Report. Luxembourg: Publications Office of the European Union.

Eyal, O., & Kark, R. (2004). How do transformational leaders transform organizations?: A study of the relationship between leadership and entrepreneurship. Leadership and Policy in Schools, 3(3), 211–235. https://doi.org/10.1080/15700760490503715

Fisher, J. L., & Koch, J. V. (2008). Born, not made: The entrepreneurial personality. Praeger Publishers.

Fullan, M., Quinn, J., Drummy, M., Gardner, M. (2020), "Education Reimagined; The Future of Learning". A collaborative position paper between New Pedagogies for Deep Learning and Microsoft Education. http://aka.ms/HybridLearningPaper

Groundwater-Smith, S., & Sachs, J. (2002). The activist professional and the reinstatement of trust. Cambridge Journal of Education, 32(3), 341–358. https://doi.org/10. 1080/0305764022000024195

Hanson, J. (2017). Exploring relationships between K–12 music educators' demographics, perceptions of intrapreneuring, and motivation at work. Journal of Research in Music Education, 65(3), 309–327. https://doi.org/10.1177/0022429417722985

Heinonen, J., & Poikkijoki, S.-A. (2006). An entrepreneurial-directed approach to entrepreneurship education: Mission impossible? Journal of Management Development, 25(1), 80–94. https://doi.org/10.1108/02621710610637981

Hentschke, G.C. (2009). Entrepreneurial Leadership. Chapter 8 in Brent Davies (ed.) *The Essentials of School Leadership*. Sage Publications

IBF International Consulting (2013). *Attractiveness of the Teaching Profession in Europe*. Luxembourg: Publications Office of the European Union. doi 10.2766/41166

Lackéus, M. (2018). 'What is value?' – A framework for analyzing and facilitating entrepreneurial value creation. Uniped, 41(1), 10–28.

Laviolette, M. (2016). EC4SLT Interim evaluation report.

Leisey, D. and Lavaroni, C. (2000). *The Educational Entrepreneur*. San Rafael, CA. Edupreneur Press

Maranto, R. (2015). Did the teachers destroy the school? Public entrepreneurship as creation and adaptation. Journal of School Leadership, 25(1), 69–101. https://doi. org/10.1177/105268461502500104

Martin, A., Abd-El-Khalick, F., Mustari, E., & Price, R. (2018). Effectual reasoning and innovation among entrepreneurial science teacher leaders: A correlational study. Research in Science Education, 48(6), 1297–1319. https://doi.org/10.1007/s11165-016- 9603-1

Omer Attali, M., & Yemini, M. (2017). Initiating consensus: Stakeholders define entrepreneurship in education. Educational Review, 69(2), 140–157. https://doi.org/10.1080/ 00131911.2016.1153457

Oplatka, I. (2014). Understanding teacher entrepreneurship in the globalized society. Journal of Enterprising Communities: People and Places in the Global Economy, 8(1), 20–33. https://doi.org/10.1108/JEC-06-2013-0016

Peltonen, K. (2015). How can teachers' entrepreneurial competences be developed? A collaborative learning perspective. Education þ Training, 57(5), 492–511. https:// doi.org/10.1108/ET-03-2014-0033

Robles, L., & Zárraga-Rodríguez, M. (2015). Key competencies for entrepreneurship. Procedia Economics and Finance, 23, 828–832. https://doi.org/10.1016/S2212-5671(15) 00389-5

Shelton, C., & Archambault, L. (2018). Discovering how teachers build virtual relationships and develop as professionals through online teacherpreneurship. Journal of Interactive Learning Research, 29(4), 579–602.

SWD (2018) 12 *The Digital Education Action Plan*

SWD (2018) 13 *Common values, inclusive education and the European dimension of teaching*

Taplin, Dana H., Hélene Clark, Eoin Collins and David C. Colby. (2013). *Theory of Change Technical papers: A series of papers to support development of Theories of Change based on practice in the field*. New York: ActKnowledge.

van Dam, K., Schipper, M., & Runhaar, P. (2010). Developing a competency-based framework for teachers' entrepreneurial behaviour. Teaching and Teacher Education, 26(4), 965–971. https://doi.org/10.1016/j.tate.2009.10.038

van der Heijden, H. R. M. A., Geldens, J. J. M., Beijaard, D., & Popeijus, H. L. (2015). Characteristics of teachers as change agents. Teachers and Teaching, 21(6), 681–699. https://doi.org/10.1080/13540602.2015.1044328

World Bank. (2018.) World Development Report 2018: Learning to Realize Education's Promise. Washington, DC: World Bank. doi:10.1596/978-1-4648-1096-1