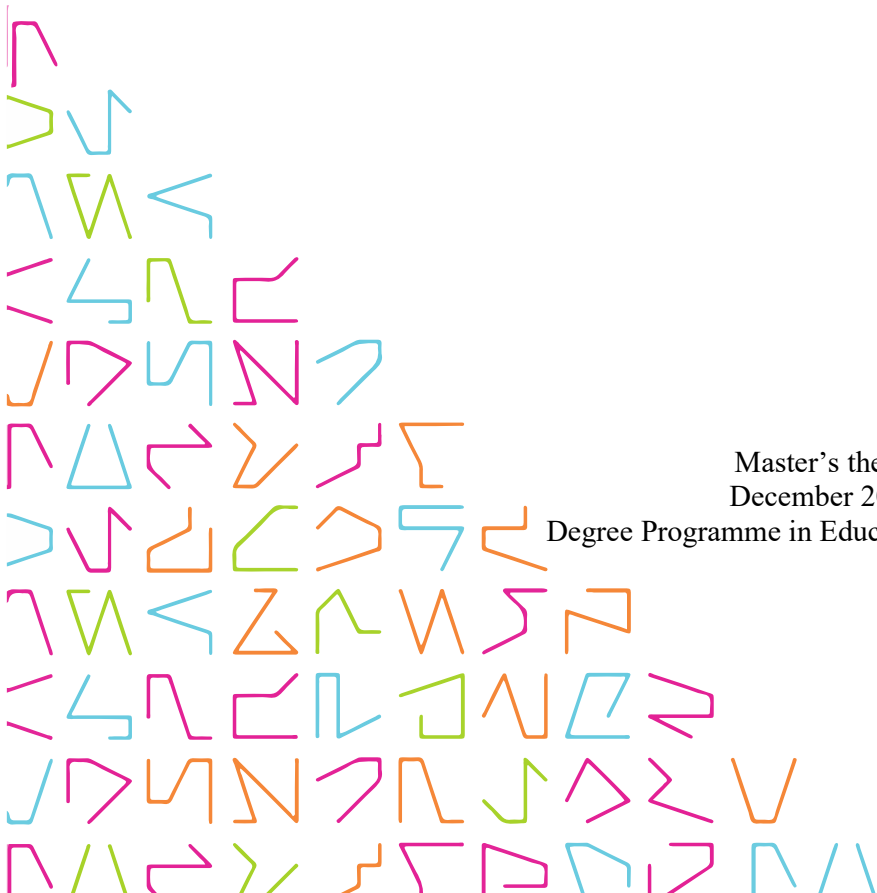


ENTREPRENEURIAL COMPETENCES

Comparison of Proacademy and EntreComp

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ABSTRACT

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The purpose of this study was to perform a high-level benchmarking of learning outcomes achieved at Proacademy against The Entrepreneurship Competence Framework (EntreComp).

Data was collected through semi-structured interviews with six final year bachelor students and two Proacademy coaches. Interviews focused on entrepreneurial competences, as articulated by EntreComp and discussed their application in Proacademy education.

It was found that competences included in EntreComp closely match the ones embedded in Proacademy program, thus demonstrating the holistic and multi-faceted nature of both Proacademy program and EntreComp. Findings also indicate that, while the theme of both EntreComp and Proacademy is entrepreneurship, competences analysed are attributes of success in what is expected to be the future of working life and therefore aspirational in any area of education.

More work will need to be done to perform a comprehensive mapping against EntreComp and study individual and team competencies of Proacademy learners in greater details.

Key words: entrepreneurship competence framework, entrepreneurial education, team learning, Proacademy

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1. INTRODUCTION

Digital technologies and globalization are transforming the world of work at an unprecedented pace. New opportunities emerge, but adding value requires 21 century skills - personal initiative, autonomy, ability to adapt, remain relevant and be resilient. (EPSC Strategic Notes- The Future Of Work, 2016.)

To harness the turbulence of our days entrepreneurial competences are required. To be successful, these talents are needed for people from all walks of life and in all spheres of economic activity. We need people who set up new businesses, as well as change champions for established corporations and the public sector. The challenge is that we recognize entrepreneurial traits only when they appear. (Thomson, 2004, 243).

Researchers have been tracing the origins of entrepreneurial behaviour back in history by focusing on individuals, rather than the firm (Casson & Casson, 2014). It has been suggested by various researchers that entrepreneurs can be recognised as their behaviours are associated with some specific personality types. But the lack of convergence makes this approach difficult to use in practice. (Thomson, 2004.)

Since we lack universally accepted definition of entrepreneur or entrepreneurial talents, the present thesis will explore the phenomenon of entrepreneurship.

1.1 Research background

1.1.1. Proacademy

In September 2017 the author visited Proacademy at Tampere University of Applied Sciences and talked to some of the Bachelor degree students (called teampreneurs) and coaches there. She found them very different from other students and lecturers she has interacted with. Students behaved like motivated and mature professionals, as if they have already been working in the corporate world for many years. They appeared self-driven, confident, efficient, eager to embrace the unknown, social and ‘tribal’.

Their experience came from working in teams, while operating their own companies and engaging themselves in profit making initiatives that they identified and executed themselves. All company owners form the team, which is instrumental to teampreneur’s personal and professional development.

Before joining Proacademy learners gain some knowledge pursuing a conventional undergraduate degree program. However, once they have joined Proacademy, students do not have a fixed, weekly timetable of lectures and seminars, which implements the curriculum and dictates how the day goes by for learners. The exception from this make dialogue sessions, run twice a week, where teampreneurs meet with their team and some other events, attended by the whole Proacademy community. Generally, learners are free to organize themselves and participate in or initiate projects, in which they are interested. On a voluntary principle, they may even form so called 'learning cells' – a study group dedicated to mastering a specific topic. Teampreneurs dedicate a lot of time to reading contemporary management literature and share the experience by writing reflective individual and group essays.

Education at Proacademy is self-directed and tailored to individual needs. Teampreneurs have biannual reviews to discuss the so-called learning contracts, which are specifically created for each one of them. Along with their coach, they reflect upon performance and evaluate personal development, while setting targets for the future. Statistics on employability and entrepreneurship levels post graduation reveal encouraging results.

Team learning forms the foundation of the pedagogy applied at Proacademy. Before being admitted to the program, learners are profiled in accordance with Belbin's team roles. The purpose is to form diverse and productive teams. Onwards, lots of time and effort are dedicated to building trust and forming the team. Typically, teampreneurs will rent a cottage in the countryside to escape everyday atmosphere and to spend some quiet time with the rest of the team. Each one of the teampreneurs shares details of their learning contracts and so does their coach.

Towards the end of their education at Proacademy, teampreneurs need to prepare a final research project, which evidences their academic achievements.

The author has never been an entrepreneur, but worked in various countries, industries and corporations, so was fascinated to learn about the principles applied in Proacademy and wished to explore competences acquired by teampreneurs. She also enjoyed the lively and fun atmosphere in Proacademy and thought that many other students and teachers

around the world would aspire to co-create such. There is still little research on what makes Proacademy work so well.

1.1.2. EntreComp

The policy context of this thesis is the development of the entrepreneurial capacity of European citizens and organizations, which has been one of the key objectives for Member States for many years. There is a growing awareness that such skills, knowledge and attitudes can be learnt and will allow citizens to adapt to the future needs of the working life and benefit the society as a whole. Even a decade ago the European Council (EC) identified the ‘sense of initiative and entrepreneurship’ as one of the eight key competencies necessary for all members of a knowledge- based society.

For a while, it was unclear what EC researchers consider distinctive elements of entrepreneurship and what competences are related to it. Hence in 2016, EntreComp, a reference framework, was launched aiming to support the development of entrepreneurship competence at European level. EntreComp is a result of a robust methodology, where a large and heterogeneous group of experts has been consulted at different stages to obtain their feedback and progressively reach consensus around a validated proposal. (EntreComp: The Entrepreneurship Competence Framework, 2016)

According to Eurydice (2016), the lack of comprehensive learning outcomes for entrepreneurship education is one of the main hindrances to the development of entrepreneurial learning in Europe. Hence, to foster entrepreneurial learning there is a need to establish a common understanding of what entrepreneurship as a competence is. In that context, competence is understood as set knowledge (body of facts, principles, theories and practices that is related to a field of work or study), skills (the ability to apply knowledge and use know-how to complete tasks and solve problems) and attitudes (motivators of performance, including values, aspirations and priorities). It is hoped that EntreComp will provide educators and citizens with a tool to assess and develop this key competence. (EntreComp: The Entrepreneurship Competence Framework, 2016.)

1.2. Research objectives

The author will analyse this framework (EntreComp) and use it as one focal point in researching Proacademy phenomenon. In one hand, this will illustrate many of the competences included in the framework. On the other, it will partially conceptualize the phenomenon. The other focal point of the research will be the view of Proacademy teams and coaches. The author will explore competencies, articulated in EntreComp through their eyes and will enquire whether these are achieved in Proacademy and what activities support building them.

At the time of its publishing in 2016, the authors of EntreComp recognize that the framework has not been tested in real settings. They also recognize the challenge of breaking down entrepreneurship to a list of predefined learning outcomes, given that it concerns a creative result - value adding activity. It is impossible to foresee what ‘the learner will know, understand and be able to do after completion of learning’ (Cedefop, 2009). All these limitations will be factored in the research process, which will be carried out critically and with an attitude of prudence and flexibility. In performing the comparison, the author will use the overview of EntreComp (published in Table 3 EntreComp Overview), which provides a ‘bird’s eye view’ of the framework and is included in Appendix 1 of the present thesis.

The purpose is to realize benefits for both Proacademy and EntreComp. The latter will be analysed in real settings, which will enrich evidence available to support or develop it. At the same time, the author will gain and share valuable insights on how Proacademy operates and educates.

1.2.1 Research questions

The research aims to answer the following questions:

1. What are the competences included in EntreComp and how these may be analysed or synthesised in the context of Proacademy practice?
2. What educational interventions adopted by Proacademy build competences included in EntreComp?
3. How could competences included in EntreComp be developed on the basis of Proacademy experience?

1.3 Structure of the thesis

In addition to the present chapter, which provides an overview of the topic, the background around research questions and their relevance for the working life, four other chapters will be included in the thesis.

Chapter two will present key theoretical concepts underpinning the topic. Starting from scholarly exploration of entrepreneurial traits, the direction of travel will be towards principles of entrepreneurial education and then the concept of team learning, which is applied in Proacademy. Additionally, models of competency based performance, used in human resource management will be included.

Chapter three will provide an overview of the research methodology and data collection. This includes an introduction to the research method chosen, the research scope and additionally contains details of how the research data was collected and analysed.

