



ICEE PROGRESSION MODEL:
From EntreComp
to Practice in Schools



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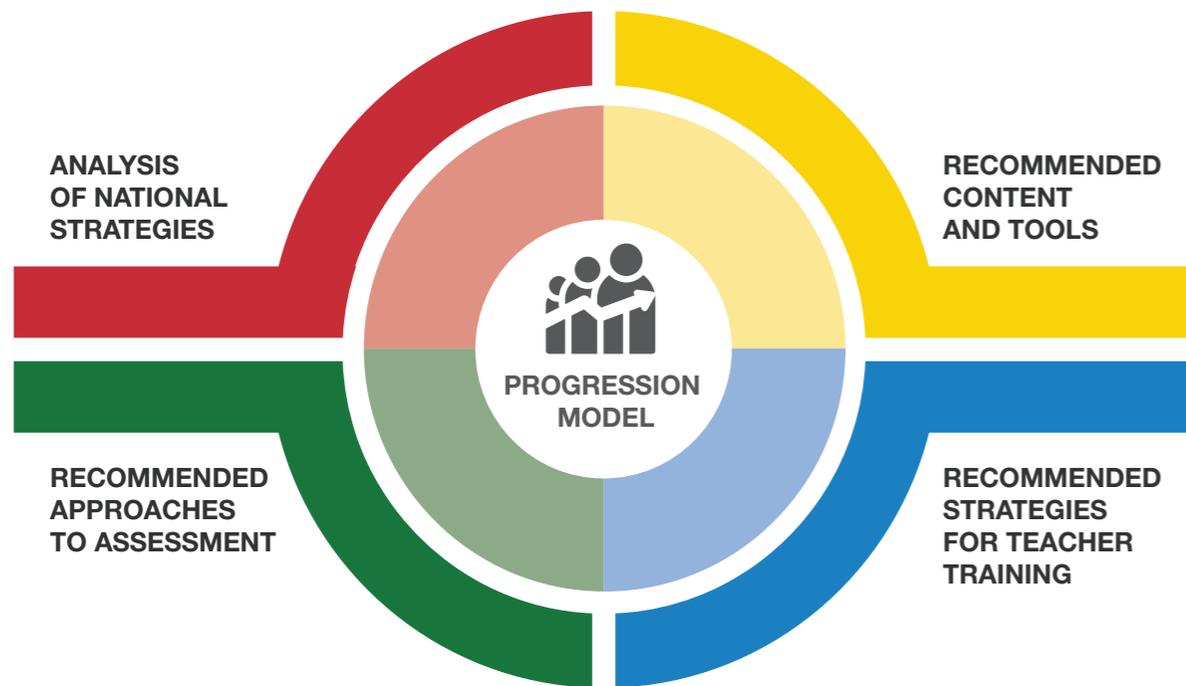
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ICEE PROGRESSION MODEL:

From the Entrepreneurship Competence Framework (EntreComp) to Practice in Schools

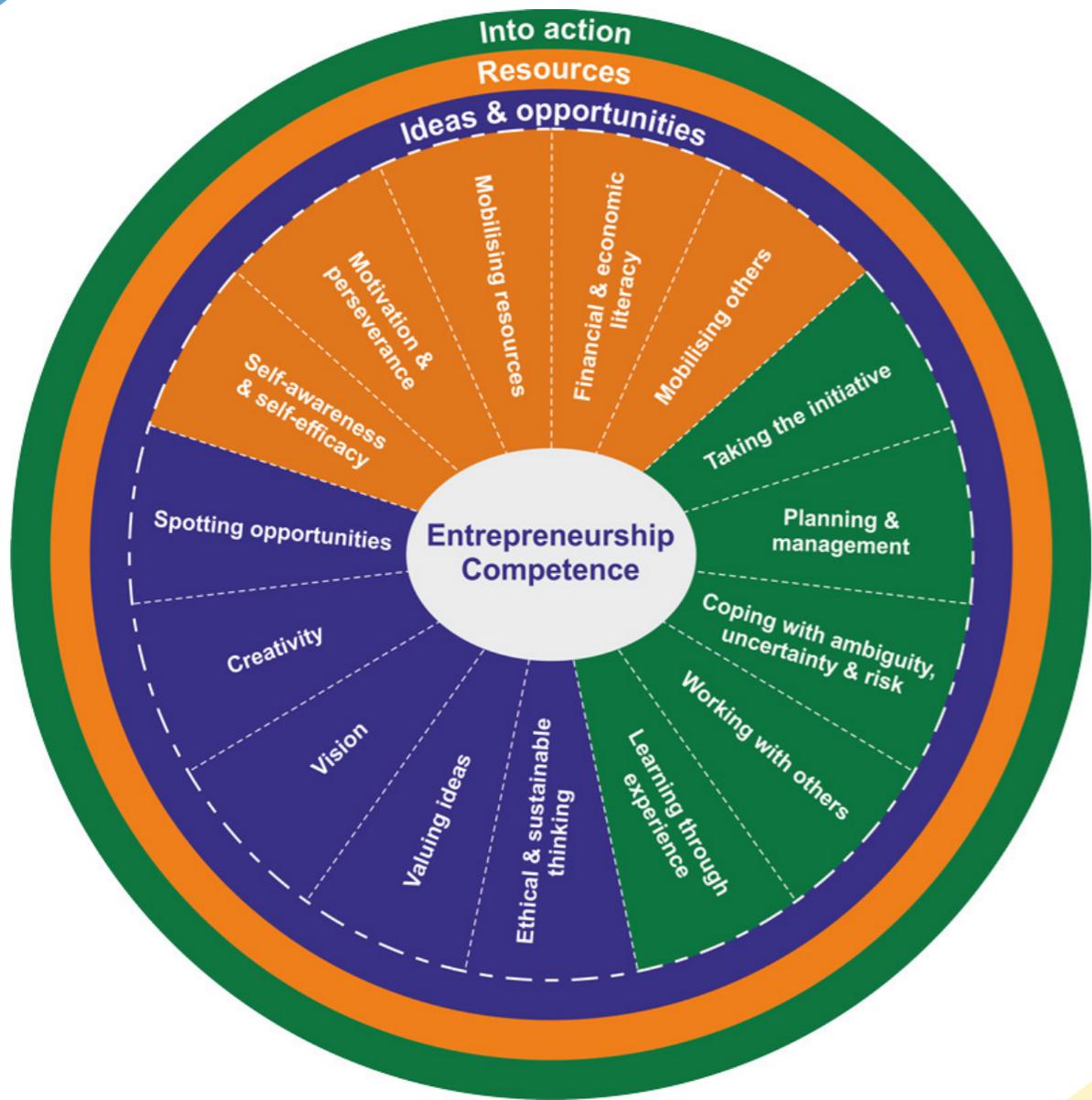


When a school moves into entrepreneurship education, they need to consider how national priorities and plans can fit local curricula and subject plans and how to build a progression through the different age groups. Tools and methods have to be decided on, and the schools will probably have to identify need for training and which assessment tools they will use to measure progress.

The Innovation Cluster for Entrepreneurship Education (ICEE), aimed to analyse the impact of entrepreneurship education and understand what is needed to increase the penetration of entrepreneurship education in European schools. Starting from analysing existing national strategies, the project came up with suggestions on how entrepreneurship education can flow from primary to upper secondary in a 'progression model', linked to content and tools and approaches to teacher training and assessment. 25 schools in 5 countries participated in cooperation with Ministries, three research institutes and five national JA organisations. Teachers and headmasters from 60 European entrepreneurial schools gave input through three workshops, and experts in the European Entrepreneurship Education NETWORK (EE-HUB) were consulted.

The ICEE Progression Model suggests templates for visualizing activities used in entrepreneurial learning on different stages in the educational system. The templates can help teachers, teacher training institutions and NGOs to understand how to work with and progress in a complicated framework.

The Entrepreneurship Competence Framework, also known as EntreComp, offers a tool to improve the entrepreneurial capacity of European citizens and organisations. The framework defines 3 competence areas, a list of 15 competences, 442 learning outcomes and proficiency levels. The EntreComp aims to become a reference framework for how to foster entrepreneurial capacity of European citizens. It consists of 3 interrelated and interconnected competence areas: 'Ideas and opportunities', 'Resources' and 'Into Action'. Each of the areas is made up of 5 competences, which, together, constitute the building blocks of entrepreneurship as a competence. The framework develops the 15 competences along an 8-level progression model and proposes a comprehensive list of 442 learning outcomes.



