



# FRAMEWORK FOR THE KEY ENTREPRENEURSHIP COMPETENCES

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## Executive Summary

The ‘Framework for the Key Entrepreneurship Competences’ is the first significant deliverable of the KidVenture Project. The core aim of the Project is the design and implementation of an innovative computer learning game for Entrepreneurship Education of children (6 -10 years old), that can be easily implemented in formal, non-formal and informal education settings. This deliverable is the outcome of a literature research aiming at identifying the most significant competences for Entrepreneurship Education, allowing the consortium to select those which can better be treated via the final product (game).

During the kick off meeting the partners exchanged information and ideas regarding this issue. UOWM as the leading partner of the corresponding task undertook the responsibility to conduct a literature review in order to clarify the necessary terminology, but also to examine the state of the art in Entrepreneurship Education in the EU and attempt to propose a framework for the key competences. KU contributed with data and information about benchmarking tools for measuring such competences. The rest of the consortium members undertook the role of the critical reviewer in order to ensure the quality of the deliverable.

This deliverable comprises of four sections, namely chapters 1 to 3 and one appendix. In the first section a theoretical background is established and the necessary terms are discussed, explained and eventually clarified. In the second section, the Entrepreneurship Education approaches in the EU Member States, are recorded and discussed upon. In section three, the proposed framework is presented, constituting the basis for the future tasks of the Project. Finally, the Appendix provides information about benchmarking tools for measuring entrepreneurial competences.

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## INTRODUCTION

In the last decades entrepreneurship education has been one of the main topics of consideration, of the European Union. Developing and implementing entrepreneurship education programs has been one of the main objectives in EU's policy. Although there is not a common definition about entrepreneurship education across the member states, it seems that most of the “national” definitions (about half of them) reflect a broad understanding of the subject as the European Key Competence definition (Eurydice, 2016). According to that, “Entrepreneurship education is about learners developing the skills and mind-set to be able to turn creative ideas into entrepreneurial action. It is considered as a key competence for all learners, supporting personal development, active citizenship, social inclusion and employability. It is relevant across the lifelong learning process, in all disciplines of learning and to all forms of education and training (formal, non-formal and informal) which contribute to an entrepreneurial spirit or behaviour, with or without a commercial objective”.

Moreover, in most of the definitions, the European and the national ones, the role and the purpose of entrepreneurship education is broadened. This means that entrepreneurship education does not only reflect the work or business context but it is also concentrated in the more general context of an individual's life (Eurydice, 2016).

Considering the vast interest of the EU for cultivating entrepreneurial competences from a very young age, as discussed hereinafter, this document aims at identifying the key competences which are appropriate for an age span from 6 to 10 y.o. In the following section, an overview of the status of education regarding the topic of entrepreneurship is presented. Then, the most common and important models are discussed upon, examining their constituents. The document is concluded with a proposed framework for integrating entrepreneurship related actions in primary education.

## 1 ENTREPRENEURSHIP EDUCATION IN THE EU

Entrepreneurship education concerns the provision of a variety of skills, knowledge and attitudes that are central to developing an entrepreneurial culture and also shape the mind-sets of young people. EU is gradually more aware of the potential of young people to launch and develop an individual commercial or social venture and become innovators in the areas they live or work in (Eurydice, 2016).

Although, the EU promotes the entrepreneurial education, research shows low levels of participation in practical entrepreneurial learning at schools and highlights a need to further develop the entrepreneurial skills of young people. Moreover, even if entrepreneurship education is recognized as a cross-curricular objective in primary education, it is mainly taught in upper secondary education through a variety of approaches. In addition, over the half of the European countries have very few or even no guidelines regarding teaching methods. Very few countries include practical entrepreneurial experiences as a regular and compulsory part of the curriculum (Eurydice, 2016).

In order to address several social and economic problems, such as youth unemployment, economic crises and rapid changes in the contemporary, complex knowledge-based economy and society, transversal skills and particularly entrepreneurship skills are essential if young people are to become active, creative and entrepreneurial citizens (Eurydice, 2016).

Several years ago, the European Commission (2012), highlighted the need to cultivate transversal skills and particularly entrepreneurial skills. The EC recommends to the Member States to enhance entrepreneurial skills through new and creative ways of teaching and learning in primary schools, and generally in education, offering opportunities of business creation as a career destination for the students. Also, problem-based learning and enterprise links should be included across all disciplines and tailored to all levels of education in order to offer real world experience to the students. In addition, all young people should benefit from at least one entrepreneurial experience before leaving compulsory education.

“A practical entrepreneurial experience is understood as an educational experience where the learner has the opportunity to come up with ideas, identify a good idea and turn that idea into action. It should be a student led initiative, either individually or as part of a small team, involving learning-by-doing and should produce a tangible outcome. The aim of such an opportunity is for learners to develop the skills, confidence and capability to spot opportunities, identify solutions and put their own ideas into practice” (European Commission, 2012).

Moreover, in 2015 the European Parliament adopted a resolution on promoting youth entrepreneurship through education and training. It recognized that: “...some Member States have yet to develop a cross-cutting policy or a strategic approach to entrepreneurship education or entrepreneurial curricula and teaching methods; whereas not all teachers and education leaders in Europe are sufficiently trained in entrepreneurship education” and “...stresses the need for a broad approach to entrepreneurship as a set of transversal key competences for personal and professional purposes” (European Parliament, 2015).