Chapter four will synthesize empirical results. Finally chapter five will discuss and evaluate critically the results, specifically addressing research questions.

2. THEORETICAL FRAMEWORK

2.1 The Entrepreneurship Competence Framework (EntreComp)

The Entrepreneurship Competence Framework (EntreComp) views entrepreneurship as a transversal competence, one extending across and parallel to specialist competences. In addition, it suits a variety of situations - employment, starting up ventures, personal development and fulfilment, etc. It is associated with creating value in private, public and not for profit sectors. EntreComp's vision is to 'build a bridge between the worlds of work and education' and encourage active participation in all economic and societal areas, allowing citizens to turn ideas into actions, creating value, not just for oneself.

(EntreComp: The Entrepreneurship Competence Framework, 2016.)

EntreComp was developed through a study process that included literature review, inventory of a number of entrepreneurial initiatives where the competence is defined, taught, learnt or assessed, in-depth case-study analysis, expert workshops, benchmarking, multi stakeholder consultations and on line panel discussions. The framework consists of fifteen competences, allocated into three areas labelled 'Ideas and opportunities', 'Resources' and 'Into action'. The framework does not dictate strict classification and the fact that certain competence is presented in one of the areas, does not preclude its applicability in another. To illustrate that the authors refer to the competence of creativity, which is, in fact, relevant to all three areas of the Framework. (EntreComp: The Entrepreneurship Competence Framework, 2016.)

For each one of the competences a hint and a descriptor have been suggested. To illustrate the purpose of these, we will refer to the competence of 'Financial and economic literacy'. The hint provides a brief, one sentence explanation of the competence (e.g. *'develop financial and economic know-how'*). The descriptor breaks it down to elicit some of its core aspects (e.g. *'estimate the cost of turning an idea into value-creating activity, or plan, put in place and evaluate financial decisions over time, manage financing to make sure my value-creating activity can last over the long term'*) From there, the descriptor is further disseminated into threads, which represent specific activities. To build on previous example, which concerns the competence of 'Financial and Economic Literacy', the threads break it down to understanding economic and financial concepts, budgeting,

finding funding and understanding taxation. (EntreComp: The Entrepreneurship Competence Framework, 2016.)

For each of those activities a progression model exists, providing learning outcomes from foundation to expert level. The progression marks increasing autonomy and responsibility when acting upon ideas to create value as well as growing ability to generate value from simple and predictable contexts up to complex and constantly changing environments. (EntreComp: The Entrepreneurship Competence Framework, 2016.)

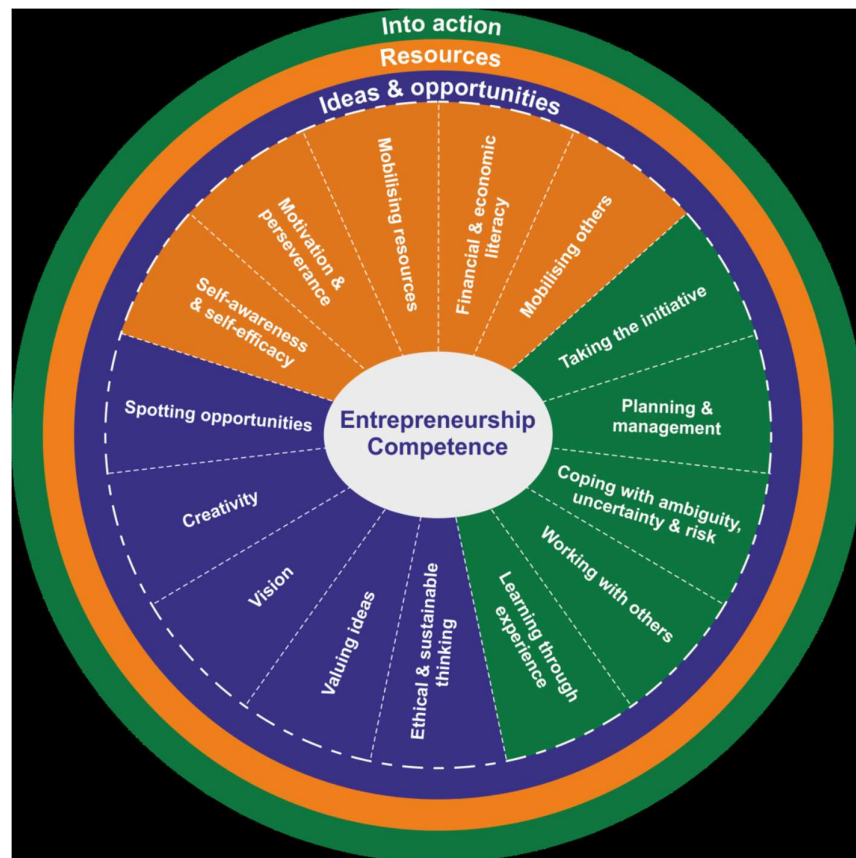


FIGURE 1. Areas and competences of the EntreComp conceptual model (EntreComp: The Entrepreneurship Competence Framework 2016)

Finally, it is worth mentioning that the framework is not prescriptive, linear or formal. The boundaries of each competence can be pushed and extended further as citizens engage themselves in value creating activities. The progression is also expressed by the following verbs, which signify increasing level of expertise: discover, explore, experiment, dare, improve, reinforce, expand, transform (Bacigalupo, Kampylis, Punie, & Van den Brande, 2016.)

2.2 The origin and meaning of competency frameworks

Human resource specialists associate competencies with given roles in the workplace and related selection and assessment that will lead to desired performance. Prior to the industrial revolution competencies were specific to the task and acquired through years of on the job learning and practice until the craft was mastered. This changed with the introduction of assembly lines and related specialization, simplification and efficiency, which, in turn, reduced personal input and value attributed to people. The breakthrough came in 1960's when it was asserted that companies should hire for competencies, rather than IQ scores only and developing a method that would predict human performance was needed. To do that, employees assessed as outstanding, as well as, such considered mediocre have been interviewed and asked to provide detailed descriptions of how they handled critical work situations that led to success and/or failure. The interviewer asked non-leading probing questions to identify what were the critical actions, thoughts and words of the interviewee within each situation. This has been defined as behavioural event interview (BEI). Following that, researchers developed a sophisticated method of content analysis to list themes that separate the outstanding performers from the mediocre ones. Themes were organized into a small set of 'competencies', which the researchers hypothesized were the determinants of superior performance in the job. (Sanghi, 2016,14.)

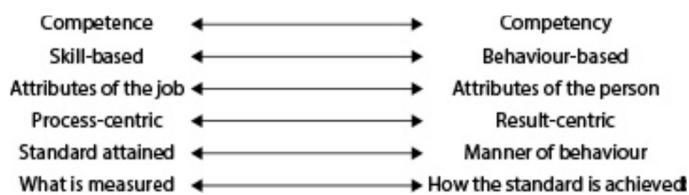
In the same manner, the competencies of entrepreneurs and managers across the world have been mapped, based on the following critical elements: focus on outstanding performers, use of BEIs, thematic analysis of interview data and distillation of results into a small set of competencies, described in behaviour specific terms. (Sanghi, 2016,15.)

Competency models became popular because researchers realised that personal characteristics are more important than tasks and outstanding performance is more relevant than effective one (Sanghi, 2016,16). It appears that articulating competencies is even more critical nowadays, when, due to the organizational restructuring and emerging new practices we need to design competencies for jobs that did not exist before and describe anticipated skill requirements, rather than skills which have led to efficiency in the past (Sanghi, 2016,16). However, given the uncertainty and fluidity of the

environment, these definitions need to be viewed broadly and adapted/interpreted to the specific situation.

Sanghi (2016, 17) differentiates between competence (plural competences) and competency (plural competencies). He asserts that ‘competence means a skill and the standard of performance reached, while competency refers to the behaviour by which it is achieved and uses the following figure to illustrate this idea.

FIGURE 2. The Interface between competence and competency (Sangi, 2016)



Moore, Cheng, & Dainty, (2002) attempt to resolve the confusion and various interpretations around terminology, which stem from different performance assessment approaches in the UK and the USA. They suggest a hierarchy of terms and their specific meaning, depending on the need to assess behaviours and attitudes in addition to simply evaluating functions concerning a particular job.

EntreComp is a competence framework and hence refers to what people can do, rather than focussing on ‘how’(behaviour adopted). The framework talks about knowledge (body of facts, principles, theories and practices that is related to a field of work or study), skills (the ability to apply knowledge and use know-how to complete tasks and solve problems) and attitudes (motivators of performance, including values, aspirations and priorities). This means that it adopts a mixed approach which focusses on skills, processes and standards attained, but also includes attitudes. This is because ‘Attitude’, whilst directly related to the domain of competency, is increasingly becoming common to the two domains (Komarkova, Gagliardi, Conrads & Collado, 2015, 30).

Finally, it is worth mentioning that EntreComp considers the idea of value creation in a broader sense (social, cultural, commercial). Hence, it deviates from workplace capabilities and considers skills needed to thrive in the society as a whole.

2.3 Entrepreneurs and entrepreneurship

In order to explore entrepreneurship as a competence, we need to synthesize literature that reviews entrepreneurs and the views on entrepreneurial activities and how these are determined by scholarly contributions. Large number of academic contributions to this subject have been made and for the purposes of the present thesis, it will not be possible to detail all of those or analyse them at great length, only some will be selected and reviewed.

What all explorations have in common is the economic perspective, which focuses on economic growth through innovation, job creation, increases in productivity, etc. Literature also agree that entrepreneurial activity is now seen to grow in scope and reach out other domains (Komarkova et al. 2015, 18).

Kirkwood & Walton (2010, 206) define entrepreneur as a founder of a new, for-profit business. However, in addition to the economic perspective, they touch on the psychological perspective (being interested in the entrepreneur, rather than purely the economic process) and sociological perspective (how the social relations and social environment affect entrepreneurs).

This resonates with how Ahmad & Seymour (2008) have defined entrepreneurial activity in their work assigned by the OECD. They deliberate over enterprising human activity, leveraging innovation, creativity and identifying opportunities which generate value of economic, social and cultural significance. Such holistic definition recognizes various types of entrepreneurship that exist nowadays.

Next, we will review the types of entrepreneurial activity, undertaking the economic and social perspectives. In reality these co-exist and it may not be possible to isolate a single perspective, dominating over others.