The EntreComp framework is the reference in ICEE, but as the focus of EntreComp is European citizens in general, **the ICEE project focuses on education from primary through higher education.**

Based on knowledge from the **ICEE project**, learning from the EE-HUB and **entrepreneurial schools**, the partners developed a progression model, showing how a young person's entrepreneurial learning journey can be gradual, with new experiences reinforcing previous learning and challenging them on to the next stage of development.

The implementation in each school starts with the teachers and, behind them, the leadership of the school. Political decisions are important to open doors and increase awareness but each school has to find its DNA and recipe for success. The ICEE project analysed several best practices, interviewed teachers, leaders, students and parents in five countries in order to understand how entrepreneurial learning best can be implemented in a school. Several drivers and hindrances to successful implementation of entrepreneurship education were identified. The main obstacles seem to be connected to competence among teachers and lack of good-quality teacher training and

support. A second hindrance was the lack of cooperation between the formal education system and the labour market. Among the drivers to increasing uptake of entrepreneurship education was that the majority of all relevant groups in the research in the ICEE (students, teachers, business people and parents) believe in the importance of entrepreneurial learning and that entrepreneurship should be embedded in school policies/curricula. They also considered the teaching methods as effective and academically credible. If the leadership in a school is dedicated to entrepreneurship education, the incentives are strong to get it implemented. Head teachers in the ICEE reported several learning outcomes they could see for students, such as teamwork or personal growth and they found that many teachers were enthusiastic and that student-teacher relations improved. Additional documents and templates can be found on the ICEE web site: www.icee-eu.eu.

This web site also links to:

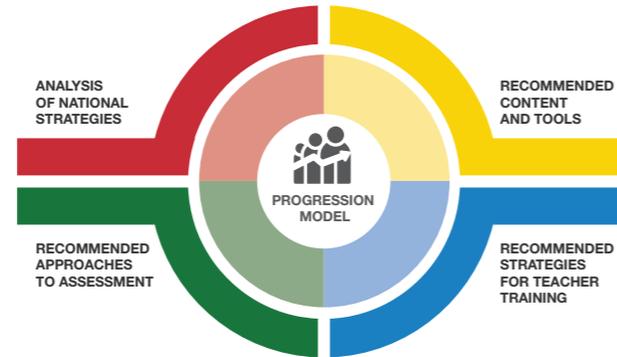
- [A Comparative Analysis of National Strategies](#)
- [Recommendations on Content and Tools](#)
- [Recommendations on Teacher Training](#)
- [Recommendations on Assessment](#)

A PROGRESSION MODEL:

Entrepreneurial Learning from Primary School to Higher Education

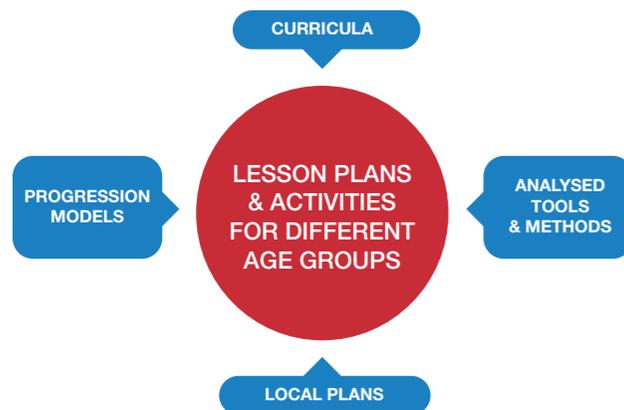
INTRODUCTION

“Entrepreneurship education” and “entrepreneurial learning” are major areas of policy development in Europe. How can we encourage more creative thinking, promote a strong sense of self-worth, initiative and a tolerance of failure? How can we stimulate enterprising behaviours? How can we help young people develop the skills and mind-set to be able to turn ideas into action? Entrepreneurship education seeks to provide students with the knowledge, skills and motivation to encourage entrepreneurial success in a variety of settings. In the end, it is all about creating value, either in social, cultural or economical context.



THE ICEE PROJECT

The Innovation Cluster for Entrepreneurship Education (ICEE) aimed to analyse the impact of entrepreneurship education and understand **what is needed to reach the European goal, which is that every young person should have a practical entrepreneurial experience before leaving compulsory education.** Through four innovation clusters, the ICEE consortium analysed national strategies and came up with suggestions on how entrepreneurship education can flow from



primary to upper secondary in a ‘progression model’, linked to content and tools which can be used, approaches to teacher training and assessment. All these analysis, in addition to input from qualitative and quantitative research, several workshops for teachers and head teachers, concluded in a suggestion for a progression model within the educational system.

THE ICEE PROGRESSION MODEL

suggests a template for visualizing activities used in entrepreneurial learning on different stages in the educational system. The templates can help teachers, teacher training institutions and NGOs to understand how to work with and progress in a complicated framework.

A PROGRESSION MODEL is meant to be a guide for schools. It has to be interpreted into the national or local curriculum and local environment and met by initiatives, tools and methods, which can support the overarching goals in the model. Teachers and headmasters from 60 European entrepreneurial schools gave input through three workshops, and experts in the

European Entrepreneurship Education NETwork (EE-HUB) were consulted. The results of the work is posted on the ICEE web site www.icee-eu.eu

THE CONNECTION BETWEEN ICEE AND ENTRECOMP

The EntreComp framework was developed in parallel with the ICEE project, and in ICEE, the EntreComp is used as a model. The focus of EntreComp is European citizens in general, the ICEE project focuses on education from primary through higher education. The ICEE progression model links to assessment tools which can be used, recommended teacher training approaches, content and tools and how to support entrepreneurship education in schools from the national perspective. The ICEE progression model aims to understand the EntreComp Framework, by putting it into a wider structure. The different levels are transformed from the terms used in the EntreComp (Foundation, Intermediate, Advanced and Expert) into terms used in the education systems and adapted for the different educational steps. (Primary school, middle school, vocational training, upper secondary school and higher education.)

THE MAIN ELEMENTS IN ENTREPRENEURSHIP EDUCATION.

The **ICEE progression model** includes three main elements of entrepreneurial learning:

- Entrepreneurship
- Work readiness
- Financial literacy

Entrepreneurship is about turning ideas into action, creativity, innovation, risk-taking, take out: to be able to plan and manage perseverance, self-confidence and, being able to seize opportunities; personally, in the community or at work.

Intrapreneurship or 'corporate entrepreneurship' is the practice of entrepreneurship in an established firm or organisation.

Work Readiness is the notion of bridging school, community, life and work. It includes specific work-related skills, work habits and conduct, personal leadership at work, communicating with others at work, teamwork and collaboration at work, rights and responsibilities of workers and employers, and customer service.

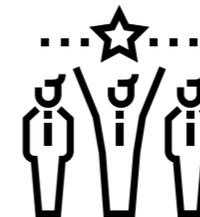
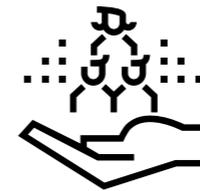
Financial literacy is the ability to understand how money works in the world. It is about how to earn money and how to manage it, a set of skills and knowledge that allows a person to make informed and effective decisions with all of their financial resources. Financial literacy includes financial skills necessary for future success as budgeting and decision-making to understand the consequences of the decisions they make about spending money.

THE METHODOLOGY AND CONTENT INCLUDES:

Education about entrepreneurship investigates entrepreneurship as a societal phenomenon. Relating to economy and innovation, this theoretical approach investigates who becomes an entrepreneur, what motivates entrepreneurs and it analyses the factors influencing entrepreneurial processes.

Education for entrepreneurship is about the acquisition of skills and knowledge of relevance when starting up a new enterprise. Central elements in such teaching include knowledge and training in setting up a budget, a business plan, a strategy for marketing, a plan for organization, as well as reflection on the motives for setting up a business.

Education through entrepreneurship, uses the entrepreneurial process as a method or tool to achieve a particular set of learning objectives. These processes vary from concrete entrepreneurship processes aimed at developing an enterprise or working on a case, or participation in activities combining practical and theoretical learning and/or collaboration between schools and working life. It encompasses the competence to perceive new opportunities and making them work in a number of social areas.



THE ICEE PROGRESSION MODEL

The ICEE progression model is in the illustration on the opposite page. It shows how a young person's entrepreneurial learning journey can be gradual, with new experiences reinforcing previous learning and challenging them on to the next stage of development.