Entrepreneurship as a key competence is described by the former Thematic Working Group on Entrepreneurship Education as: “Entrepreneurship education is about learners developing the skills and mind-set to be able to turn creative ideas into entrepreneurial action. This is a key competence for all learners, supporting personal development, active citizenship, social inclusion and employability. It is relevant across the lifelong learning process, all disciplines of learning and to all forms of education and training (formal, non-formal and informal) which contribute to an entrepreneurial spirit of behavior, with or without a commercial objective” (Eurydice, 2016).

This common European understanding of entrepreneurship as a key competence indicates a dual focus. Firstly, the development of entrepreneurial attitudes, skills and knowledge should enable the individual to turn ideas into action. Secondly, entrepreneurship is not only related to economic activities and business creation, but more widely to all areas of life and society. Innovative and creative action can be taken within a new venture, or within existing organizations (Eurydice, 2016).

In addition, “Entrepreneurship is when you act upon opportunities and ideas and transform them into value for others. The value that is created can be financial, cultural, or social”. The Danish Foundation of Entrepreneurship proposes a definition about entrepreneurship education, based on the previous entrepreneurship education definition: “...it is the content, methods and activities supporting the creation of knowledge, competences and experiences that make it possible for students to initiate and participate in entrepreneurial value-creating processes” (Morberg et al., 2012).

## 1.1 DEFINING ENTREPRENEURSHIP EDUCATION AND COMPETENCES

The main goal of most entrepreneurship education systems is to develop the entrepreneurial competences. Entrepreneurial competences are defined as knowledge, skills and attitudes that affect the willingness and ability to perform the entrepreneurial job of new value creation. Entrepreneurial competences can be

divided in cognitive and non-cognitive competences. Table 1 summarizes a literature review of the topic, highlighting the proposed competences and presenting the categorization, as proposed by Lackeus (2015).

Following the current trend of defining competences, they are divided into three distinct categories, namely skills, attitudes and knowledge that need to be acquired.

Table 1 – Entrepreneurial competences according to Lackeus (2015).

|                            | 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   |
|                            |            | 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  |
| Non-cognitive competencies | Attitudes  | 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.   |



In the context of the European Commission reference framework for entrepreneurship as a competence, it is understood as a transversal key competence applicable by individuals and groups, including existing organizations, across all spheres of life. It is defined as follows:

“Entrepreneurship is when you act upon opportunities and ideas and transform them into value for others. The value that is created can be financial, cultural, or social” (EntreComp, n.d.).

The EntreComp (n.d.) conceptual model is made up of two main dimensions (table 2): a) the 3 competences areas that directly mirror the definition of entrepreneurship as the ability to turn ideas into action that generate value for someone other than oneself, and b) the 15 competences that, together, make up the building blocks of the entrepreneurship as a competence for all citizens. Each one is accompanied by a hint or an exhortation to the learner to put the competence into practice and a descriptor, which breaks it down into its core aspects.

‘Ideas and opportunities’, ‘Resources’ and ‘Into Action’ are the 3 main categories of the conceptual model and they have been labeled to stress entrepreneurship competence as the ability to transform ideas and opportunities into action by mobilising resources. These resources can be personal (namely, self-awareness and self-efficacy, motivation and perseverance), material (for instance, production means and financial resources) or non-material (for instance, specific knowledge, skills and attitudes).

The 3 competences categories are tightly intertwined: entrepreneurship as a competence stands above all three of these together. The 15 competences are also interrelated and interconnected and should be treated as parts of a whole. Competences are numbered for ease of reference – the order in which they are presented does not imply a sequence in the acquisition process or a hierarchy: no element comes first, and none of them is more important than the others. There are no core competences and enabling competences in the EntreComp conceptualization.



Table 2 – Entrepreneurial competences according to EntreComp (n. d.).