2.3.1 Historical perspective

Landes, Mokyr & Baumol (2012, 527) focus on entrepreneurship as an activity, leading to economic growth and assert that analysis of entrepreneurship may be approached

through statistics, theory and history. However, the heterogeneity and diversity of entrepreneurship and the sporadic nature of this activity and its products significantly limit application of statistical analysis and theoretical approaches. Hence, they review historical evidence to gain valuable insights into entrepreneurship. Authors admit that such evidence is complex and multi-faceted, as historic events are influenced by a combination of specific circumstances (cultural, religious, political), untangling of which may be challenging. But used carefully, history offers valid information, which is beneficial, given the scarcity or unavailability of other evidence.

In disseminating the historical account of events, an entrepreneur is defined ‘as anyone who undertakes some economic activity on own initiative on the basis of alert observation of an opportunity to enhance wealth, power, or prestige’ (Landes et al. 2012, 530).

Authors distinguish between some entrepreneurs that replicate existing businesses and others, called innovative entrepreneurs, that leverage on innovations, selling new products, re-engineering processes or forms of business, approaching new markets, etc. Their importance is seen not so much in creating the innovation, but in perceiving its best value and then making it available on a larger scale. Further entrepreneurs are described as ‘productive’ and ‘unproductive or destructive’ depending on whether their activities contribute to economic wellbeing of a larger societal group. Expanding on the idea of productiveness, the authors refer to situations where innovative entrepreneurs were engaged in criminal or unsocial activities, enriching no one else, but themselves and assert that, while this activity may be novel or may enhance the power or prestige of the entrepreneur, it is unfruitful and hence detracts progress, ultimately destroying the status quo and impacting on positive institutional developments that fostered productive innovative entrepreneurship. (Landes et al. 2012, 531-532.)

Thus, the themes identified by this historical analysis are wealth creation (opposed to simply redistributing wealth), spotting and seizing opportunities, creativity in putting the invention to use, scaling up and acting as agents of change and innovations, and ultimately bringing positive social effect. (Landes et al. 2012).

2.3.2 Intrapreneurship

Another important research field is intrapreneurship i.e. entrepreneurship in existing organizations where the focus may be on entrepreneurial individuals (their personal characteristics and the support they get from the organization), on setting new ventures that enable entrepreneurship and finally on entrepreneurial characteristics on organizational level (entrepreneurial organizations). (Antoncic & Hisrich, 2003, 7).

The definition coined refers directly to entrepreneurship within existing organizations, but also mentions emergent behavioural intentions and behaviours, that are related to departure from customary. This means that intrapreneurship operates on the verge of existing organizational settings and is not simply concerned with optimization and efficiency of routine activities. From that point of view, it is not identical to diversification, organizational learning or enhancing existing capabilities and evolving innovations, which are managerial, rather than entrepreneurial. This makes the analogy with Schumpeter (1934) and his 'creative destruction' and the new combinations that discontinue existing routines. In addition, the following dimensions are outlined in the context of radical organizational changes: business venturing, product/service innovation, process innovation, self-renewal, risk taking, proactiveness and competitive aggressiveness. (Antoncic & Hisrich, 2003.)

The concept of interpreneurship is important for two reasons, at least. First, it combats the notion that the entrepreneur is necessarily a self-employed business owner, operating independently at own risk, thus enlightening employers and HR managers to develop and seek entrepreneurial behaviour, which revitalises organizational performance and inspires employees to participate in transformational endeavours and adapt to the rapidly changing economic environment. Secondly, it blends the economic activity with social aspects, demonstrating the complex nature of this phenomenon.

2.3.3 Social entrepreneurship and ecopreneurship

Another example of such combination is social entrepreneurship. Social entrepreneurs are defined as entrepreneurs who build businesses in order to achieve social, as well as, commercial objectives (Tracey & Phillips, 2007, 265). Both those objectives (social effect

and commercial success) are integral to the social entrepreneurial activity and ‘managing a double bottom line’ (Tracey & Phillips, 2007, 266) poses a number of challenges that social entrepreneurs need to embrace. One of those challenges is how to manage accountability. Unlike enterprises where enriching shareholders is the overriding objective, social enterprises have additional stakeholders, a group of constituents, the lives of which they have undertaken to improve and need to communicate with extensively when setting and executing strategies. This sometimes blurs lines of accountability. Additional complications exist through the need to strike a balance between building a profitable business and its competitive products and services and managing the process of stakeholder consultations, which may slow down decision making (Franks & Mayer, 1995).

Overall, the conflict between social enhancement and financial outcomes and stability (which are prerequisite for undertaking social activities) may bring tensions and question the identity of the enterprise. This is particularly valid in the lack of consensus among social entrepreneurs and literature over which objective needs to be prioritised (Tracey & Phillips, 2007, 270) when entrepreneurs face such difficult choice.

A type of social entrepreneurship is ecopreneurship. Ecopreneurs, are defined as those entrepreneurs who start for-profit businesses with strong underlying green values and who sell green products or services. Drivers for ecopreneurship may relate to compliance prerequisites, market incentives for engaging in green businesses and positive consumer attitudes towards such products. What is more, some contributors see ecopreneurs as a vehicle for social change and examine their motivations (Kirkwood & Walton, 2010, 204:207.) Findings show that ecopreneurs have the profit motive at heart, but in addition, they are environmentally driven and strongly motivated by the ideas of sustainability. Similarities with other types of entrepreneurship do exist and differences are subtle, making authors to conclude that ‘the boundaries between ecopreneurs’ social and commercial motivations are blurred’. (Kirkwood & Walton, 2010, 220.)

The concepts of social and ecopreneurship are important, because they cast light on the ever growing complexity of entrepreneurial activity, which is multi faceted and skills intensive.

As this overview demonstrates, entrepreneurship is a dynamic sphere of the economic and social life. Variations in entrepreneurial activities emerge frequently and replicate aspects of the existing types, while adding another nuance to the way, in which the phenomenon materialises.

2.4 Entrepreneurial education

2.4.1 Scope and objectives of entrepreneurial education

The varying definitions of entrepreneurship have made it challenging to guide teachers on how to approach entrepreneurial education and has created a diversity in pedagogical approaches. If the narrow definition of entrepreneurship is considered, then entrepreneurial education is about opportunity identification, business development, self-employment, venture creation and growth, i.e. becoming an entrepreneur (Fayolle and Gailly, 2008). However, linking it to the wide definition of entrepreneurship it is about personal development, creativity, self-reliance, initiative taking, action orientation, i.e. becoming entrepreneurial (Lackeus 2015, 9).

EntreComp adopts a holistic approach and incorporates competences related to both being entrepreneurial (creativity, perseverance, coping with uncertainty, ambiguity and risk, learning from experience, etc.) and becoming an entrepreneur (spotting opportunities, planning and management, mobilizing resources, etc.). The framework also puts value creation at the core of entrepreneurship. This concept is also internalised by Lackeus (2015) and articulated in his work assigned by the OECD. He points out that transformations that entrepreneurs experience while interacting with the environment form an equally important component of entrepreneurship and hence learning and value creation are the fundamentals of this phenomenon. From here, letting students try to create value to outside stakeholders will then result in development of entrepreneurial competencies, regardless of whether successful value creation is being achieved or not (Lackeus, 2015,10-11). This represents teaching 'through' entrepreneurship pedagogy, which is process-based and experiential approach, where students go through an actual entrepreneurial learning process (Kyrö, 2005), as opposed to knowledge based and content laden approaches.

Thus standardized, content focused, passive and single-subject based curriculum in traditional education is contrasted with an individualized, active, process-based, project centric, collaborative, experiential and multidisciplinary approach in entrepreneurial education (Lackeus, 2015, 14).

2.4.2 Entrepreneurial education and educational psychology

According to Fayolle (2013), the concept of pedagogy is well known in education science, but rarely used in entrepreneurship programs, which lack common framework, reflecting the key philosophical and didactical perspectives. Thus the purpose of entrepreneurial education and respective roles of learners and educators, as well as, the objectives, content, methods and evaluation dimensions are not subject to systematic research and knowledge on the best practice is lacking. (Fayolle, 2013, 695.)

The conclusion reached is that entrepreneurial education is largely disconnected from the field of education and we need to use synergies and knowledge from both the fields of entrepreneurship and education (Fayolle, 2013, 698).

Lackeus (2015, 16) illustrates some features of the entrepreneurial education in comparison with other pedagogical approaches (problem, project based and service learning). While all these are centred around problem solving, are authentic and involve teamwork, only entrepreneurial education places emphasis on opportunities (Rae, 2007) and value creation to external stakeholders (Saravathy and Venkataraman, 2011). Other elements of entrepreneurial education are iterative experimentation, real-world interactions, artefact creation and work across extended periods of time. While these may exist in the aforementioned pedagogical approaches, newness/innovativeness and risk of failure are presented as unique characteristics of entrepreneurial education. According to Lackeus (2015), these non-traditional features are the reason why entrepreneurial education is associated with much higher levels of motivation, is seen as relevant and able to trigger deep learning, compared to other pedagogies (Lackeus, 2013).

2.4.3 Entrepreneurial education and learner's emotions and engagement

The role of entrepreneurial education is commonly seen as instrumental for achieving economic growth and job creation and useful in the context of increased globalization and uncertainty (Lackéus, 2015). Another perspective could be to perceive entrepreneurial education as a means to achieve more interest, joy, engagement and creativity among students (Johannisson, 2010, Lackéus, 2013). This is still seen as unconventional approach in practice, despite the fact that emotions have been identified as a critical element of adults learning. Dirkx (2001) asserts their role in attributing meaning to learning experiences. Emotions may turn out to be at the core entrepreneurial education and an area, needing closer examination. (Lackéus, 2015.)

Another unusual perspective is suggested by Tracey and Phillips (2007), who notice how keen and interested in engaging in social entrepreneurship students are. This ties in with the idea of bringing societal change (Rae, 2010) and the role of entrepreneurial education in that. If the curriculum can capitalize on such interests and ideas, entrepreneurial education can trigger deep learning and put theoretical knowledge to practical work in meaningful ways for students (Lackéus, 2015, 18).

A study conducted by Lackeus (2014) has provided some insights into the “black box” of entrepreneurial learning (how, when and why students develop entrepreneurial competencies). The author leaned on emotional and critical learning events to connect educational design and developed entrepreneurial competencies. Using sampling methods (ESM, Hektner et al., 2007) and recording critical events through students' own mobile smartphones, followed by interviews with students and analysis of these interviews with text analysis software (Lackéus, 2013). This approach represents a novel strategy for assessing entrepreneurial competencies by assessing emotional activity during education rather than competencies obtained after education (Lackeus, 2014).