Students **DISCOVER**, **EXPLORE**, **EXPERIMENT**, **DARE** and **PERSIST**, all depending on their age and maturity. **The EntreComp Framework moves even further** into and adult education, post education and offers a tool to improve the entrepreneurial capacity of European citizens. They include key words like **IMPROVE**, **REINFORCE**, **EXPAND** and **TRANSFORM**.

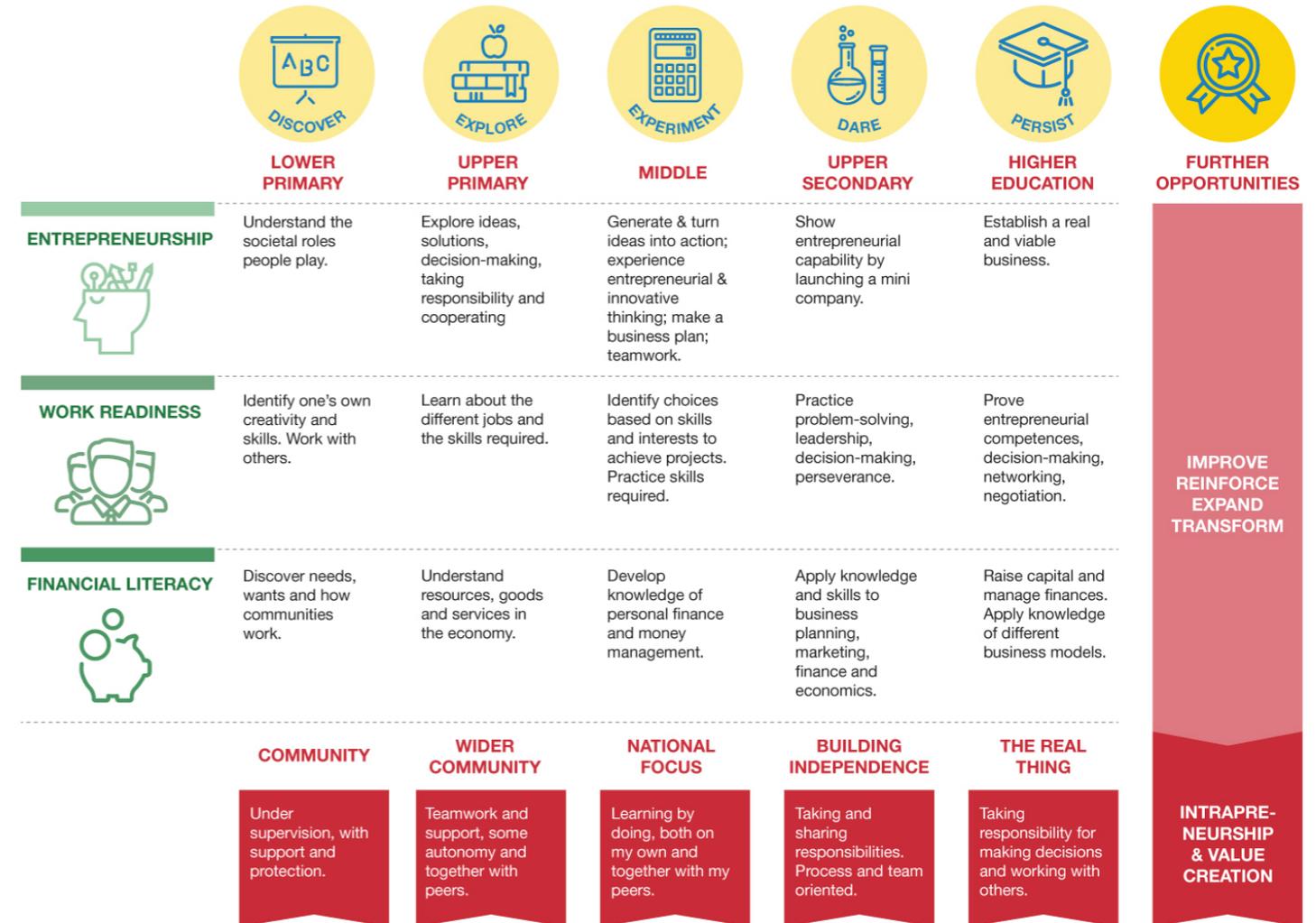
The ICEE progression shows how entrepreneurship education can focus from primary and all the way into higher education. The focus and the methods vary in the different steps in the model. Students moves from activities at primary level where they discover the local community, are guided by their teachers and volunteers, they identify needs and wants, learn about the local job environment through parents, they learn how private and public sectors are dependent on each other, and they explore how value is created. At this stage, students also make their first connections to the labour market, they learn about skills, jobs and resources. In secondary school, students can move further, dependent on what they learned in primary.

At this stage, they experiment more, they expand their horizon and they become more responsible for their actions.

In vocational training and upper secondary, students are closer to the work life. Dare is a key word. Students must be challenged, they need to make their own decisions but all the way supported by their teachers or mentors. At this stage, financial literacy is important. Through participating in a mini company, many students get the practical experience to understand accounting, budgeting, loans and saving.

In the model on the opposite page, the focus is described through responsibility, content, skills to train, key learning elements split in the three areas: entrepreneurship, work readiness and financial literacy. The model is pointing towards the next elements which can be found in the EntreComp framework. Some of these elements can be referred to as intrapreneurship; the practice of entrepreneurship in an established firm or organisation.

Each of the steps in the progression model is explained in more details, and towards the end, there is an example of how the progression model can be concretised and used to understand how to implement recommended tools and methods into the local subject curricula.





**LOWER
PRIMARY**

Understand the societal roles people play.

Identify one's own creativity and skills. Work with others.

Discover needs, wants and how communities work.

COMMUNITY

Under supervision, with support and protection.



**UPPER
PRIMARY**

Explore ideas, solutions, decision-making, taking responsibility and cooperating

Learn about the different jobs and the skills required.

Understand resources, goods and services in the economy.

**WIDER
COMMUNITY**

Teamwork and support, some autonomy and together with peers.

PRIMARY SCHOOL

Discover and Explore

The point of departure in entrepreneurship education is a diverse, action-based and child-centred culture that encourages learners to practice taking initiative with the support of the community.

ENTREPRENEURSHIP in primary school must have its focus on developing the pupils' self-confidence, the first training in being responsible for particular tasks and roles in a team, to be able to dream and develop creativity. Social and collaborative skills should be at the very centre. Activities based on learning by doing make for a positive self-image, are conducive to practicing one's own skills and specific qualities, taking responsibility, gaining courage to act and developing interpersonal skills. It is important that pupils have arenas where they are allowed to be active and make their own decisions. Active and reflected learning processes result in pupils gaining the feeling of owning the knowledge that they acquire.

WORK READINESS

From the first grade, the pupils must gradually discover a diverse learning environment. They must experience that close collaboration between schools and the community is a natural element in a learning process and that utilising resources from "the real world" will both increase the quality and relevance of education as well as knowledge and future opportunities for them.

FINANCIAL LITERACY

In the first years of primary education, learning about themselves and their role in the community is essential. Financial literacy terms related to families and communities will be the starting point. Gradually, pupils can develop their own identity and community awareness through knowledge of the distinctive qualities of their home environment.

MIDDLE SCHOOL

Experiment

ENTREPRENEURSHIP

At this stage, the focus will be on development of basic skills such as concept development, problem-solving, decision-making and building networks. Creativity must still be a focus, and the student should experience different techniques for generating ideas and using creative ways to resolve problems. Making choices, seeking the opinion of others and analysing risks are important to train at this age.

WORK READINESS

Increased knowledge of and contact with the local community and working and social life will provide a better basis for the choice of education and occupation. Learners must become familiar with the world of work and enterprise, gain basic knowledge of the operation and the respective functions of the school community, the public sector, business and industry and organisations and of entrepreneurship as a profession. Pupils should be encouraged to utilize resources and exploit opportunities locally, feel responsibility for common work tasks and learn to take the consequences of their own choices. For example, students may participate in a mini-company experience under guidance of their teacher and volunteers from the business sector.

FINANCIAL LITERACY

Personal economics, consequences and the risks of financial behaviour is important learning before the students get closer to their adult responsibilities. Employment contract, salary, remuneration, pension and taxation are important knowledge in middle school.



MIDDLE

Generate & turn ideas into action; experience entrepreneurial & innovative thinking; make a business plan; teamwork.

Identify choices based on skills and interests to achieve projects. Practice skills required.

Develop knowledge of personal finance and money management.