| Areas                      | Competences  | Hints   | Descriptors   |
|----------------------------|--|---|---|
| 1. Ideas and opportunities | <b>1.1 Spotting opportunities</b>                      | Use your imagination and abilities to identify opportunities for creating value | <ul style="list-style-type: none"> <li>Identify and seize opportunities to create value by exploring the social, cultural and economic landscape</li> <li>Identify needs and challenges that need to be met</li> <li>Establish new connections and bring together scattered elements of the landscape to create opportunities to create value</li> </ul>  |
|                            | <b>1.2 Creativity</b>                                  | Develop creative and purposeful ideas   | <ul style="list-style-type: none"> <li>Develop several ideas and opportunities to create value, including better solutions to existing and new challenges</li> <li>Explore and experiment with innovative approaches</li> <li>Combine knowledge and resources to achieve valuable effects</li> </ul>  |
|                            | <b>1.3. Vision</b>                                     | Work towards your vision of the future  | <ul style="list-style-type: none"> <li>Imagine the future</li> <li>Develop a vision to turn ideas into action</li> <li>Visualise future scenarios to help guide effort and action</li> </ul>  |
|                            | <b>1.4 Valuing ideas</b>                               | Make the most of ideas and opportunities  | <ul style="list-style-type: none"> <li>Judge what value is in social, cultural and economic terms</li> <li>Recognise the potential an idea has for creating value and identify suitable ways of making the most out of it</li> </ul>  |
|                            | <b>1.5 Ethical and sustainable thinking</b>            | Assess the consequences and impact of ideas, opportunities and actions          | <ul style="list-style-type: none"> <li>Assess the consequences of ideas that bring value and the effect of entrepreneurial action on the target community, the market, society and the environment</li> <li>Reflect on how sustainable long-term social, cultural and economic goals are, and the course of action chosen</li> <li>Act responsibly</li> </ul>   |
| 2. Resources               | <b>2.1 Self-awareness and self-efficacy</b>            | Believe in yourself and keep developing   | <ul style="list-style-type: none"> <li>Reflect on your needs, aspirations and wants in the short, medium and long term</li> <li>Identify and assess your individual and group strengths and weaknesses</li> <li>Believe in your ability to influence the course of events, despite uncertainty, setbacks and temporary failures</li> </ul>  |
|                            | <b>2.2 Motivation and perseverance</b>                 | Stay focused and don't give up  | <ul style="list-style-type: none"> <li>Be determined to turn ideas into action and satisfy your need to achieve</li> <li>Be prepared to be patient and keep trying to achieve your long-term individual or group aims</li> <li>Be resilient under pressure, adversity, and temporary failure</li> </ul>   |
|                            | <b>2.3 Mobilizing resources</b>                        | Gather and manage the resources you need  | <ul style="list-style-type: none"> <li>Get and manage the material, non-material and digital resources needed to turn ideas into action</li> <li>Make the most of limited resources</li> <li>Get and manage the competences needed at any stage, including technical, legal, tax and digital competences</li> </ul>   |
|                            | <b>2.4 Financial and economic literacy</b>             | Develop financial and economic know how   | <ul style="list-style-type: none"> <li>Estimate the cost of turning an idea into a value-creating activity</li> <li>Plan, put in place and evaluate financial decisions over time</li> <li>Manage financing to make sure my value-creating activity can last over the long term</li> </ul>  |
|                            | <b>2.5. Mobilizing others</b>                          | Inspire, enthuse and get others on board  | <ul style="list-style-type: none"> <li>Inspire and enthuse relevant stakeholders</li> <li>Get the support needed to achieve valuable outcomes</li> <li>Demonstrate effective communication, persuasion, negotiation and leadership</li> </ul>   |
| 3. Into action             | <b>3.1 Taking the initiative</b>                       | Go for it   | <ul style="list-style-type: none"> <li>Initiate processes that create value</li> <li>Take up challenges</li> <li>Act and work independently to achieve goals, stick to intentions and carry out planned tasks</li> </ul>  |
|                            | <b>3.2 Planning and management</b>                     | Prioritize, organize and follow-up  | <ul style="list-style-type: none"> <li>Set long-, medium- and short-term goals</li> <li>Define priorities and action plans</li> <li>Adapt to unforeseen changes</li> </ul>  |
|                            | <b>3.3 Coping with uncertainty, ambiguity and risk</b> | Make decisions dealing with uncertainty, ambiguity and risk                     | <ul style="list-style-type: none"> <li>Make decisions when the result of that decision is uncertain, when the information available is partial or ambiguous, or when there is a risk of unintended outcomes</li> <li>Within the value-creating process, include structured ways of testing ideas and prototypes from the early stages, to reduce risks of failing</li> <li>Handle fast-moving situations promptly and flexibly</li> </ul> |
|                            | <b>3.4 Working with others</b>                         | Team up, collaborate and network  | <ul style="list-style-type: none"> <li>Work together and co-operate with others to develop ideas and turn them into action</li> <li>Network</li> <li>Solve conflicts and face up to competition positively when necessary</li> </ul>  |
|                            | <b>3.5. Learning through experience</b>                | Learn by doing  | <ul style="list-style-type: none"> <li>Use any initiative for value creation as a learning opportunity</li> <li>Learn with others, including peers and mentors</li> <li>Reflect and learn from both success and failure (your own and other people's)</li> </ul>  |

Eurydice (2016) suggests specific learning outcomes of entrepreneurship education under three areas, following the already mentioned contemporary trend:

- Attitudes (self-confidence and sense of initiative)
- Skills (creativity, planning, financial literacy, managing resources, managing uncertainty/risk, teamwork)
- Knowledge (knowing how to assess opportunities, understanding the role of entrepreneurs in society and awareness of entrepreneurial career options).

Lackeus (2013) suggests also these entrepreneurial competences in table 3.

**Table 3 – Entrepreneurial competences according to Lackeus (2013).**

| Main theme | Sub themes   |
|------------|--|
| Knowledge  | <ul style="list-style-type: none"> <li>• Mental models (Kraiger et al., 1993)</li> <li>• Declarative knowledge (Kraiger et al., 1993)</li> <li>• Self-insight (Kraiger et al., 1993)</li> </ul>  |
| Skills     | <ul style="list-style-type: none"> <li>• Marketing skills (Fisher et al., 2008)</li> <li>• Opportunity skills (Fisher et al., 2008)</li> <li>• Resource skills (Fisher et al., 2008)</li> <li>• Interpersonal skills (Fisher et al., 2008)</li> <li>• Learning skills (Fisher et al., 2008)</li> <li>• Strategic skills (Fisher et al., 2008)</li> </ul>   |
| Attitudes  | <ul style="list-style-type: none"> <li>• Entrepreneurial passion (Fisher et al., 2008)</li> <li>• Self-efficacy (Fisher et al., 2008)</li> <li>• Entrepreneurial identity (Krueger, 2005, Krueger, 2007)</li> <li>• Proactiveness (Sánchez, 2011, Murnieks, 2007)</li> <li>• Uncertainty / ambiguity tolerance (Sánchez, 2011, Murnieks, 2007)</li> <li>• Innovativeness (Krueger, 2005, Murnieks, 2007)</li> <li>• Perseverance (Markman et al., 2005, Cotton, 1991)</li> </ul> |

Studying the entrepreneur (or team) in isolation is inherently wrong, as it is not solely from the entrepreneur that entrepreneurship occurs. Entrepreneurship is as much about the change and learning that the individual entrepreneur experiences by interacting with the environment as the change and value creation the entrepreneur cause through his/her actions. Two main aspects of entrepreneurship are seen, learning and value creation. This view aligns better with the learning focused aims of educational institutions than many other definitions of entrepreneurship. It is based in a definition of entrepreneurial education, focused on value creation as a main goal of students (Lackeus, 2015).