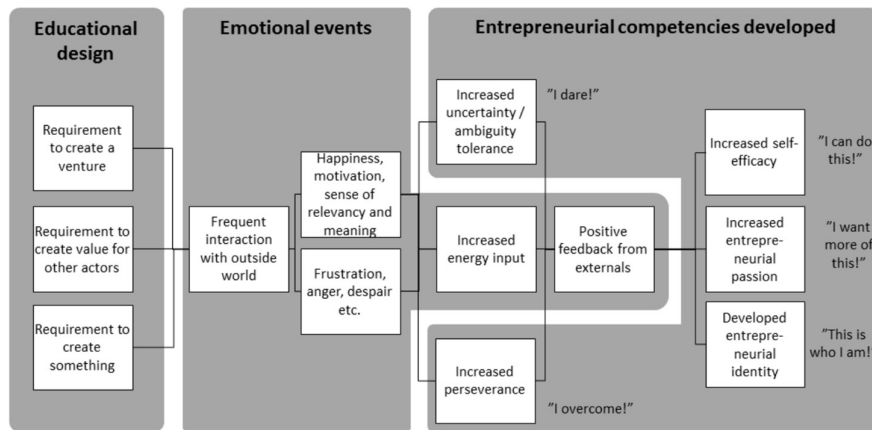


FIGURE 3. Early glimpse into the “black box” of entrepreneurial learning. A conceptual example of how educational design triggers emotional events which in turn develop entrepreneurial competencies (Lackeus 2014)

The Danish Foundation for Entrepreneurship – Young Enterprise proposes a progression model for entrepreneurial education, which resonates with EntreComp. The model suggests that educators see the program through four lenses: Action, Creativity, Environment and Attitudes. These dimensions are complementary and interdependent, where students work in teams, mobilize, lead, partner and network with the environment to create value. In discovering the environment and its global and local problems, they analyse it socially, economically and culturally, apply creativity while combining and improvising, with an attitude of meeting challenges, overcoming ambiguity and complexity, learning from mistakes to ultimately reaching desired state. (Rasmussen and Nybye, 2013.)

The model appears to replicate many of the activities undertaken at Proacademy and hence resonates with its ethos.

2.4.4 Joy of work, the state of flow and deliberate play

These ideas and the atmosphere of enthusiasm and fun at Proacademy made us look into the notion of combining work with play.

Roy (1959) introduced various forms of play into the monotonous and repetitive work of factory machine workers. He discussed the “joy of work”. According to Kauanui, Thomas, Sherman, Waters & Gilea, (2010, 51), we now see play in the workplace

differently. It does not need to contradict work or to occupy only our pastime. Work and play can be combined. Exploring play further, the authors found analogies with the concept of flow (Csikszentmihalyi, 1997), where one is fully absorbed by a difficult activity one performs, which requires concentration and constantly stretching out. It also gives the feeling of control over that activity and job satisfaction.

Kauanui et al. (2010, 52) recognise entrepreneur's position of independence, where they can choose their actions and surroundings and were interested to research whether that results in creating an atmosphere of play and flow. They found that some entrepreneurs find happiness in teaming up and feeling part of a community, being responsible for their own fate and positively influencing the lives of others (Kauanui et al. 2010, 56). This same group of entrepreneurs is seen to integrate personal and work life and have a greater sense of meaning and intrinsic motivation, as opposed to other entrepreneurs who appear to separate and draw strictly the line between personal and professional life (Kauanui et al. 2010, 57).

It is the first group (entrepreneurs who have a more integrated lifestyle) who are found to experience flow and value highly chances to develop personally, learn, share and focus on fun and joy, as opposed to the rest, who seem to be motivated by 'egocentric sense of control'. (Kauanui et al. 2010, 64, 65.)

When describing entrepreneurs, who achieve the state of flow, Kauanui et al. (2010) speak about 'an atmosphere of fairness, mutual respect, empowerment, and personal belonging... deep passion for their work'. These all resonate with feelings expressed by entrepreneurs. It also matches EnteComp main principle – engaging in value adding activities and creating value for others.

Côté (1999) and Côté and Hay (2002) introduced the term 'deliberate play', which refers to involvement in unstructured, play-oriented situations. It is a concept that becomes increasingly researched and applied in the context of team sports, where it is found to improve tactical knowledge, creativity and finding solutions in a competitive environment (Greco, Memmert & Morales, 2010).

2.5 Team learning

Lackéus (2015) suggests that entrepreneurial education employs tools, models and theories from the domain of entrepreneurship (e.g. effectuation, business model canvas, customer development/lean strat up, appreciative enquiry, service learning and design thinking). He reviews the usefulness of embedding those in entrepreneurial programs on the basis of four common principles – value creation, interaction with outside world, team work and action. (Lackéus, 2015, 30.)

Recent research has shown that a majority of successful companies are started by teams rather than by sole entrepreneurs (Beckman, 2006, Klotz et al., 2014). Following constructivist principles that learning needs to be authentic and enquiry based, there is increasing consensus among researchers that letting students work in interdisciplinary teams and interact with people outside school / university is a particularly powerful way to develop entrepreneurial competencies among students (Lackéus, 2015, 7).

Vygotsky (1978) highlighted the importance of the social and practical elements in learning by asserting that a significant milestone of intellectual development occurs when speech and practical activity converge. Through practical activity the learner constructs meaning on an intrapersonal level, while speech connects this meaning with the interpersonal world shared with the environment.

2.6 Theoretical foundations applied at Proacademy

Entrepreneurial education and team learning ideas are coded in the Proacademy main tools – dialogue, knowledge creating team and experiential learning through servicing real customers and operating real projects.

2.6.1 Reflection and dialogue

Dialogue means the illumination of thoughts and meanings, a shared flow of knowledge (Senge, 1990, 240). Unlike the discussion, the dialogue does not aim to finger point at a solution, but to break down complex matters and share different views and perspectives

on them. The aim is to explore and cultivate one's own thinking patterns and listen actively to the ones of other participants (Isaacs, 2001, 28,30,40).

Isaacs defines the dialogue as the skill of listening together (2001, 98, 114, 116), where we should ignore our inner voice and self-focus and concentrate on understanding what other people say, while observing our own reactions to the thoughts, presented by them. We have to slow down our thinking, avoid jumping into conclusions, let ideas float in the air and take our time, forming our opinion. The aim is to understand our thinking and the thinking of others and let the ideas naturally form synthesis (Isaacs, 2001, 110,146,145)

2.6.2 Knowledge creation in a team setting

Nonaka & Takeuchi (1995, 58-59) describe knowledge as situational and relational. From that point of view it is not universal and is partially truthful. Knowledge is also biased as its construction depends on one's judgements, attitudes, intentions and beliefs and hence the difference between knowledge and information.

People give meaning to information and construct knowledge when interacting with each other. Knowledge is categorised as tacit or explicit. Tacit knowledge is understood or implied, without being stated. It is hence subjective, personal and based on one's own experiences in discrete contexts. Tacit knowledge is not articulated. Explicit information, on the other hand, is objective and related to its root cause through reasoning. It is possible to rationalize and present it in clear written form. (Nonaka & Takeuchi 1995, 59-61.)

The creation of new knowledge (in the context of both organizational innovations and in learning) has its genesis in the transformation of tacit knowledge into explicit and vice versa. This is best achieved in a community of like minded individuals, willing to share and discuss their experiences. (Nonaka & Takeuchi, 1995, 61-62.)

Various combinations of tacit and explicit knowledge are conceived by Nonaka & Takeuchi (1995, 62-71). They speak of socialization (the exchange of tacit knowledge, occurring in dialogue or when observing and imitating others, requiring shared experiences and creating shared thinking) and externalization (the articulation of tacit knowledge, thus turning it into explicit through dialogue and reflection), which is critical in letting ideas

flow and making them available to all team members who can analyse and reorganize them. Combination of explicit knowledge through reports, meetings and minutes, which creates new systems by comparing, rearranging, adding together and categorizing and is also asserted, along with internalization (converting explicit knowledge into tacit), also known as ‘learning by doing’ or applying explicit knowledge in practice and gaining personal insights and experiences.

An important conclusion made by Nonaka & Takeuchi (1995) relates to the social underpinning of knowledge creation. It is not enough that individuals go through the various stages described above. Solid results can only be achieved if the team builds shared mental models, conceptualises shared experiences and then systemises and tests them in practice.

2.6.3 The ‘brain industrial model’ of Johannes Partanen

Nonaka and Takeuchi cycle of knowledge creation has been applied by Johannes Partanen, who created the ‘brain industrial model’ (Leinonen, Partanen & Palviainen, 2004, 28) and combined it with Kolb’s experiential learning cycle (1984). Johannes Partanen is the founder of Team Academy in Jyväskylä University of Applied Science, where learning is based on the same pedagogical principles and organizational design as in Proacademy.

The ‘brain industrial model’ can be illustrated as a window with four panes, representing the four forms of knowledge. The ‘Chat’ box represents a safe place where team members exchange ideas and experiences, discuss projects and share successes and failures (i.e. tacit knowledge). Thus they are given the opportunity for informal communication, so that they learn to trust, encourage and help each other and express empathy, without fear of being criticized. ‘Knowledge creation’ box is where experiences and lessons learnt are reflected on, evaluated and formulated into concepts and from there new knowledge is created. While in reality new knowledge can be created through research in Team Academy the focus is on knowledge creation through doing and learning in practice. The ‘theory’ box represents explicit, theoretical knowledge that may be acquired through books, research, customers. This also concerns documentation of what has been learnt in the form of reports, essays, blog posts and theses. Finally, ‘Do’ box is about testing

knowledge through project implementation, where the team applies knowledge already acquired through other projects and creates new experiences and practical knowledge. While all four aspects of the brain industrial model are needed to develop the learning and the knowledge of the team, in practice, projects and servicing real customers are considered the most prominent part of the learning process as they provide motivation and a sense of achievement. (Leinonen et al, 2004, 29-30.)

This relates the 'brain industrial model' of Johannes Partanen with the ideas of value creation and entrepreneurial education as a means to achieve more interest, joy, engagement and creativity among students (Johannisson, 2010, Lackéus, 2013). The model is also three dimensional as it incorporates the various levels on which operations take place – the individual contributor/learner, the team, the organization/institution and network of customers and alumni. (Leinonen et al, 2004, 33).

2.6.4 Pedagogical and andragogical principles applied at Proacademy

'Education is not preparation for life; education is life itself'. This famous quote from John Dewey included in 'My Pedagogic Creed' (1897) truly reflects Proacademy ethos of authenticity, experiential and enquiry-based learning and while Lackéus (2014) asserts that action-based approaches are commonly supported, but seldom used in entrepreneurial education, Proacademy proves to be an exception.

We discussed earlier the idea that entrepreneurial education is largely disconnected from the field of education (Fayolle, 2013, 698). Proacademy is a positive example in that respect. The author identified a number of pedagogical/andragogical principles applied there. Below are some observations on these, which have come to author's attention, while doing the research. The list is not comprehensive though and may be further expanded and detailed in the future.