**NATIONAL
FOCUS**

Learning by doing, both on my own and together with my peers.



UPPER SECONDARY

Show entrepreneurial capability by launching a mini company.

Practice problem-solving, leadership, decision-making, perseverance.

Apply knowledge and skills to business planning, marketing, finance and economics.

BUILDING INDEPENDENCE

Taking and sharing responsibilities. Process and team oriented.

SECONDARY SCHOOL AND VOCATIONAL EDUCATION

Dare

ENTREPRENEURSHIP

In secondary schools and in vocational training, learning outcomes must be both 'soft' (such as creativity, team spirit, perseverance, self-confidence, taking initiative, teamwork, taking responsibility, resourcefulness and 'hard' (ideation, identifying opportunities, specific business skills, behaviours and economic/financial knowledge). The students will have to apply learned skills to new situations, and they will have experiences where they need to use their entrepreneurial competences in order to succeed.

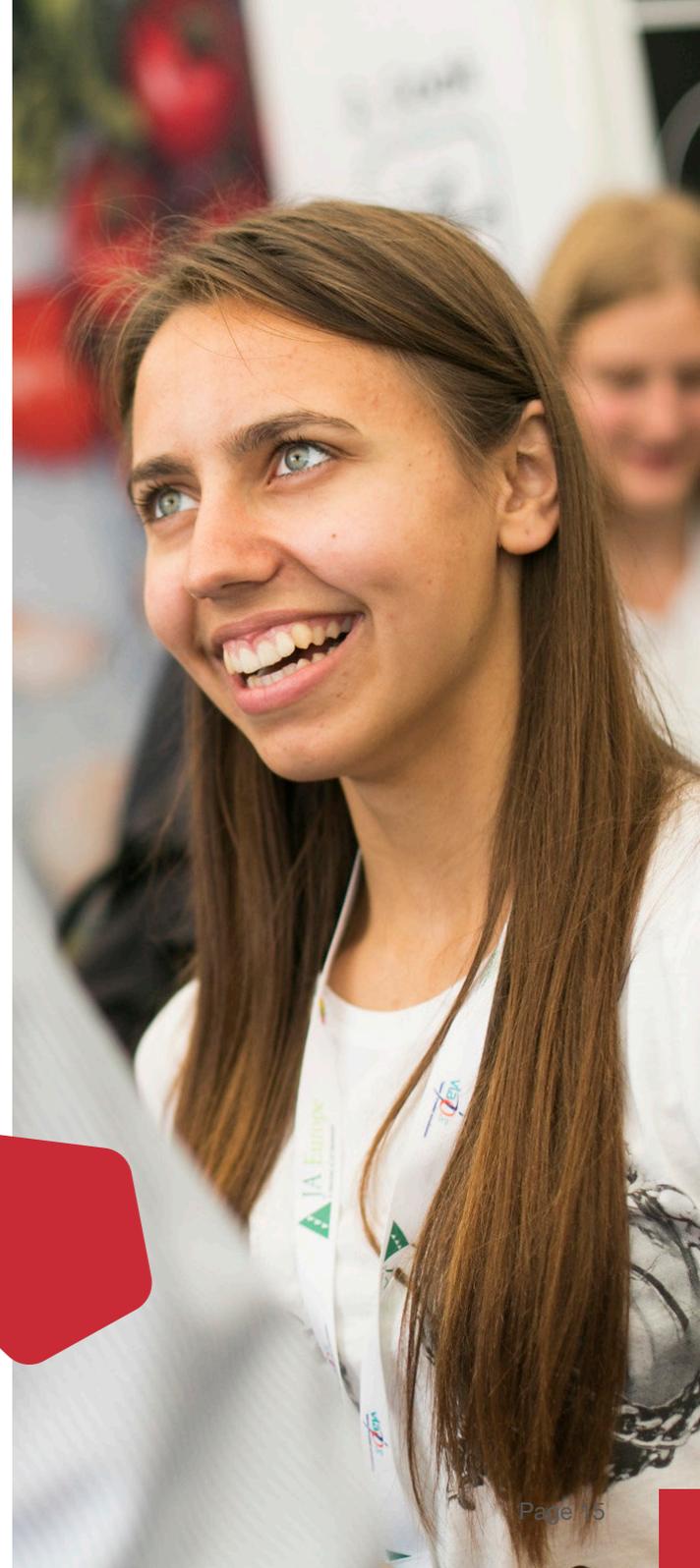
Mini-companies are one of the most effective practical entrepreneurial experiences available. It summarizes all the elements acquired so far in the progression. It combines the entrepreneurial skills with work force readiness and financial literacy in a practical and hands-on way. Students, working in teams, come up with the ideas, identify ways forward and turn concepts into action. Teachers are in a supportive guiding role and volunteers from the local community involved. The international perspective should be in focus during upper secondary school.

WORK READINESS

In upper secondary education and in vocational training, it is important that they get knowledge of the opportunities that are in the work sector in general, but also experience the opportunities for job creation. Students must get training in each stage of the job search cycle: a) identification of vacancies, b) completing a job application or CV submission, c) interview process, d) networking. Such training must be hands-on practice and on personal experience of participation and influence. Cooperation with and involvement from the business sector is even more important than before. Students should be offered a practically oriented channel to entrepreneurship. Apart from gaining knowledge about entrepreneurship, they must develop entrepreneurial skills in practice at a workplace or through a mini company in collaboration with a mentor from the business sector. The students should get involved in complex situations that challenge their need for knowledge and reflection both in the school environment, and in collaboration with the local community.

FINANCIAL LITERACY

Through a mini company experience, the students will start understanding the need for business to raise capital and learn about financing a business idea, how to create a business plan and to manage a company's finances by using financial statements and cash budget. They will also learn about banks, different business models and financial behaviour necessary for future credibility. By the end of the learning experience, they will be able to explain the principles that support business accounting and taxation; demonstrate an understanding of the relationship between different sources of business finance, associated costs and factors that can influence the price. At this stage, the students should also understand the regulatory environment for protection of intellectual property.





HIGHER EDUCATION

Establish a real and viable business.

Prove entrepreneurial competences, decision-making, networking, negotiation.

Raise capital and manage finances. Apply knowledge of different business models.

THE REAL THING

Taking responsibility for making decisions and working with others.

HIGHER EDUCATION Persist

ALL INTEGRATED: ENTREPRENEURSHIP, FINANCIAL LITERACY AND WORK READINESS

Providing university students with entrepreneurial knowledge and skills should open up new career prospects for them. All three elements in entrepreneurship education will merge in their approaches. The student should experience to set up his or her own enterprise and take the full responsibilities connected to establishing and running it. Managing finances and resources is in focus here as students are challenged to create not just viable but sustainable business concepts. That includes learning how to draw up a business plan, identification and evaluation of business opportunities, as well as collaboration and interaction with relevant external parties. Students learn strategic communication—how to best present their ideas to others. They must be encouraged to sign up for competitions both at national and international level, and to pitch their ideas towards representatives from the business sector. In higher education, students should maximise his/her creative capacity through teamwork, and they should be encouraged to

identify ideas, and do something with them. Ethics and environmental theory, economics and resource utilization will be important elements.

Focus should also be on national and global changes and trends, and what consequences these will have for development of trade and industry and society.

Skills related to proactive project management (involving skills such as planning, organising, managing, leadership and delegation, analysing, communicating, de-briefing and evaluating and recording), and the ability to work both as an individual and collaboratively in teams. The judgement to identify one's strengths and weaknesses, and to assess and take risks as and when warranted is essential. Furthermore, the ability to accept and handle uncertainty is one of the most important competences that enables entrepreneurial action. At this level, the students must practise to leverage opportunities from web-based knowledge and social networks and to merge information from a range of sources and reconciles conflicting information to support decision-making. They must experience how to seek out advice and decide on most appropriate financial option in relation to business start-up or an existing business.



MERGING THE EUROPEAN AND NATIONAL GOALS WITH NATIONAL SUBJECT CURRICULA AND LOCAL PLANS

When a school moves into entrepreneurship education, they need to consider several factors: national priorities and plans must meet local curricula and subject plans. The process can be supported by tools like the European EntreComp frameworks, which sketch in detail what a citizen should know at different level of sophistication. The ICEE progression model, which is based on input

from several European and national projects, focus more on what to do **in different age groups**. In addition, the progression model suggests how to merge local subject curricula with different tools and methods.

The ICEE web page gives more details, in addition to link to suggested tools and methods, assessment, teacher training and research.