Active learning, project-based learning, experiential learning and activities outside the classroom/school linking students with the local community or business can be used in entrepreneurship education, or they can be used as part of the common pedagogy for other subjects (Eurydice, 2016).

Letting students create value for external stakeholders will then result in development of entrepreneurial competences, regardless of successful value creation being achieved or not. According to John Dewey's notion of "Learning-by-doing", Lackeus et al. (2013) proposed that this should be labeled as a "Learning-by-doing-value" approach, grounded in the field of entrepreneurship. According to this definition of entrepreneurial education, if a pedagogical intervention lets students create value for other people (own group and teachers excluded), it is indeed entrepreneurship education. It could be done by actual value creation for other people as formal part of the curriculum, or by learning about how to create value for other people.

According to Gibb (2008) the child should be in the center of focus, in primary education, in order for entrepreneurship education to be embedded into the primary education system. Also, entrepreneurship education should be subject centered in secondary education, vocational centered in further education and discipline centered at the university level. The Danish Foundation for Entrepreneurship – Young Enterprise states that there are four dimensions that always need to be taken into account by educators, regardless of the educational level. Entrepreneurship education needs to be based on practical applications-actions by learners in their area of work (thus, in the case of children within the school context), in terms of creating value for others. It needs to allow creativity where learners get to try out their own ideas, apply their acquired knowledge and find new solutions. It needs to be connected to the environment outside the school, interacting with and learning from society's cultures, markets and professional actors. It also needs to relate attitudinal aspects such as belief in own ability, ambiguity, tolerance and risk of failure. These four basic dimensions are stated to be useful for teachers on all levels, developing new educational content, new educational processes and new forms of assessment and evaluation (Rasmussen and Nybye, 2013).

During adolescence, entrepreneurial drive develops and the cultivation of the potential of this drive will encourage people to entrepreneurial action in the future. The importance of fostering entrepreneurial drive among young people derives from their contribution to valuable products and services to their local communities in particular and society in general. Their start-ups increase market competition, thereby support customers, increase innovation and flexibility, developing new

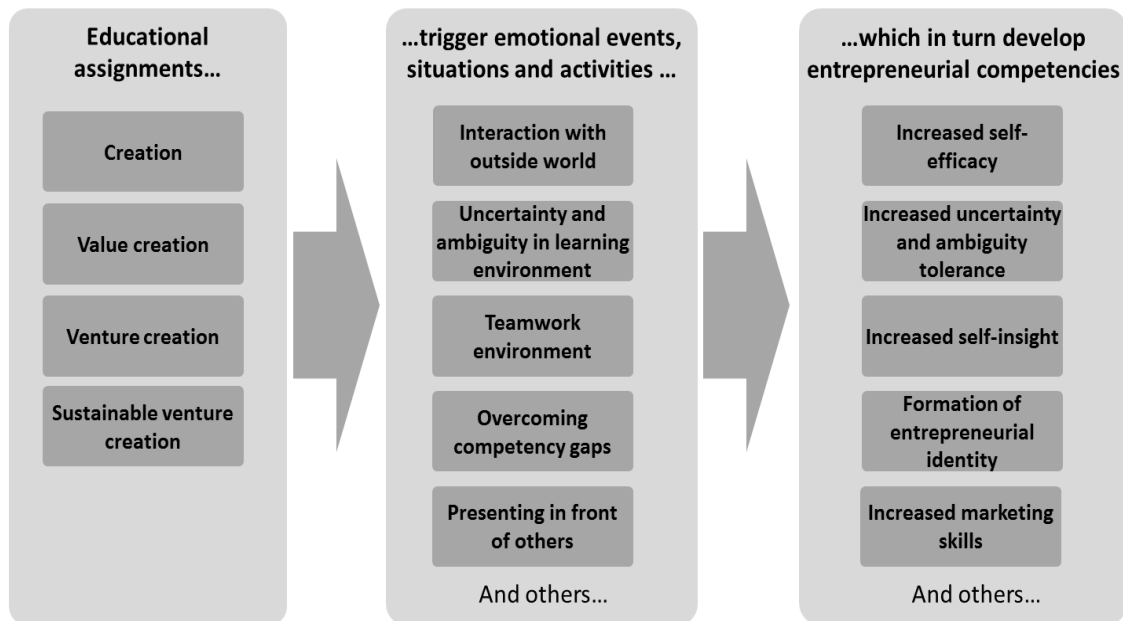


ideas and solutions. Innovative economic opportunities and trends appear and technological changes open new job opportunities in the labor market (Chigunta, 2002).