Dewey's deliberations around enquiries (1938) resemble closely the philosophy of 'endless opportunities', that teampreneurs adopt. Over time, their attempts become refined and often they refer to theories or experiences of other teams, making what Dewey calls 'intelligent enquires' (Dewey, 1938).

As noted, Kolb's experiential cycle (Kolb, 1984) was one of the leading ideas upon which the 'brain industrial model' was created by Johannes Partanen (Leinonen et al., 2004, 28) and put to practice by both Team Academy and Proacademy.

Also, Nevalainen et al. observe that the learning contract is a direct application of Ian Cunningham's (1999) idea of goals and the learning cells are in line with the principle of self-managed learning (Cunningham, 1994).

Slavin's thoughts on cooperative learning are very similar to the methods applied at Proacademy. Teams are formed and there are both group targets and individual accountability (writing essays, succeeding together in the business, individual targets through the learning contract, etc.).

Teampreneurs know that they will not be given direct answers. And while they need to decide on the best solution themselves, they will be given help and support, in other words, '.....asking for help – not answers- helps them learn'(Slavin, 2014,24).

Slavin's reflections on active listening, encouraging teammates, being able to explain one's thoughts and complete tasks at a good standard are also part of Proacademy methodology.

Last, but not least, the cooperative style of learning applied in Proacademy is integrated into other instructional structures. As mentioned earlier, before joining Proacademy learners gain some knowledge and credits in conventional undergraduate degree program. They also prepare a final research project and write a number of academic essays, while being at Proacademy.

Mezirow (1996) talks about adult literacy and meaning making through established frames of references and learning to transform them by critically reflecting on one's assumptions. Conversations with teampreneurs provide sufficient evidence of such transformations, occurring at Proacademy and motivating learners to reframe and expand horizons. It is through dialogue that teampreneurs assess reasons and validate beliefs and knowledge. Hence their education leads to improved performance and communication (Mezirow, 1996).

These are just some of the findings that relate Proacademy program to educational concepts and realizations and add to what is already explored in terms of application of constructive and humanistic learning theories (Leinonen et al. 2004).

3. METHODOLOGY

3.1 Methodological approach

When selecting the research methodology the author considered the authenticity of the education program at Proacademy, which is its guiding andragogical principle. She also obtained information on common qualitative research techniques and analysis in the field of entrepreneurship.

3.1.1 Nature of Proacademy program

Nevalainen & Maijala (2012) accentuate on the originality of the learning process at Proacademy and how working on commercial projects, assigned by real customers closes the gap between formal education and requirements of the workplace (Nevalainen & Maijala, 2012, 3). This justified referring to best practice in entrepreneurship research, as it was fair to assume that teampreneurs act like entrepreneurs.

3.1.2 Methodological approaches adopted in entrepreneurship

The author reviewed contemporary methodological approaches adopted in entrepreneurship research, in general. This ensured that data acquisition and analysis methods replicate the ones explored in the area of activity, which is simulated by Proacademy education and which form the basis of constructing educational interventions and evaluation of learning outcomes.

Traditionally, entrepreneurship research has been dominated by positivist ideas, which view entrepreneurial drive as an intrinsic and fixed characteristic of the individual entrepreneur. More recently, the focus has shifted to researching how entrepreneurs interact and are influenced by the environment and hence the emphasis increasingly is on the context and social aspects, so that nuances of the phenomenon are understood. Non-positivist approaches in researching entrepreneurship adopt widely qualitative methods of research, where the most common method employed is group or individual interview. (Neergaard & Leitch, 2017, 1, 2.)

3.2 Data acquisition methods

3.2.1 Interviews

As a prerequisite of designing interviews, the appropriate type of interviewee was considered. One type of appropriate interviewee is final year Proacademy students, that have been exposed to the educational program for more than two years and given that they will be graduating in few months' time, it is reasonably expected that they have the depth and richness of experience sought. Their views, feelings, beliefs and motives revealed some aspects of the phenomenon in an authentic manner, as learners have fresh memories of their personal experiences and these have not been affected by interactions and competences gained later on in life. From that point of view, the author decided not to interview Proacademy alumni, as it would have been difficult or impossible to separate perceptions formed in Proacademy from the ones that crystallised after graduation.

Since dialogue and team learning are the pillars of Proacademy program, two group video interviews, (three persons each), were carried out with participants from two of the three final year teams. In addition, another interview has been conducted with two of the coaches, because, at Proacademy, coaches are instrumental to building trust and supporting students in their self-directed learning journey and hence they contributed with valuable insights and opinion on competency construction. Interviews lasted one hour each.

The author considered the three widely adopted types of interview – structured, semi-structured and unstructured. In order to make appropriate choice and ensure rigour, the author needed to factor in the complex and dynamic nature of entrepreneurial phenomenon and the fact that a comparison with an established framework (EntreComp) is made. In that sense, interviews needed to be experiential, and as such, to form a narrative about the interviewee's lived experiences and, at the same time, investigative or asking the interviewee to relate these experiences to the EntreComp framework statements (Neergaard & Leitch, 2017, 3).

Structured interviews set fixed boundaries and restrict the domain of relevance by using pre-determined set of questions, invariably, in each one of the interviews, which

implicitly pre-determines responses (Freebody, 2012, 132). While such discipline and efficiency may be beneficial in some cases, it was concluded that in this research it will introduce too many limitations, preventing dialogue and stifling the interviewer and interviewees to explore unintended avenues of thought.

At the same time, a pre-determined set of questions would make a good starting point and ensure that interviews attempt to cover all fifteen competences, outlined by EntreComp and these are phrased and debriefed in the same manner as the framework sets them. In that sense, the author prepared an interview script, synthesising competences, but the order, in which each one was discussed depended on the leads and lines of talk, taken by interviewees. Follow through questions were formulated in a different manner in each one of the interviews, so that probing into observations shared followed the themes as they emerge (Freebody, 2012, 132). Such semi-structured approach was considered valuable and this also meant that the unstructured type of interview was discarded due to its open-ended style, which may have resulted in avoiding some of the competences and focussing on others. This would have limited the scope of the comparison.

In essence, the questions were partially prepared in advance and were improvised by the interviewer, making the interview a shared experience, where construction of understanding is jointly undertaken and ‘co-produced’ by the interviewer and interviewees (Wengraf, 2001, 3). At the same time, the degree of flexibility and spontaneity allowed to achieve depth, in addition to the breadth and introduced that narrative or conversational style of interviews (Neergaard & Leitch, 2017, 8).

3.2.2 Other methods

In advance of the interviews, the author familiarised herself with main activities and relationships at Proacademy by visiting its premises and meeting with students, alumni, TAMK managers and coaches and reading publications, available in English. She has also reviewed Team Academy manual, which is a detailed account of all the principles behind the model, created at Jyväskylä University of Applied Sciences and adopted and refined at Proacademy. To ensure thorough preparation, the author has scrutinised EntreComp and discussed it on a high level with one of the lead researchers engaged in developing the framework.

3.3 Analysis methods

While interviews cover a wide range of competences, the common theme was all those activities, interactions and relationships existing in Proacademy that are considered formative. The author always asked ‘Is this competence acquired in Proacademy?’ ‘How does this happen?’ ‘What are the ways to achieve it in Proacademy?’ ‘Do you think that learners get better at this in Proacademy’, etc. Hence the interview scripts construct a story, which underpin educational interventions in Proacademy in the form of a performance narrative.

On that basis, data collected in the form of interview transcripts were analysed inductively through narrative analysis, where the author reflected on the text, sorted it out, following the fifteen competences of EntreComp and presented it in a revised format, attempting to ‘map’ or compare the framework with educational outcomes achieved at Proacademy. This means that stories shared were reformulated on the basis of the framework and interviewee’s view and experiences were related to it.

4. RESEARCH RESULTS

For the purposes of the present research, EntreComp framework has been used as a benchmark, against which competences acquired at Proacademy are measured. Since, the representation and grouping of competences in the framework do not have taxonomic rigour (EntreComp: The Entrepreneurship Competence Framework, 2016), presentation in this chapter will follow author's own narrative that flows naturally from conversations with interviewees and their impressions and experiences of the phenomenon.

Each one of the competences will be reviewed and briefly described, using the same terminology, as outlined in the framework. Onwards, it will be interpreted in the context of Proacademy program, sharing interview results and statements of interviewees and, where needed, providing some information on the program curriculum, methods and approaches. This chapter will finish with author's synthesis of results.

4.1 Spotting opportunities

Spotting opportunities is about recognising, seizing and shaping opportunities to address needs that have not been met, to respond to challenges and, in general, to create value for others.

As mentioned, at Proacademy learners are free to organize themselves and participate in or initiate projects, in which they are interested. Because of that, identifying opportunities is critical to integrating into the community and to learning. It is how the program works and learning becomes 'self-directed'.

Interviewees shared that they identify opportunities by observing more experienced teampreneurs, by discussing and finding shared interests, suggesting improvements, responding to requests from regular customers and by networking.

The fact that teampreneurs run their own businesses enables the achievement of the competence and they can draw on the experience of the entire team and Proacademy community (which includes all present and former teampreneurs and coaches). Thus they can enquire, action, reflect and immerse into new and reinforcing experiences.

Objectives, included in individual learning contracts may also motivate them to seek and take up on opportunities.

One of the interviewees observed that learners need to put a lot of effort in, as nothing comes easy at Proacademy, where one has to find and follow one's passion. Over time, finding opportunities becomes natural and spontaneous. Another mentioned that identifying opportunities is core activity at Proacademy.

Opportunities are seen as possibilities to earn money, but equally, as a springboard to learning new skills or expanding one's network. While these may be combined, it was acknowledged that solely pursuing financial results may be limiting the learning process.

4.2 Taking the initiative

This competence concerns willingness to have a go at solving problems for the community, looking for opportunities and taking the initiative to add and create value.

Learners at Proacademy are expected to get involved in sufficient number of projects. There is a time reporting system, where each learner allocates hours spent on various projects and if someone is less active, the root cause of that is discussed with the coach and the team.

As mentioned, the program requires proactiveness, responsibility, social skills and adaptation. Designing your program by yourself is very different from conventional forms of education where someone has done it for you.

4.3 Valuing ideas

This competence is about understanding and appreciating different types of value that ideas may bring, as well as, developing strategies to make the most of the value generated by ideas. Value adding may concern economic, social or cultural aspects of life.