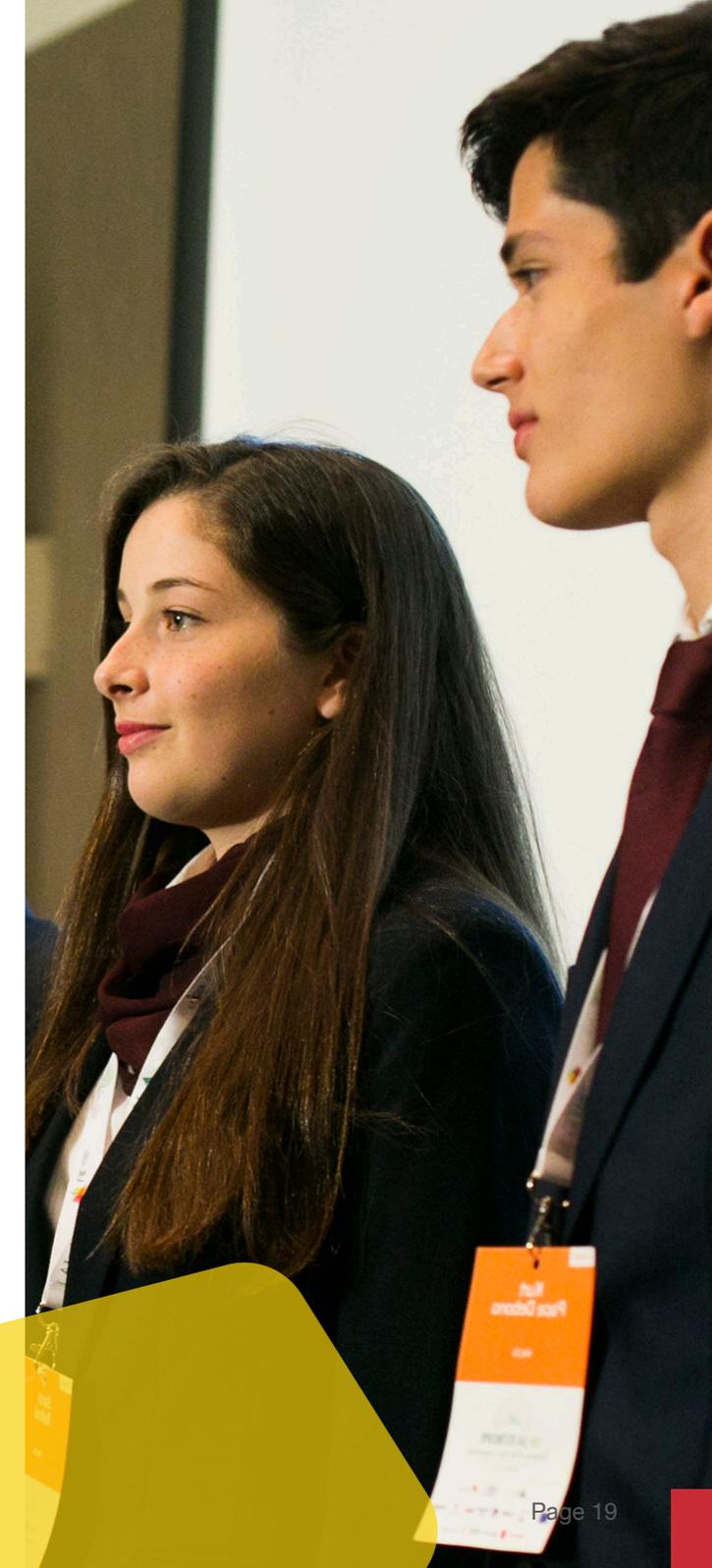
At the national level, the Ministry of Education should be in charge and provide a broad policy platform for the work; a cross-ministerial collaboration and with actors from as many policy domains as possible. They should give clear goals and guidelines on entrepreneurship education priorities and support those guidelines with recommended best practices.

At the same time, respect the autonomy of educational institutions is important. The work should be both from top to bottom as well as from bottom up. School principals and school management must always be involved. The teachers' role to function as facilitators must be acknowledge.

In the schools, entrepreneurship education should be introduced as an approach, a way to stimulate the students to be curious and creative. Parents are normally satisfied with the practical and non-theoretical ways of learning that entrepreneurship education represent, but they need to be informed about the learning process and the assessment. The parents' generation is likely less familiar with the learning-by-doing approach, and they need more information about these principles of teaching.

Entrepreneurship education in primary schools is based on interdisciplinary projects and it is not a specific subject, but learning outcomes must be defined. These learning outcomes should relate to entrepreneurial attitudes and skills such as sense of initiative, risk-taking and creativity. In secondary education, entrepreneurship may be integrated into subjects as a compulsory element or elective elements. It is up to the schools to decide how to integrate the national goals in entrepreneurship and how to work with within the curricula in primary and secondary education.

Every teacher at a school should be somehow involved or informed about entrepreneurship education, and have a common understanding of the work. It is important to engage the local community.



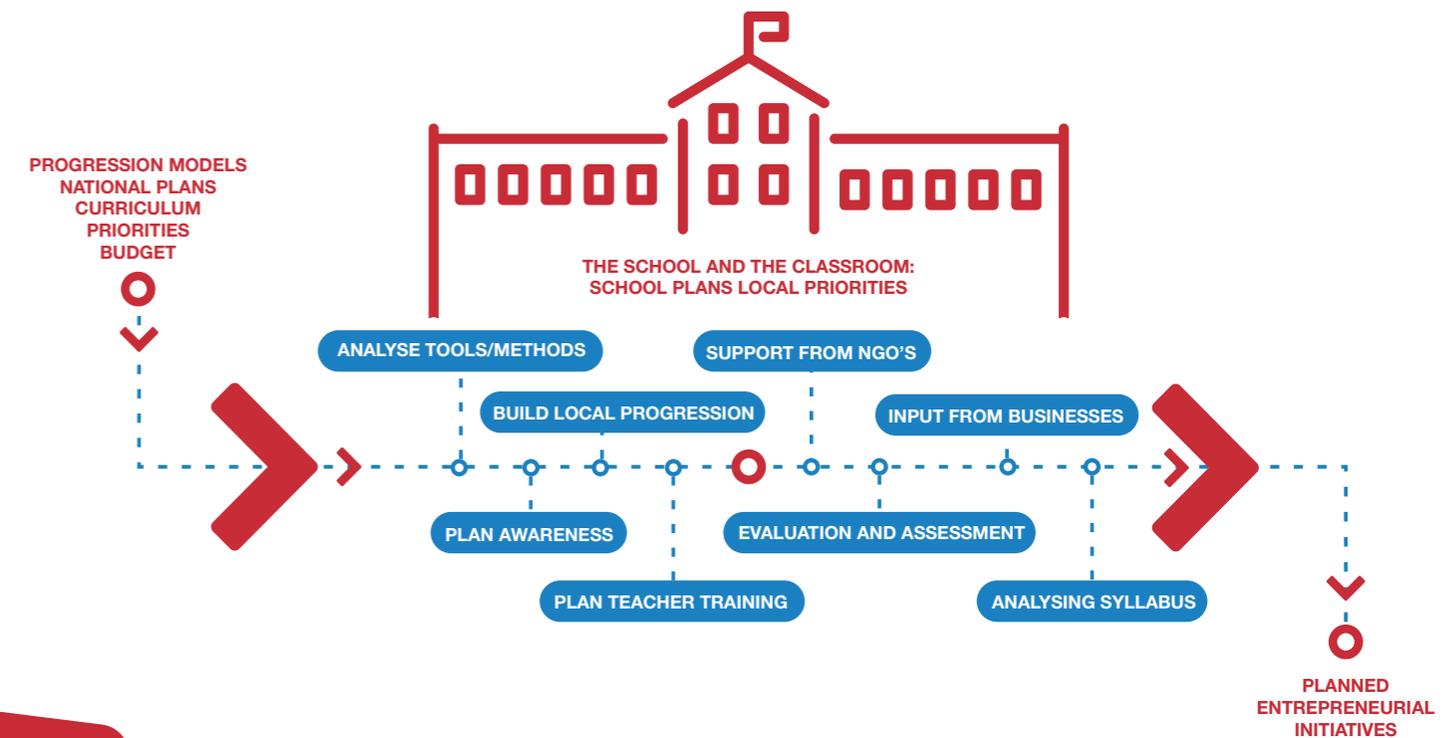
MAPPING A PROGRAM OR METHODS ACCORDING TO THE ENTRECOMP FRAMEWORK AND THE ICEE PROGRESSION MODEL.