Empirical studies conducted in the past indicated that entrepreneurship is teachable, integrative, and needed at all levels of education (Heilbrunn, 2008). This type of education can augment entrepreneurial competencies, and the improving of social attitudes towards entrepreneurship are evident among young people, perceiving entrepreneurship as a viable career option. Most of the prior research on entrepreneurship education has concentrated upon university-based entrepreneurship curricula. Nevertheless, entrepreneurship education in primary and secondary schools has also attracted some academic notice, leading some researchers to claim that childhood and adolescence are the preferred periods in order to develop positive attitudes towards entrepreneurship and acquire basic knowledge on the issue (Heilbrunn, 2008). Considering the continuum of education, from the primary to the secondary level, the focus on the former gains even more importance validating the choice for the current project.

Teachers should give their students assignments so as to create value for external stakeholders; based on problems and opportunities, the students identify through an iterative process they own themselves and take full responsibility for. Such assignments lead to repeated interactions with the outside world, which triggers uncertainty, ambiguity and confusion. This should be regarded as a positive outcome and a source of deep learning. Also, a team-work approach should be applied giving the students access to increased creative ability and peer learning opportunities. Sufficient time allowing for establishing fruitful relationships with external stakeholders should also be given to the students. Figure 1 depicts the relation between educational assignments, triggered activities, and developed entrepreneurial competences (Lackeus, 2015).

Figure 1 – A model of entrepreneurship education and its outcomes according to Lackeus (2015).



## 1.2 THREE APPROACHES IN ENTREPRENEURIAL EDUCATION

Entrepreneurial education is often categorized into three approaches. Teaching “about” entrepreneurship regards a content-laden and theoretical approach aiming to provide a general understanding of the topic/discipline. Teaching “for” entrepreneurship is about an occupationally oriented approach aiming at giving budding entrepreneurs the requisite knowledge and skills. Teaching “through” entrepreneurship concerns a process based and often experiential approach where students go through an actual entrepreneurial process, while learning at the same time. This approach is often described with the term “action-based entrepreneurial education” (Lackeus, 2013).

How entrepreneurial education is carried out in practice varies substantially, primarily depending on which definition is used, but also depending on what underlying educational paradigm is applied. In general, the definitions used seem to be more narrowed down (i.e. business and start-up focused), the higher up in the educational system one researches. The actual coursework is often based on personal experience rather than systematic approaches, and is often centered on letting students create a business plan (Lackeus, 2013).

## 2 THE KIDVENTURE ENTREPRENEURSHIP EDUCATION FRAMEWORK

Considering the examination of the current state, as described in the previous sections, in this project the trend of separation of competences into three constituent-categories is followed: skills, attitudes and knowledge. The latest reports issued by Euridice (2016) and the works cited in this document (Lackeus, 2015; EntreComp, n.d.) are rather convergent and provide a complete overview of what entrepreneurship education should include for the ages of the designated target-group (6 to 10 y.o.).

Thus, the designed activities should be of an original, realistic and experiential nature. Table 4 presents the key competences that should be treated in primary education.

**Table 4 – Entrepreneurial competences framework for primary education.**

| KNOWLEDGE                           | SKILLS                             | ATTITUDES  |
|-------------------------------------|------------------------------------|--|
| Knowing how to access opportunities | Creativity                         | Self confidence                                  |
| Basics of entrepreneurship          | Planning (business/ financial)     | Belief in one’s ability to perform certain tasks |
|                                     | Financial literacy                 | Need for achievement                             |
| Value creation – idea generation    | Leadership                         | Being adaptable                                  |
| Role of entrepreneurs in society    | Managing (resources/risks)         | Being flexible                                   |
|                                     | Teamwork                           | Overcoming obstacles                             |
|                                     | Defining a vision                  | Belief in values                                 |
|                                     | Communicating a vision             | Visionary  |
|                                     | Recognizing business opportunities | Inspire  |
|                                     | Acting on business opportunities   | Sense of initiative                              |
|                                     |                                    | Being creative                                   |
|                                     |                                    | Collaboration                                    |
|                                     |                                    | Learning by doing                                |

It is essential to recognize the importance of digital skills for young entrepreneurs. The individual and household indicator metrics has been developed in 2015 by the EC: DG CONNECT and the Eurostat Information Society Working Group agreed to create and publish a "Digital Skills Indicator" based on the [Digital Competence Framework](#) (developed by JRC and DG EAC, and available for self-assessment on the [Europass](#) website).

The digital skills indicators include (Digital Skill Indicator, 2016):

### 1. Information skills

*Definition in Digital Competence Framework: identify, locate, retrieve, store, organise and analyse digital information, judging its relevance and purpose.*

- Obtained information from public authorities/services' websites
- Finding information about goods or services

### 2. Communication skills

*Definition in Digital Competence Framework: communicate in digital environments, share resources through online tools, link with others and collaborate through digital tools, interact with and participate in communities and networks, cross-cultural awareness.*

- Sending/receiving emails
- Participating in social networks
- Telephoning/video calls over the internet
- Uploading self-created content to any website to be shared

### 3. Problem solving skills

*Definition in Digital Competence Framework: identify digital needs and resources, make informed decisions as to which are the most appropriate digital tools according to the purpose or need, solve conceptual problems through digital means, creatively use technologies, solve technical problems, update one's own and others' competences.*

A – Problem solving

B – Familiarity with online services

#### 4. Software skills for content manipulation

*Definition in Digital Competence Framework: Create and edit new content (from word processing to images and video); integrate and re-elaborate previous knowledge and content; produce creative expressions, media outputs and programming; deal with and apply intellectual property rights and licences.*