In terms of this competence, one of the interviewees mentioned that a specific approach he has adopted about valuing ideas is to take time in order to 'see through' them. Pursuing one's immediate thoughts may not work, because the idea has not been 'developed'. After such initial consideration, ideas may be critically evaluated and execution planned around their practicalities.

This approach is perhaps related to the fact that dialogue is the main tool at Proacademy. Dialogue sessions with the team, where one recognises one's own thoughts and the ideas of the rest of the team are fundamental to the experience there.

Another interviewee observed that initially teampreneurs would take up on almost every project they come up with. Later on, they became more selective and would choose initiatives that correspond to their interests and goals, so selection is made on the basis of the learning value of ideas.

This ties in with what another teampreneur shared. Their first project was not seen as a 'bright idea', but they learnt a lot from it, so, it is considered a valuable opportunity. He also mentioned that over time they have learnt to seek and add value to the customer and ask them about their needs, prior to designing the product. But it took them two years to adopt that approach.

One of the founding principles of Proacademy program is learning by doing. From that point of view, another interviewee referred to the ability to test ideas and experiment to get insights into their value and adapt as needed.

An interesting perspective that was shared is that the valuation process may be individual, where the learner assesses both attractiveness and challenges related to the idea through their own eyes (whether it is achievable and interesting for him/her). If they are keen on an idea, they can take an extra mile and find other people that are interested. But by the same token, if they lack confidence or interest, they may not act on it further, potentially losing this opportunity.

Alternatively, some teampreneurs always share ideas with the team, so that these are collectively evaluated and perhaps found valuable, be it financially, from learning point of view or just because it may be fun to engage with.

4.4 Working with others

This competence is articulated by EntreComp as the ability to work with a large range of individuals and groups, build teams and networks to suit the needs of value adding activities.

In terms of how teams formed, learners mentioned that it felt emotional, but important to open up for the team and that turned instrumental to building the team and reaffirming the psychological safety that Proacademy creates.

They are unable to change their teams and need to stay together during all their time at Proacademy and to set their own rules, routines and practices. Another aspect of teamwork is building positive relationships and networking with customers.

When discussing teamwork, one of the interviewees said that the team is constantly evolving and they are continuously working to become a better team. Being friendly and communicating with each other even in their free time helps. Another mentioned that teams are really big (nineteen or twenty people) and he thinks, this is intentional, so that they can never form the 'perfect' team and continue learning. Adding to that, another interviewee said that they are also a team with diverse interests, so they regularly split into smaller project teams and in fact operate as a network. They also need to prepare academic essays in groups of two to five and this requires different type of teaming up.

Another teampreneur referred to mistakes (ineffective business decisions) that they have made, particularly in the early days at Proacademy. Living together through the consequences of those mistakes has helped them bond together.

Interviewees talked about having heated arguments, sometimes. According to them the ability to resolve conflicts is acquired at Proacademy. Everyone knows that the team is

stable and they need to stay together and agree on what is best for the team and that makes them find ways to resolve conflicts.

Engaging in dialogue is another fundamental skill, practised at Proacademy. Interviewees thought they have become better at active listening, and not thinking about what you would say next. They admitted that it takes time and they needed more than an year, before they could internalize the idea of dialogue. In general, their oral communication skills have improved as grabbing the attention of nineteen people is not easy.

Teaming up with clients is another perspective and relationships are built gradually. Initially teampreneurs will reach out to approach business contacts, seeking assignments they can relate to or to establish networks. Over time they get to know customers better and reinforce mutual benefit as the basis of those relationships.

Few of the interviewees mentioned about being 'lifted up' by the team or relying on the team to 'get up when you fall down', 'caring for each other', feeling 'responsible to become better for my team', 'learned that teamwork is the way for me', which are all self-explanatory about the feeling of belonging and their team spirit.

It was also observed that, while the significant majority of learners are able to integrate and grow at Proacademy, a small number of students admitted, drop out and return to conventional education. One of the reasons for this may be related to always prioritising their own ambitions and failing to consider the interests of the team. Another root cause singled out was their inability to trust the team and seek support when needed.

Interestingly, one interviewee shared an opinion that teams also form a micro culture, which results in having a particular shared outlook and being either 'business/money oriented' or 'team/learning oriented'. Another mentioned that some of the learners are really good at idea generation, others at implementation and interestingly they found that in some cohorts there is a concentration of one of those types of skills and mentality, but not the other.

To sum up, one of the interviewees added that, in his view, team work is the best and at the same time, the most challenging activity in Proacademy. The rest agreed that team work is the greatest challenge and opportunity.

4.5 Motivation and perseverance

Motivation is putting effort and resources, staying focussed on following one's passion, for creating value, despite setbacks.

There are no teachers at Proacademy, the way we expect and know it from other forms of education. Each team has a coach to support personal and team development, but they usually do not give direct instructions or opinion. Freedom increases motivation, but with it comes and responsibility. As one interviewee put it 'you have so many responsibilities...you are responsible for your own future, in here'.

The program is challenging, particularly at the start. One interviewee described it as 'overwhelming', another said 'it could be stressful' and all emphasised, that they have felt responsibility of being free to choose their own learning journey. They agreed that it is much easier to sit in the classroom and follow instructions. One interviewee mentioned that it is a good mental training, which ties in with the idea of perseverance.

Personal motivation increases at Proacademy. One of the interviewees described how he used to look up on prominent business leaders. Now he sees them as normal people, has no issues approaching them and believes he can achieve anything. Another added that at the start teampreneurs do not know what is of interest to them. The advantage at Proacademy is that one can test any activity and understand what he/she is passionate about and good at. You can be the marketing manager on one project or deal with finances on another.

Since learners are trusted by the team, coaches and customers, they feel committed to put effort in and they need to find the best way to do it.

4.6 Coping with uncertainty, ambiguity and risk

This competence is about being unafraid of making mistakes when trying new things, weighing up the benefits and risks related to alternative options and making decisions, despite uncertainty.

Interviewees shared that they see Proacademy as a safe environment, where learners are encouraged to ‘give it a try’. Fear of failure is overcome, knowing that you are part of a team and the entire community is very supportive. Most entrepreneurs come to the realisation that mistakes are precious learning opportunities. As one of them put it ‘you need to know how it feels to fail, so that you stay brave’.

Importantly, failures are discussed and reflected upon during dialogue sessions and ultimately seen as contextual. In that sense, building trust is critical and trust is the first of five values at Proacademy (followed by courage, doing, learning and success). Each one of those values gradually materializes over the two and a half years learners spend at Proacademy.

Another perspective expressed by interviewees was that failures are largely disseminated and analysed within the project or larger team. However, it was felt that unsuccessful projects may be discussed more widely within Proacademy community.

It was shared that some students may shy away from engaging in projects, that involve financial risk, avoiding pressure and saying that they are here to learn, not necessarily to earn money. The way this observation was shared sounded, as if interviewees realize that this is not the right approach and Proacademy encourages proactiveness and hard work. Whether it leads to failure or success, the important thing is to be responsible, to analyse results and learn from mistakes and successes. Students are free to choose how to get involved and are supported to give the best they could.

One of the interviewees summed up the fear of the unknown and how rewarding one may feel, having tried new things, by saying ‘there are a lot of uncomfortable situations out there, but you enjoy it afterwards’.

Asked which ideas are pursued and why, interviewees responded that 'it is hard to know the value of the project before you do it' which speaks about somewhat chaotic choices they may make, but also about tolerance to uncertainty and willingness to take the initiative.

As mentioned, courage is guiding principle/value at Proacademy, followed by doing. Both these are related to the ability to cope with uncertainty.

4.7 Learning through experience

This competence covers judging and reflecting on one's achievements and failures and learning from these.

Proacademy model is based on learning from real-life activities and relationships, that teampreneurs choose to engage in. Learning through experience occurs when the team engages in study groups (learning cells), dialogue (through reflection and feedback), reading books and writing essays, when they speak with their coach to discuss learning contracts and by giving and receiving feedback. '24 hour challenge' also offers steep learning curve, due to its authenticity as a high stake assessment. The experience gained by other teams/alumni is formative as well. Below is a bit more information about all these learning opportunities.

Teampreneurs get to know a lot about existing management ideas and such knowledge is actively searched when it is needed. For example, if they feel that the project work lacks focus, they would find a theory related to project management, read about it, disseminate it together with the team and decide how to apply it in that specific project. Similarly, they may initiate 'learning cells' – a study group dedicated to mastering a specific topic.

Dialogue sessions at Proacademy are run regularly. This is when the whole team gets together to exchange information and ideas, but even more importantly to share thoughts and reflect. The coach also attends. The topic is decided on by teampreneurs, but the coach may contribute and they may also suggest specific learning goals for the session. At the end of the session all students share what was the main take away for them. Teampreneurs are encouraged to visit dialogue sessions run by other teams.

Feedback is also called Motorola and the discussion is structured around what went well, what went badly, what we learned, what we will do better next time and what we take into practice. These are questions that are reflected on routinely – during dialogue sessions, at the end of a project, semester or year. Feedback comes in all forms and shapes (from the customer, coach and the team, formal and informal) and learners themselves invent various ways to capture it.

Interviewees said that learning to request and analyse feedback, as well as to communicate properly, when giving feedback is extremely valuable. Accepting criticism was also mentioned as an important learning point. One teampreneur mentioned that she sees teammates as a mirror that reflects everything that she does and thinks.

‘24 challenge’ is an event where students need to resolve a business case/task, assigned by a client over limited time (24 hours). This is normally run towards the end of their studies, but teampreneurs engage in shorter challenges earlier. Depending on customer’s satisfaction they may be paid for the work done. If the customer is unhappy, then it may be that the team pays the customer to compensate them for the waste of time. The customer gives the grades for the team. This assessment integrates a number of competences, where teampreneurs need to demonstrate initiative, team work, resilience, innovation and last, but not least, coping with uncertainty.

Success is celebrated at Proacademy. There is a lot of positive encouragement from the community. By the same token, failures are discussed – what and how happened, why, how I feel about it, what could be done, so that I continue to contribute. These are questions that each one of the teampreneurs answers at some point. I have been told that if a learner cannot open himself/herself about all these, it probably means that they cannot fit the team and the program. Thus, making mistakes is seen as natural occurrence, which is a stepping stone for teampreneurs. As Proacademy creates a safe environment, where trust exists, mistakes do not limit the drive for new initiatives. Through reflection and feedback these turn into positive and memorable learning experiences.

Proacademy community has monthly events where teams share their results (including financial performance) and debrief other teams of the projects they run. Reflective essays prepared by teampreneurs are also publicly available.

In short, the program offers numerous opportunities to learn from one's own experience. However, as the community exists in a culture of sharing and trust and teampreneurs have built rapport with each other, learning from the experience of the other teammates is efficient and easily internalised.