Through cooperation with experienced teachers, schools being new to entrepreneurship education, can seek mentoring in this kind of work. The NGO or the source of the tool / method can also help, as most of these tools are mapped with learning outcomes and implementation models. In the TES guide, <http://www.tesguide.eu/> all tools and methods are mapped towards learning outcomes, age level, subjects and activities.

Entrepreneurship education embraces cooperation with people outside the classroom, including entrepreneurs. Broadening schools' horizons requires teachers to feel comfortable in such partnerships and intermediary roles. They also need to understand the benefits and be prepared to work this way. Most teachers are new to entrepreneurship education, and as in any jobs, they need good tools and methods to achieve quality education and to measure the progresses. These tools should be practical and a part of a progression model that primary, secondary and vocational schools can incorporate in their educational programmes. Research

has shown that investing in entrepreneurship education at school requires a different way of teaching. It notably suggests that teachers do not necessarily provide students with the answers, but help them to research and identify the right questions and find the best answers. Entrepreneurship education can easily fit any subject or age level, from the discovery of the circulation of money within a community to the development of a complex business plan. Promoting and facilitating access to high quality and well-tested tools and methods will certainly ease teachers' effort to consider entrepreneurship education, ultimately increasing its impact and uptake. Thousands of effective tools and methods for entrepreneurial learning are already used in European schools every day. Several platforms can help teachers in their search of good ideas and examples.

- <http://www.tesguide.eu>
- <http://innovation-clusters.icee-eu.eu>
- <http://content.ee-hub.eu>



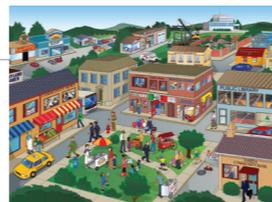
VISUALISING HOW PROGRAMS CAN FIT INTO ENTREPRENEURIAL COMPETENCES

Tools, methods and programs in entrepreneurship education needs to cover the different competence areas, adapted to the educational level and categorised according to competence goals and scope. This is possible to visualise in a competence form / scope grid form. Prior to the implementation of the program, teachers / supervisors / mentors can discuss the emphasis on the various areas of the different competences.

Below is an example of the **JA Our Community**, a programme for primary schools. **In order to understand how this programme can meet both the intentions in the EntreComp framework and support local subject curricula goals, the programme needs to be mapped towards both.**

MAPPING "OUR COMMUNITY", A PROGRAMME FOR PRIMARY SCHOOL TOWARDS ENTRECOMP

	LOWER PRIMARY (1-4)	UPPER PRIMARY (5-7)	MIDDLE (8-10)	UPPER SECONDARY / VOCATIONAL	HIGHER EDUCATION
COMPETENCE GOALS & SCOPE					
IDEAS & OPPORTUNITIES CREATIVITY & INNOVATION	IDEA DEVELOPMENT/CREATIVITY				
	SPOTTING OPPORTUNITIES / FROM IDEA TO ACTION				
	VISIONING / IMAGING A FUTURE				
	VALUING IDEAS				
INTO ACTION ACTION COMPETENCES	WORKING WITH OTHERS				
	CRITICAL THINKING AND PROBLEM-SOLVING				
	COPING WITH UNCERTAINTY AMBIGUITY AND RISK				
	TAKING THE INITIATIVE				
RESOURCES SURROUNDINGS	LEARNING THROUGH EXPERIENCE				
	PLANNING AND MANAGEMENT				
	MOBILISING OTHERS				
	SELF-AWARENESS AND SELF-EFFICIENCY				
	MOTIVATION AND PERSEVERANCE				
	MOBILISING RESOURCES				
FINANCIAL AND ECONOMIC LITERACY					
ETHICAL AND SUSTAINABLE UNDERSTANDING					

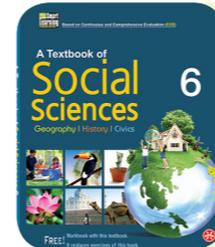


ABOUT "OUR COMMUNITY"

"Our Community" is an interactive classroom programme in which primary students are guided to discover how people and businesses operate within a community. They assess the needs and wants of communities and set about taking responsibility for a community they have designed through voting in a decision-making activity. Learning outcomes:

- Take initiative
- High score
- Innovation and creativity
- Medium score
- Willingness to take risks
- Some relevance
- Self-confidence
- High score
- Financial capability
- Medium score
- Decision-making
- Medium score
- Leadership
- Medium score
- Collaboration and social skills
- High score
- Problem solving
- High score
- Entrepreneurial working methods
- High score

MAPPING "OUR COMMUNITY" TOWARDS THE LOCAL CURRICULA IN SOCIAL SCIENCE



HOW "OUR COMMUNITY" CAN BE INTEGRATED IN DIFFERENT SYLLABUS (EXAMPLE)

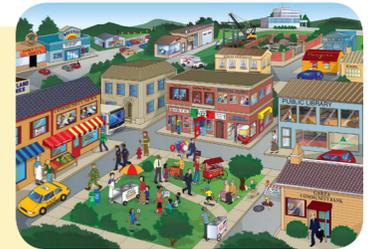
Social science

"The subject of social science allows pupils to develop an understanding of how they can influence the local community, the global community and their own situation in life."

The aims of the training are to enable the students to

- ✔ locate one's home town, local municipality and county on a map
- ✔ converse about variations in types of families and about the relationships and tasks of a family
- ✔ design and practice rules for interacting with others and participate in making democratic decisions in the school community
- ✔ discuss and elaborate on opinions about justice and equality
- ✔ Do simple surveys that require counting and arithmetic, and present the results of the surveys
- ✔ Field work in own communities. Build a community.
- ✔ Role playing with how money moves

JA Our Community is a series of five to 10 lessons. The average time for each lesson is 60 minutes. The materials include lesson plans for the teacher / volunteer and materials for students. The activities explores the independent roles of workers in a community, the work they perform, and how communities work.



The goals and objectives of the programme are:

- ✔ help the students discover a variety for occupations; private and public
- ✔ For students to go through a democratic process when establishing new opportunities in the community
- ✔ discover what elements are typically found in a community;
- ✔ develop the students' awareness of which businesses operate within the community;
- ✔ increase the students' understanding of how government works to support services for the well-being of its citizens;
- ✔ heighten the students' awareness of their community.

SUCCESS FACTORS

Several drivers and hindrances were identified in the research part of the Innovation Cluster on Entrepreneurship Education. (ICEE)