##### **A – Basic**

- Used word processing software
- Used spreadsheet software
- Used software to edit photos, video or audio files

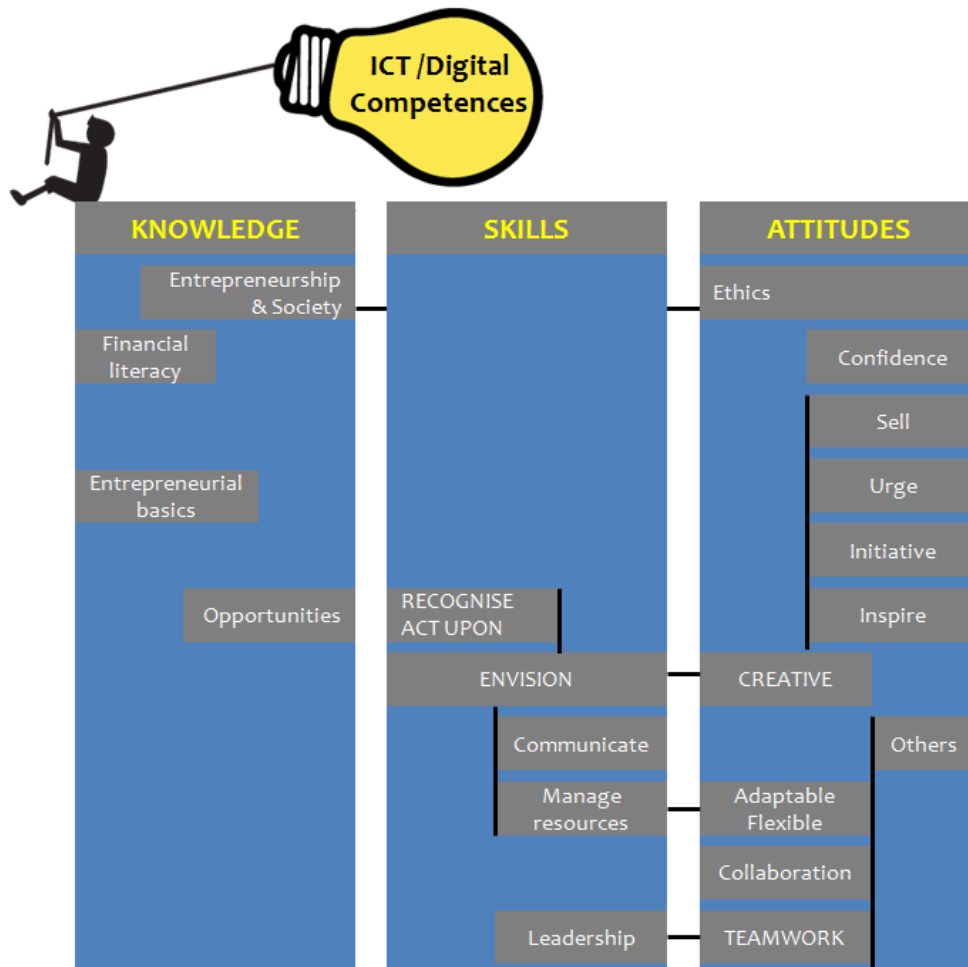
##### **B – Above basic**

- Created presentation or document integrating text, pictures, tables or charts
- Used advanced functions of spreadsheet to organise and analyse data (sorting, filtering, using formulas, creating charts)
- Have written a code in a programming language

Considering all the above, the final form of the KidVenture Framework for key competences in Entrepreneurship Education for Primary Education is depicted in Figure 2. It presents a simplified version of Table 4, comprising of 4 distinct areas. The blue area corresponds to the Knowledge column of Table 4. The conclusion reached by the literature review is that the basics of Financial Literacy and Entrepreneurship are considered necessary, along with basic knowledge about the interconnection between Entrepreneurship and Society. Also, the Knowledge section includes the requisite background for one to be able to recognize opportunities that might occur. For the target age of the project, the corresponding knowledge is limited to the basics and it is rather generic.



Figure 2 – KIDVENTURE Framework for entrepreneurial key competences.



There are three columns and each one corresponds to the Knowledge, the Skills and the Attitudes. The column of Skills has a set of elements in which two of them are related with opportunities (**Recognizing** and **Taking Action** thereafter) and thus they are linked with the column with elements related to Knowledge. When an opportunity is identified, one needs to have a clear **Vision** of the final goal and thus this element is included in the same link as the first ones. Next to the skill of creating a clear and focused vision, being able to **Communicate** to the potential stakeholders is equally important, exploiting various **Resources**, thus justifying the interconnection among these three elements. In order to be able to envision, one needs to be **Creative**. The latter can be considered both a skill (relating to the ability to) and an attitude (having the disposition to think “out of the box” and in alternative ways). Moreover, **Leadership** skills are important and related to **Teamwork** which is also dealt with as a skill (being able to work with others by

possessing the social and other skills to perform so) and an attitude (wanting to work with others in order to achieve higher goals).