4.8 Self-awareness and self-efficacy

Self-awareness and self-efficacy are related to making the best with your strengths and weaknesses and teaming up with others to compensate for weaknesses and develop strengths.

Reading books and writing reflective essays on their experience is an essential part of Proacademy curriculum. Teampreneurs get acquainted with contemporary management literature and sometimes even more artistic narratives to help them get in-depth thoughts about the business environment. They participate in compiling the reading list and their essays demonstrate a self-awareness and commitment to their own progress.

Through reflection, dialogue and feedback learners get to know themselves and realize that they need self-discipline to fulfil commitments and contribute to the team. As one interviewee put it 'at Proacademy, first you have to give, so that you can get something', which demonstrates increased awareness and self-regulation.

Few interviewees shared that while at the start of the program, they thought they knew who they were, they were proven wrong in many respects and these has made them more self-conscious. One of the interviewees thinks that teampreneurs learn so much about themselves, that this is the most significant achievement at Proacademy. Before joining Proacademy, another interviewee imagined life there as making business and running projects. Looking back now, he understood so much about his thoughts and reactions in different situations, that he also sees that as the most significant learning opportunity. As I understand, such conclusion is supported by Proacademy alumni, who have shared that,

on hindsight, becoming more self-awareness and self-controlled have been important milestones for them, achieved at Proacademy

Another interesting observation shared was that when teampreneurs have a choice (e.g. when performing project work) they often pair up with colleagues they are friendly or have similar interests with. While their self-awareness is improving, it does not seem to impact so much the way they prefer to team up. Informal connections dominate the idea that you would better combine with someone who has complementary skills to yours.

A good example of self-awareness and efficacy was provided. Being a competitive sports player, one of the interviewees always thought he was a good team player. But at Proacademy he realised that he fits better certain type of teams and it is a challenge to trust everyone in a big team, which pointed at the need to develop himself as a teammate.

Another interviewee mentioned coming to the realization that he needs partners to start a new business. This is because he is good at implementing ideas, but someone else would be needed to generate them, which illustrates self-awareness, vision and team work.

The discussion around this competence led to an important observation. While the team is the backbone of the program and central to acquiring a number of competences, a natural progression for each one of the teampreneurs is to find their own identity, interest and path for the future, so that towards the end of their time at Proacademy they have the capacity and the confidence to emancipate from the team.

4.9 Vision

Vision is about imagining a desirable future, building an inspiring vision that engages others and using the vision to guide strategic decision making.

When speaking about identifying opportunities, one interviewee mentioned that while there are plenty of projects to get involved in, it is much harder to ‘find your own project, your own business idea’. This is reflective of how this teampreneur has felt about finding one’s own path, making the difference and leaving your own mark in the World.

Another added that when participating in all these initiatives, ‘there is a chance that you find something that gets you excited’.

During their time at Proacademy, teampreneurs start seeing their own career path and the direction they would like to take after graduation. This comes naturally with so much experimentation, freedom to try out new ideas, reflection on events and results and getting to know oneself better. The principle they follow is one set at the level of Proacademy community, namely ‘become the best you can be’.

As one of the interviewees put it ‘at the back of our heads, there’s always the questions why am I doing this right now’? Followed by the statement ‘we always have to have some goals and some objectives and that makes us more conscious about the vision’.

Another added that he now knows better what he wants to do and naturally he thinks about all actions needed to achieve it. Other concluded ‘Now I really know what I want to do and what are next steps’ and ‘At Proacademy, whatever you decide to do, you can achieve your dream’.

4.10 Mobilizing others

Mobilizing others is about persuading, involving, and inspiring others in value creating activities.

Interviewees related this competence to leadership. At Proacademy, each team has a business leader (the CEO of the team cooperative), elected by the team. Business leaders and the head coach form the Board of Proacademy – the collective body that governs the institution. In addition, each one of the teampreneurs may become a project leader, if they wish and receive the support of the project the team.

This is another challenge at Proacademy, where teampreneurs realize the responsibility to be a leader. Since the system is fluid, learners need to step up in the right moment and find that there are multiple ways to lead. They need to be flexible and agile and discover different leadership styles. The lack of formal hierarchy requires special sensitivity and sense making. To be successful, leadership at Proacademy needs to be informal and

friendly. Power and control- based styles would not work and given the close personal relationships within Proacademy, it may be challenging to provide critical feedback or to be firm.

Teampreneurs need to understand when the right time to lead is and when it is that they need to be the followers. One of the interviewees shared that this may be a problem, as most of the teampreneurs would like to lead and need to learn how to follow, to have the self -discipline and accept that they don't have to do everything.

Another added that sometimes teampreneurs, who are already in the role of the leader resign from this position as in reality, the experience of being a leader turns different from what they expected.

4.11 Ethical and sustainable thinking

This competence is about recognising the effect of one's own choices and behaviour within the community and the environment and being driven by ethics and sustainability, when making decisions.

An interviewee shared that doing legal, ethical and sustainable business is always at the back of their heads.

An example mentioned related to a café, operated by teampreneurs, where they use biodegradable, paper mugs and recycle garbage in an environmentally responsible manner.

Other examples shared related to long term relationships and wellbeing of customers. One interviewee told a story about teampreneurs, operating a tyre changing business and occasionally refusing to serve customers, where their cars appeared faulty and would need more maintenance, than just replacing tyres. In these cases, teampreneurs needed to deny the service, even though sometimes customers would insist. Teampreneurs felt responsible for long term consequences and not just short-term profits they could make.

4.12 Creativity

Creativity is about developing multiple ideas, testing and refining them, transforming ideas into solutions that create value for others.

One of the interviewees mentioned that idea generation is spontaneous. Another shared that ‘you are never limited to your own thoughts, you engage in new experiences in order to come up with something new, something that you don’t already know’.

Interviewees believe that Proacademy program makes learners more creative. Teampreneurs see opportunities as endless. So many people thinking how to create new combinations and curious to test new ways of doing things support that. Interviewees mentioned about ‘inwards innovation’ and ‘opening up to creativity’.

It was also shared that, in fact, some alumni work in creative fields, like graphic design and this fact is curious as such skills are not included in Proacademy curriculum.

Some interviewees concluded that they have become more creative in terms of idea generation and problem solving. But they also gave credit to their team for acting upon the ideas and helping to realize those.

4.13 Planning and management/ mobilizing resources / financial literacy /

Planning and management relate to defining goals, achieving them through action plans with milestones and priorities, which may need to be refined to adjust to changing circumstances. Mobilizing resources is about gathering and managing different type of resources and defining strategies to mobilize resources needed to generate value for others. Finally, finding funding options, managing budgets and making plans for the financial sustainability of value creating activities relates to financial literacy.

Projects at Proacademy vary in duration and commitment needed. Some are short-term assignments from customers, where execution is needed immediately and there isn’t much room for planning. However, there might be longer term initiatives. For example,

newly admitted teampreneurs may acquire existing businesses from graduating teampreneurs, run them for 2 years and then dispose of them.

Recurring client engagements are also available. In such cases teampreneurs may organize Pre-motorola. This is a pre-project plan where the team plans what are they going to do and learn, what improvements may be introduced on the basis of past experience, etc.

When discussing planning, one interviewee shared the view that the system at Proacademy relies on lack of planning and encouraging spontaneity. Another opposed by saying that, in his experience, over time, their team has appreciated the need to do up front planning, particularly when it is about long-term projects.

One interviewee rationalised that the teams are free to set their strategy and operating plans, but their observation is that this is done ad hoc and perhaps improvement needs to be sought in that direction.

Some interviewees opposed to that, giving examples how their teams have approached planning of long-term projects (marketing, cash flows and manpower).

In terms of finances, each team does basic compliance tasks themselves, but generally, financial activities are outsourced. An interviewee mentioned that he needed to attend to all financial issues related to a café they rented, so he read some books, watched videos on Youtube and consulted with accountants to find out how to create the budget, how to set prices, deal with tax, etc. That is another example of 'learning by doing'. Interviewees felt that they have enough information about funding options and how to plan and perform financial activities.

As for monitoring and control, all the hours that teampreneurs spend in learning or working on projects are recorded. Time can only be allocated to projects, if there is a paying customer. Hours and income are counted and compared for analysis purposes.

4.14 Synthesis of results

The present chapter demonstrates a wide coverage of EntreComp competences by interventions and activities at Proacademy. The program relies on initiative taking, team work, learning from experience, motivation, self-awareness and creativity and some functional skills like planning, mobilizing people and resources, financial literacy, etc. Hence all these competences are acquired by teampreneurs at a level, which makes them prepared to face challenges of working life and society as whole.

5.DISCUSSION

5.1 Discussion of results

The present research compares entrepreneurship competences, identified and articulated by EntreComp with competences embedded in Proacademy program. It represents a high level mapping, which may be considered a starting point for further analysis and research. Conclusions drawn concern research questions, identified in the introductory part and discussed below.

RQ1: What are the competences included in EntreComp and how these may be analysed or synthesised in the context of Proacademy practice

Competences, included in EntreComp and related hints, descriptors and threads have been reviewed, analysed, discussed and critically evaluated in the context of Proacademy program. Initial discretion was that they are highly relevant and comparable to the learning outcomes of Proacademy education. Hence, they were used directly in the research and were not combined, disseminated or selectively applied.

RQ 2: What educational interventions adopted by Proacademy build competences included in EntreComp

Methodological approaches, applied at Proacademy are team learning, coaching (on the basis of G.R.O.W. model), learning by experience (servicing real customers), dialogue and reflection (achieved by team meetings, writing of essays and reading contemporary management literature), giving a receiving feedback (Motorola), 24 hour challenge (includes analysis, evaluation, problem solving and presentation).

The present research demonstrates the holistic and multi-faceted nature of Proacademy program and EntreComp. While all entrepreneurial competences are important to future-proof professionals of tomorrow, this summary will emphasize on teamwork, creativity, tolerating uncertainty, learning through experience and motivation. It is author's discretion that these five competences define the uniqueness of Proacademy program.

To claim that, at Proacademy, learners imitate the social interactions of the workplace, would be mere oversimplification. Teams are the infrastructure that reaffirms safety, trust, support, dialogue and friendship. Not only synergies are created through teams, but self-awareness crystalizes in that format.

Creativity comes with the abundance of opportunities, freedom to choose activities and lack of direct instructions. How to get involved becomes one's own invention. While most interviewees did not see themselves as creative, it was obvious that they routinely question conventional approaches, seek new connections and thrive in the dynamic environment they create for themselves.

'Trust the system' is what they were told. So, while the future is unknown, how things turn and twist is not so important, because you know yourself and the community is there for you. Failure is a possibility and once reasonably and honestly thought through, it turns into a win.