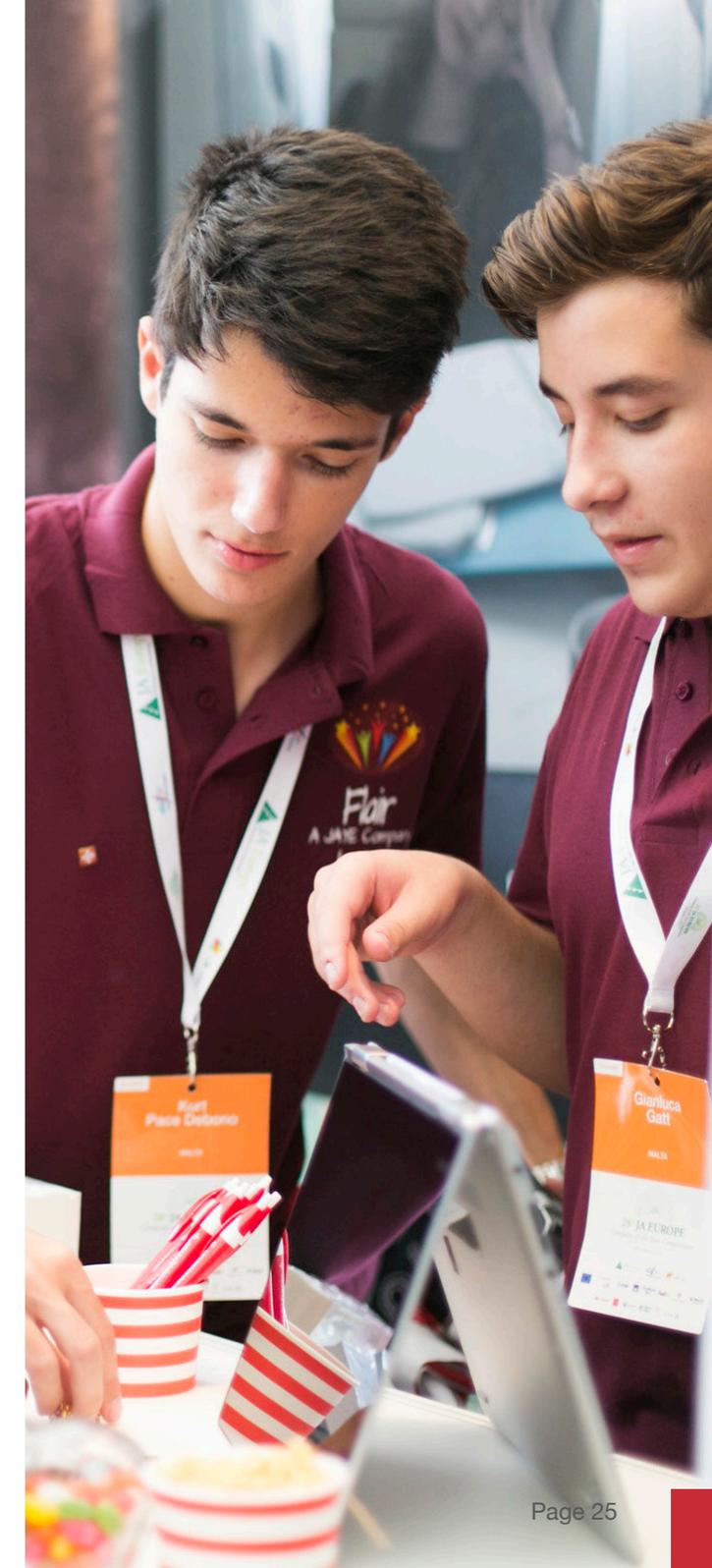
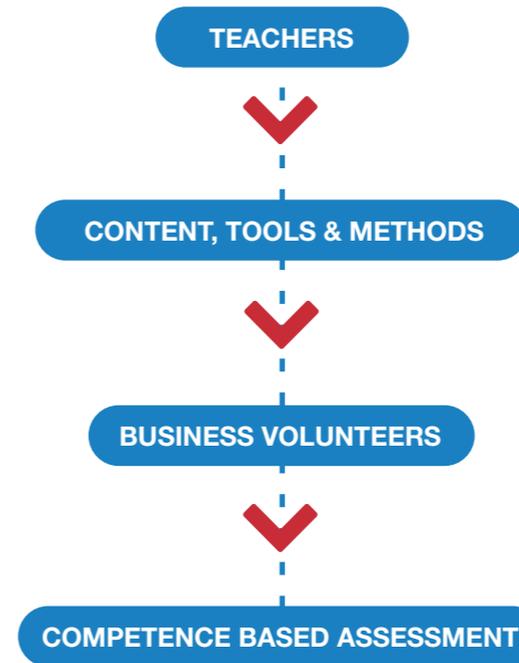
In a survey to teachers, parents and business people in 25 schools in 5 countries, they highlighted these obstacles to increasing uptake of EE in compulsory school: Most teachers have inadequate competence in entrepreneurship education and that there is a lack of good-quality teacher training. Most teachers do not have enough time to engage in entrepreneurship education Institutional cooperation between the formal education system and the labour market is weak, and business people and entrepreneurs are not always available as volunteers for training and support.

They also highlighted these drivers to increasing uptake of entrepreneurship education: The majority of all relevant groups (students, teachers, business people and parents) believe in the importance of entrepreneurship education Entrepreneurship education is embedded in school policies/curricula, and that entrepreneurship education teaching methods are considered effective and academically credible.

Business people/entrepreneurs are seen as competent in entrepreneurship education, and (some of them) want to push for greater access to schools so they can provide training and support. Governments (national, local) have made entrepreneurship education a priority, and many school managers seem prioritize entrepreneurship education.

From the ministries point of view, entrepreneurship education is regarded as an important means for promoting a stronger entrepreneurship culture amongst young people and they can see an impact from entrepreneurship education with regard to the students' generic skills and attitudes. If headmasters are dedicated to entrepreneurship education, the incentives are strong to get it implemented. They report learning outcomes they see for students, such as teamwork or personal growth and they find that many teachers are enthusiastic and that student-teacher relations can improve.

Many teachers in the qualitative interviews in the ICEE research call for more cooperation and knowledge sharing between teachers. Such organized knowledge-sharing can enhance teachers' awareness about why students succeed or are challenged.



TEACHERS

Every teacher at a school should be somehow involved or informed about EE

Developing a positive attitude toward entrepreneurship and encouraging teachers to make their teaching practices more entrepreneurial requires a cultural change. In a school, all teachers should be informed about the initiative, including teachers from different subjects. They should know about the challenges and benefits of entrepreneurship education and gain an understanding of the opportunities in their subject. It is important as well to recognise the teachers already working on it.

A common understanding of entrepreneurship education and entrepreneurial learning as well as a clear commitment from the school management is key to achieve this goal (e.g. entrepreneurship education part of the plans of the school, strong support from the head of the school, etc.). Leadership involvement is necessary. The support from the head teacher, who represents the leadership at the school, is a critical success factor. He/she must be involved, informed and updated about progress, activities and achievements.

A teacher should not go alone into entrepreneurship education. Teachers implementing entrepreneurship education programmes and or using entrepreneurial methods in their practices should not be left alone. They should always have someone to discuss with, to exchange opinions with and be able to seek advice. The school should establish a network not only within the school but also outside the school, with other teachers or schools, at regional, national and international level.

Engage the local community, start with the parents. Communicate with parents, as they need to be informed. Bring them on board as mentors for the students, for instance. The same with the local community, either if it is the school reaching out (trade fairs, events, etc.) or using the local community as a resource of knowledge and support.

Experienced teachers can lead the teacher training. The lack of skills of teachers is still hindering the uptake of entrepreneurship education. The training should use “learning by doing methodology” and, when in training, teachers should try out the programme

and/or activities themselves. This helps them understand what it means for the students to be involved in entrepreneurship education and it challenges teachers’ own comfort zone. The focus should be on the methodology. As long as the school has experienced teachers, these teachers should train newcomers and other teachers in the school wanting to move into entrepreneurship.

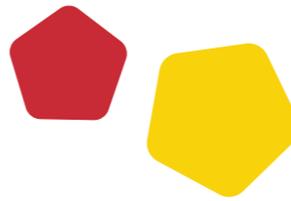
Improve the school environment and generate awareness. When moving into entrepreneurship, the school should have some flexibility in the school time-schedule and dedicate a couple of hours for the teachers to work together. As the school expands the activities, entrepreneurship education should be more integrated into the activities and the school should have a progressive plan. Sometimes changing the structure of the school rooms as well as having more flexible areas (open spaces) where the students can work would help. Providing good role models and alumni examples can motivate students as well as teachers. It is also important to communicate the impact to all stakeholders.

Initial Teacher training is particularly important to fulfil the intentions for entrepreneurship in primary, lower and upper secondary education. Being an entrepreneurial teacher will require significant changes in the way teachers themselves are educated. Core skills and values linked to entrepreneurship have to be a priority in initial teacher education programmes. As a student in initial teacher training, they should all learn about entrepreneurship the entrepreneurial way: Try it and experience the behaviours that they should cultivate with students.

Continuous Professional Development Developing the competences of school leaders and teaching staff – including aspiring new teachers and those who have been in the profession for a long time – must be a priority. High quality programmes for the continuing professional development of existing teachers are needed to support entrepreneurial teachers, and to make sure that those who did not have the chance to experience entrepreneurship education during their initial training can catch up with the latest developments.



CONTENT, TOOLS AND METHODS



Entrepreneurship education sits well alongside any subject or age level. It should be embedded across all areas of the curriculum and at all education levels. The entrepreneurship education programmes or tools available for teachers should be easy to implement as well as promote an entrepreneurial mind-set and life skills students need to succeed in a global economy. They should be accompanied by quality assurance instruments that would help teachers evaluate the success of the programme and students' learning outcomes.

All content and tools should be focused on learning-by-doing (experiential learning, project work, etc.) when it comes to

entrepreneurship education. Experiences like the mini-company should be available for all students during their formal studies.

Entrepreneurship education programmes delivered in the classroom should be practical and linked to the world of work in order to better prepare students for the challenges they will be facing once they finalise their studies. Students need strong role models and the business community can offer volunteers able to play that role. Only in this way students can learn first-hand about the different careers opportunities, understand what it is like to be an entrepreneur and/or employee and become better prepared for their life after leaving school.