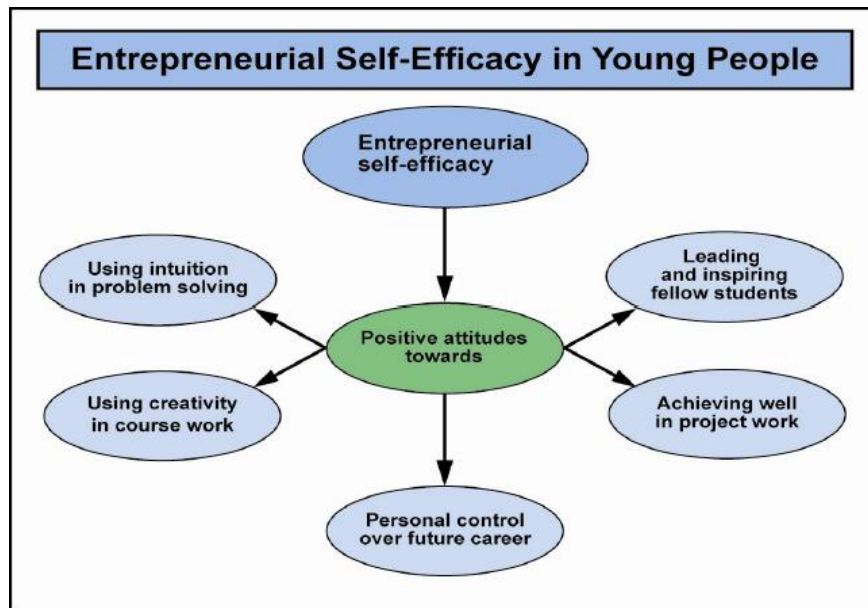
The column applied to the Attitudes presents a strong relation between elements. It is important to function within an **Ethical** context, which derives from understanding the social extensions of one's entrepreneurial action. Equally important is to have self-**Confidence** which facilitates one to be active in general, thus having the **Urge** to take action/**initiative** and become **Inspired** by various elements and in various contexts (thus acting **Creatively**). Having faith and trust in **Others** leads the attitude of pursuing **Collaboration** with peers or experts in order to better realizing goals. Lastly, it is also important to be ready and willing to Adapt (to circumstances and resources) and be Flexible (to avoid and overcome obstacles) by utilizing various Resources, in order to perform in the best possible way.

Considering the Digital competences, as described earlier in this document and the ICT potential and possibilities nowadays, many of the elements that appear in Figure 2 include a digital or ICT-based constituent. For example resources to manage in order to communicate a vision are social networks and the internet. Collaboration can be computer supported, digital tools can be used for designing solutions and products, etc. Thus, in the contemporary Era, ICTs can be considered as a holistic container for all the key competences of the proposed framework.

## 2.1 BENCHMARKING

KidVenture project will design a measurement tool to assess the effect of participation in the KidVenture Game on young children's skills, attitudes towards starting a business, and on their enterprise potential. Entrepreneurial self-efficacy has been modelled by recent research (Figure 3).

Figure 3 – Conceptual framework.



Previous studies successfully used (Athylde, 2012a; 2012b) in the UK benchmarking modelled on the US Junior Achievement programmes for young people. These interventions met a similar goal for young people to have the opportunity “to gain personal experience of how business works, understand the role it plays in providing employment and creating prosperity, and be inspired to improve their own prospects, and the competitiveness” (p.711). KidVenture expects to help pupils develop key skills and enterprise capability. Therefore as benchmarking mechanism KidVenture will employ a pre- and post-test study. There is a need for a new evaluation tool to measure “enterprise potential” in young children, with little or no employment experience. The Attitudes to Enterprise measurement will have to be adjusted to meet the needs of primary school children (see appendix A) as compared to young people (15-18) and university students (18+).

## REFERENCES

Athayde, R. and Hart, M. (2012) Developing a methodology to evaluate enterprise education programmes. *International Review of Entrepreneurship*, 10(3), ISSN (online) 2009-2822

Athayde, R. (2012) The impact of enterprise education on attitudes to enterprise in young people: an evaluation study. *Education and Training*, 54(8/9),. 709-726. ISSN (print) 0040-0912

Chigunta, F. (2002). *Youth Entrepreneurship: Meeting the Key Policy Challenges*. Youth Employment Summit, 1-34.

Digital Skill Indicator (2016) *A new comprehensive Digital Skills Indicator*. European Commission (25/02/2016). Available at: <https://ec.europa.eu/digital-single-market/en/news/new-comprehensive-digital-skills-indicator> [Accessed 25 January 2017]

EntreComp (n.d.) *ENTRECOMP CONCEPTUAL MODE*. Available at: <https://ec.europa.eu/jrc/en/entrecomp> [Accessed 20 December 2016].

European Commission (2012). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. *Rethinking Education: Investing in skills for better socio-economic outcomes*. COM(2012) 669 final. SWD(2012) 371-377 final.

European Parliament, 2015. *Report on promoting youth entrepreneurship through education and training*. Available at: <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+REPORT+A8-2015-0239+0+DOC+XML+V0//EN> [Accessed 18 December 2016].

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

Gibb, A. (2008). Entrepreneurship and enterprise education in schools and colleges: insights from UK practice. *International Journal of Entrepreneurship Education*, 6, 48.

Heilbrunn, S. (2010). Advancing Entrepreneurship in An Elementary School: A Case Study. *International Education Studies*, 3(2).

Lackeus, M. (2013). *Developing Entrepreneurial Competencies – An Action-Based Approach and Classification in Education*. Gothenburg: Division of Management of Organizational Renewal and Entrepreneurship, Department of Technology Management and Economics.