It may be possible to reflect whether the program needs to embed more functional skills (strategic planning, financial analysis, tax planning, etc.). Would it be beneficial to discuss more widely lessons learnt or motivate learners to seek diverse relationships? Would any of those harm the delicate balance between authenticity and support? This research cannot provide any of those answers.

Adopting a self-directed and self-efficient style of learning is considered the most challenging intellectual and psychological transformation one faces in life. Such 'savvy' learners show personal strength of character, leadership and social cooperation and assume responsibility for the direction and quality of new learning experiences. (Dealtry 2004, 109.)

Teampreneurs do not confront new learning. They are eager to step up to the challenge and are able to visualize success. Their aspirations are not limited by the fear of failure or desire to keep the status quo. Being curious to experiment, they remain vulnerable, but unafraid.

Teampreneurs manage to gain confidence from both successes and failures, because they are also able to reflect and question perceptions, including of own strengths and weaknesses. Thus, by seeking and receiving feedback and engaging in dialogue they achieve objectivity.

All these attributes (aspirations, self-awareness, curiosity and vulnerability) have been identified as elements of learning to learn (Andersen, 2016). Proacademy is where learners start owning the learning process and become savvy. It is the place where motivation and personal drive excel.

RQ3: How could competences included in EntreComp be developed on the basis of Proacademy experience

It was observed that enjoying time spent at Proacademy and combining work with fun is an important element of the learning experience and has a significant impact on the motivation, aspirations and entrepreneurial ambitions of teampreneurs.

The state of ‘flow’ observed by some researchers and described earlier and related atmosphere of friendship, equality, respect, empowerment and togetherness resonate with feelings expressed by teampreneurs.

The balance they achieve and their consideration for the team, customers and the community also match EntreComp main principle – engaging in value adding activities and creating value for others. From that point of view, the suggestion is to connect EntreComp with the notions of ‘flow’ and ‘deliberate play’.

It is believed that by adding these to the skills and attitudes, included in EntreComp, the framework will become even more reflective of entrepreneurship phenomenon.

5.2 Practical conclusions

While at present, in Europe, the majority of workers hold permanent contracts, this is expected to change. The pace of globalization, digitalization and the turbulence of markets will dictate the need for lean, temporary and project-based teams in the

workplace. These may, in fact, be preferred by new generations of independent collaborators, finding flexibility and freedom empowering. Non-cognitive skills will be the root cause of social mobility. Creativity, emotional intelligence, ability to adapt, personal initiative and resilience will be instrumental. Being able to socialize, share, negotiate, motivate oneself, identify ethical and sustainable solutions and control one's learning and development will be critical success factors. (EPSC Strategic Notes- The Future Of Work, 2016.)

Such knowledge, skills, and attitudes are articulated by EntreComp and embedded in Proacademy education. While the theme of both these is entrepreneurship, it turns out that competences discussed are attributes of success for the future and hence aspirational in any area of education.

Practical conclusions here are that the framework and Proacademy program have what seems to be appropriate educational direction. Hence, they are able to enlighten educators, policy makers and society, as whole. Competences researched no longer seem elusive or abstract and Proacademy program has proven its value through the test of time and continues to improve and inspire young people to thrive in times of change. It is believed that it sets a bold new standard that institutions need to embrace and promote.

5.3 Critical evaluation of the research design and implementation

The author of the research is an experienced business manager, but the present thesis is her first attempt to apply research methods and explore the area of entrepreneurial competences and study the phenomenon of entrepreneurship. In addition, the research was run with scarce resources and this has limited the scope. These factors may have impacted on the depth and breadth of the enquiry.

Future endeavours in the area may consider using more time to delve into the life of teampreneurs, running extensive interviews and probing into interviewee responses in more details, while using all progression levels of EntreComp and the breakdown of threads provided in the framework.

It may be interesting to also research whether entrepreneurial competences are acquired individually or they may belong to the team, as formed and developed in Proacademy. Following on the lives and achievements of Proacademy alumni may give useful insights into that.

Another important area could be a detailed review of andragogical approaches undertaken by Proacademy, which will also make a contribution to the field of entrepreneurial education.

Alternative data collection method that may be considered and applied in future research due to its appropriateness in the specific context of Proacademy is focus groups. Focus groups replicate the natural environment in which entrepreneurs learn and draw on their ability to immerse themselves in dialogue. This method will allow to simultaneously explore the views and perceptions of a significant number of individuals, drawing on the interaction between them.

Critical incidence technique may also be applied in future research as there are already a number of precedents for using it in phenomenological perspective (Leitch, 2017), which deviates from Flanagan's original use of the technique in the context of positivist ethos (Flanagan, 1954)

With all these limitations on mind, the author hopes that findings shared here will be useful for educational specialists and leaders, human resource managers, policy makers and entrepreneurs.

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APPENDICES

Appendix 1 EntreComp high level competences

Area	Levels of Proficiency			
	Competence	Foundation	Intermediate	Advance
Ideas and Opportunities	Spotting opportunities	Learners can find opportunities to generate value for others.	Learners can recognise opportunities to address needs that have not been met.	Learners can seize and shape opportunities to respond to challenges and create value for others.
	Creativity	Learners can develop multiple ideas that create value for others.	Learners can test and refine ideas that create value for others.	Learners can transform ideas into solutions that create value for others.
	Vision	Learners can imagine a desirable future	Learners can build an inspiring vision that engages others.	Learners can use their vision to guide strategic decision-making.
	Valuing ideas	Learners can understand and appreciate the value of ideas.	Learners understand that ideas can have different types of value, which can be used in different ways	Learners can develop strategies to make the most of the value generated by ideas
	Ethical and sustainable thinking	Learners can recognise the impact of their choices and behaviours, both within the community and the environment.	Learners are driven by ethics and sustainability when making decisions.	Learners act to make sure that their ethical and sustainability goals are met.

Resources	Self-awareness and self-efficacy	Learners trust their own ability to generate value for others.	Learners can make the most of their strengths and weaknesses.	Learners can compensate for their weaknesses by teaming up with others and by further developing their strengths.
	Motivation and perseverance	Learners want to follow their passion and create value for others.	Learners are willing to put effort and resources into following their passion and create value for others	Learners can stay focused on their passion and keep creating value despite setbacks
	Mobilising resources	Learners can find and use resources responsibly.	Learners can gather and manage different types of resources to create value for others.	Learners can define strategies to mobilise the resources they need to generate value for others.
	Financial and economic literacy	Learners can draw up the budget for a simple activity.	Learners can find funding options and manage a budget for their value-creating activity.	Learners can make a plan for the financial sustainability of a value-creating activity.
	Mobilising others	Learners can communicate their ideas clearly and with enthusiasm.	Learners can persuade, involve and inspire others in value-creating activities.	Learners can inspire others and get them on board for value-creating activities

Into Action	Taking the initiative	Learners are willing to have a go at solving problems that affect their communities.	Learners can initiate value-creating activities	Learners can look for opportunities to take the initiative to add or create value.
	Planning and management	Learners can define the goals for a simple value-creating activity.	Learners can create an action plan, which identifies the priorities and milestones to achieve their goals.	Learners can refine priorities and plans to adjust to changing circumstances
	Coping with uncertainty, ambiguity and risk	Learners are not afraid of making mistakes while trying new things.	Learners can evaluate the benefits and risks of alternative options and make choices that reflect their preferences.	Learners can weigh up risks and make decisions despite uncertainty and ambiguity
	Working with others	Learners can work in a team to create value.	Learners can work together with a wide range of individuals and groups to create value	Learners can build a team and networks based on the needs of their value-creating activity.
	Learning through experience	Learners can recognise what they have learnt through taking part in value-creating activities.	Learners can reflect and judge their achievements and failures and learn from these.	Learners can improve their abilities to create value by building on their previous experiences and interactions with others

TABLE 1. EntreComp Overview. EntreComp: The Entrepreneurship Competence Framework, 2016

Appendix 2 Alternative framework of entrepreneurial competencies

	Main theme	Sub themes	Primary source	Interpretation used in this report	
Cognitive competencies	Knowledge	Mental models	(Kraiger et al., 1993)	Knowledge about how to get things done without resources, Risk and probability models	
		Declarative knowledge	(Kraiger et al., 1993)	Basics of entrepreneurship, value creation, idea generation, opportunities, accounting, finance, technology, marketing, risk, etc.	
		Self-insight	(Kraiger et al., 1993)	Knowledge of personal fit with being an entrepreneur / being entrepreneurial.	
	Skills	Marketing skills	(Fisher et al., 2008)	Conducting market research, Assessing the marketplace, Marketing products and services, Persuasion, Getting people excited about your ideas, Dealing with customers, Communicating a vision.	
		Resource skills	Fisher et al., 2008	Creating a business plan, Creating a financial plan, Obtaining financing, Securing access to resources	
		Opportunity skills	(Fisher et al., 2008)	Recognizing and acting on business opportunities and other kinds of opportunities, Product / service / concept development skills	
		Interpersonal skills	(Fisher et al., 2008)	Leadership, Motivating others, Managing people, Listening, Resolving conflict, Socializing	
	Non- cognitive competencies	Attitudes	Learning skills	(Fisher et al., 2008)	Active learning, Adapting to new situations, coping with uncertainty
			Strategic skills	(Fisher et al., 2008)	Setting priorities (goal setting) and focusing on goals, Defining a vision, Developing a strategy, Identifying strategic partners
			Entrepreneurial passion	(Fisher et al., 2008)	"I want". Need for achievement.
Self-efficacy			(Fisher et al., 2008)	"I can". Belief in one's ability to perform certain tasks successfully.	
Entrepreneurial identity		(Krueger, 2005, Krueger, 2007)	"I am / I value". Deep beliefs, Role identity, Values.		

		Proactiveness	(Sánchez, 2011, Murnieks, 2007)	"I do". Action-oriented, Initiator, Proactive.
		Uncertainty / ambiguity tolerance	(Sánchez, 2011, Murnieks, 2007)	"I dare". Comfortable with uncertainty and ambiguity, Adaptable, Open to surprises.
		Innovativeness	(Krueger, 2005, Murnieks, 2007)	"I create". Novel thoughts / actions, Unpredictable, Radical change, Innovative, Visionary, Creative, Rule breaker.
		Perseverance	(Markman et al., 2005, Cotton, 1991)	"I overcome". Ability to overcome adverse circumstances.

TABLE 2. Entrepreneurial competencies. Framework outlining some key entrepreneurial competencies and their relation to cognitive and non-cognitive competencies. Adapted from Lackeus, 2014 in Lackeus, 2015.