Lackeus, M. (2015). *Entrepreneurship in Education, What, Why, When, How, Entrepreneurship360 Background Paper*. OECD.

Lackéus, M., Lundqvist, M. & Williams Middleton, K. (2013). *How can Entrepreneurship Bridge Between Traditional and Progressive Education?* . ECSB Entrepreneurship Education Conference. Aarhus, Denmark, 29–31 May.

Moberg, K., Stenberg, E. & Vestergaard, L. (2012). *Impact of entrepreneurship education in Denmark*. Odense, Denmark: The Danish Foundation for Entrepreneurship – Young Enterprise.

Rasmussen, A. & Nybye, N. (2013). *Entrepreneurship Education: Progression Model*. Odense C, Denmark: The Danish Foundation for Entrepreneurship – Young Enterprise.

## APPENDIX A: ENTREPRENEURIAL SKILLS BENCHMARKING TOOLS

- One of the most widely used: Entrepreneurial Attitude Orientation Scale, Robinson *et al.* (1991): US; Russia; Malaysia; India.
- Recently an explosion of psychometric tests (Haynie and Shepherd 2009; McGee *et al.* 2009; Thompson 2009). But not for young people.

Attitudes To Enterprise (ATE) Test for School Children (Athayde 2012)

Perceptions about creativity at school.

1. I believe a good imagination helps you do well at school.
2. I think I show a lot of imagination in my schoolwork
3. I like lessons that really stretch my imagination.
4. I enjoy lessons where the teacher tries out different ways of teaching.
5. I dislike teachers who are always coming up with 'new ideas'. Reverse scores (1=7, 2=6 etc.)
6. I don't enjoy lessons where it is up to pupils to come up with ideas. Reverse scores.

Self-perceptions of ability to lead others

7. I believe I can persuade my classmates to agree on a plan.
8. My friends would say I am a follower rather than a leader. Reverse score
9. I am good at getting people to work well together.
10. I don't like being the centre of attention in class. Reverse score
11. I take responsibility for organising people in group work.
12. I'm good at motivating my classmates.

Intuition in problem solving.

13. If you don't know all the facts about a problem then there is no way you can find the answer. Reverse score
14. Making mistakes is a good way of finding out how to solve a problem.
15. Instinct helps me work out solutions to problems we are set.
16. I trust my own instinct when solving problems in class.
17. If I don't know the answer to a problem then I'll have a guess.
18. I'll keep trying out different solutions to a problem rather than give up.

Achievement orientation in project work.

- 19. I work hard to make my projects successful.
- 20. It feels good when a project works out well in class.
- 21. It doesn't matter if my project work is no good. Reverse score
- 22. It's important to finish off a project as well as you can.
- 23. I am proud of my project work this year.
- 24. Working hard on projects is well worth the effort.

Perceived personal control over career.

- 25. Other people will get the best jobs. Reverse scores.
- 26. I think my future career success is largely up to me.
- 27. I have a lot of faith in my ability to succeed in my future career.
- 28. It is important to plan my future career.
- 29. I am worried that I will not make a success of my future working life. Reverse scores.
- 30. I have as much chance as anyone else of getting a good job in future.

ATE for University Students (Athayde 2012)

2.1.1.1.1 Please indicate how much you agree or disagree with the following statements by circling one number in each line.

*Strongly disagree = 1..... strongly agree = 7*

- 1 I believe that a good imagination helps you do well at university.
- 2 I work hard to make my projects successful.
- 3 I think my future career success is largely up to me.
- 4 My friends would say I am a follower rather than a leader.
- 5 At work I would prefer a more demanding job with a high salary to an easy one with a low salary.
- 6 I prefer doing work that really stretches my imagination.
- 7 If you don't know all the facts about a problem then there is no way you can find the answer.
- 8 I'm good at motivating my fellow students.

- 9 I have a lot of faith in my ability to succeed in my future career.

- 10 To achieve something worthwhile it is necessary to take some risks.
- 11 I believe it is important to finish off a project as well as you can.
- 12 I am good at getting people to work well together.
- 13 I don't enjoy course work where it is up to students to come up with ideas.
- 14 It feels really good when a group project works out well.
- 15 It is important to plan my future career.
- 16 If there was a chance to multiply capital then I would invest in the shares of an innovative but untried company.
- 17 It doesn't matter if my project work is no good.
- 18 I am successful at persuading my fellow students to agree on a plan.
- 19 Making mistakes is a good way of finding out how to solve a problem.
- 20 I take pride in my project work.
- 21 I dislike lecturers who are always coming up with new approaches to teaching.
- 22 I would be prepared to invest my own money in a venture I believed in.
- 23 I take responsibility for getting things done when working with others.
- 24 I am worried that I will not make a success of my future working life.
- 25 I'll keep trying out different solutions to a problem rather than give up.
- 26 If there was a high probability of large profits in a new idea I would invest as much as I could.
- 27 Working hard on projects is well worth the effort.
- 28 Other people will get all the best jobs.
- 29 I trust my own instinct when solving problems in coursework.
- 30 I am skilful at reasonable risk-taking.
- 31 I think I am a very imaginative person.
- 32 I dislike being the centre of attention.
- 33 If I don't know the answer to a problem, then I'll have a guess.
- 34 I have as much chance as anyone else of getting a good job in the future.
- 35 I enjoy lessons where the lecturer tries out different ways of teaching.
- 36 My personal judgment is a reliable guide to solving problems.





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