The digital dimension also plays a key role in entrepreneurship education. The use of blended learning (combining face-to-face and online) can help to increase student motivation, learning's efficacy and help to simulate real-life situations where learners improve their skills and their problem-solving abilities.

A space where teachers can access new tools and programmes, share their experience and learn from their peers from across Europe is highly recommended. All the good practices identified by ICEE cluster on Content and Tools as well as the ones put forward by ICEE Innovation Cluster on Teacher Training can be of high value for educators across Europe.

<http://innovation-clusters.icee-eu.eu/index.php/ICEE/Content-Tools>

Promoting and facilitating access to high quality and well-tested tools and methods can make it easy for teachers to move into entrepreneurship education, increase its impact and uptake.. The Entrepreneurial School platform is a content bank and a community where people can share good practice, review content/tools or simply do a search. It also includes assessment tools. www.tesguide.eu



BUSINESS INVOLVEMENT

The role the business community can and does play in cultivating entrepreneurship is fundamental. There is great willingness on the part of the private sector to contribute, and there is an increasing consensus among researchers that letting students interact with people outside school or university is a powerful way to develop entrepreneurial competences.

A thriving entrepreneurship ecosystem requires collaboration and multi-stakeholder partnerships, particularly between academia and business. These links between schools and business are important, not only in order to ensure that the curriculum is relevant, but also in providing role models, mentorship and expertise.

Volunteering from the local community and the business sector helps young people be better prepared to enter the working place.

A volunteer can also add value in important parts of the curriculum. At the same time, volunteering can develop a wide range of positive attributes amongst employees, such as which enthusiasm, teamwork and a greater sense of self-worth.

A survey conducted by PWC late 2016, they interviewed 1,379 CEOs in 79 countries.

(“The talent challenge: Harnessing the power of human skills in the machine age”). They interviewed the CEOs about importance of different skills and difficulties recruiting people with those skills. What we can call “entrepreneurial skills” came on top of both needs and wants: Problem-solving, Leadership, Adaptability, Creativity and innovation. The leaders in the survey were looking for specific skills that are difficult to find and keep – nurturing them will become a priority. 77% of the CEOs find it difficult to get the creativity and innovation skills they need.

(Illustration from the PWC survey)

Figure 4: Soft skills are in demand – but hard to find

Q: In addition to technical business expertise, how important are the following skills to your organisation?
Q: How difficult, if at all, is it for your organisation to recruit people with these skills or characteristic?

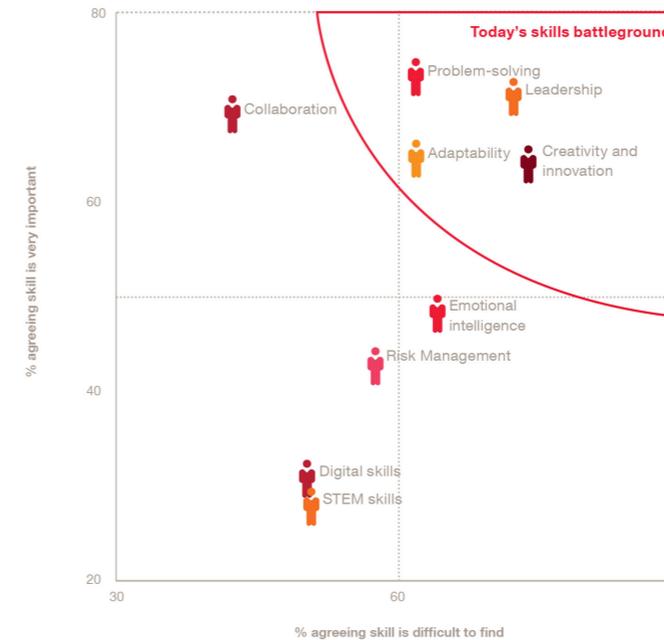


Figure 5: Wanted: more technology and more people

Q: Given the business environment you're in, which one of the following do you most want to strengthen in order to capitalise on new opportunities? Top five priorities shown.



COMPETENCE BASED ASSESSMENT

Assessment of the outcomes of entrepreneurship education is essential to determine the degree to which goals have been reached.

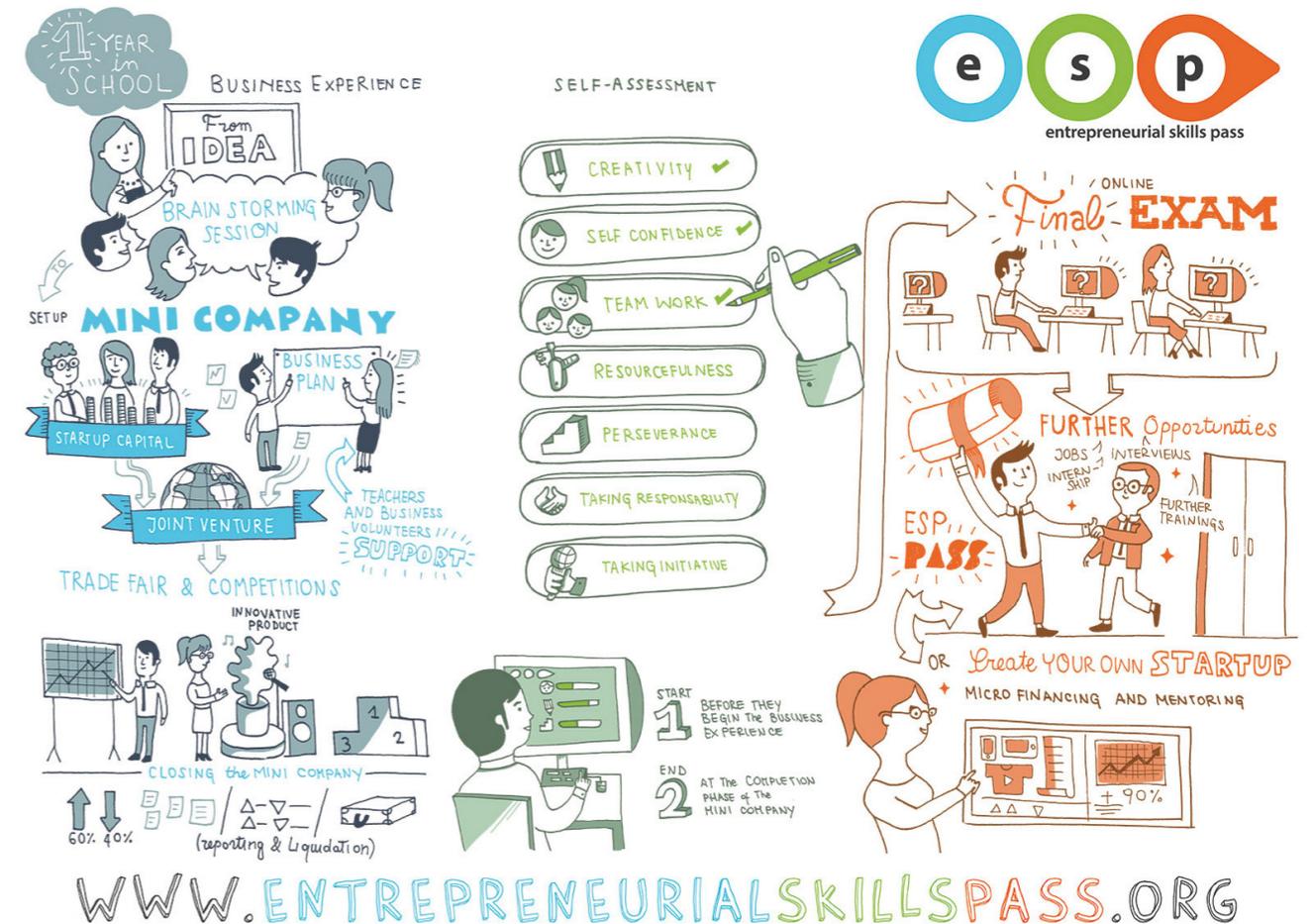
Entrepreneurship education includes a variety of topics, tools and methods. Given its complexity and the absence of a harmonised approach in Europe, there is currently a lack of understanding of its effectiveness. However assessing entrepreneurship education's learning outcomes is essential to determining the degree to which entrepreneurial skills, attitude and knowledge have been developed in the classroom. Teachers and practitioners also need to collect information about how they influence their students in the short term in order to be able to adjust and improve their teaching tools and methods. Since entrepreneurship is a transversal competence, mixing business competences with soft skills, assessment tools need to be sufficiently detailed in order to capture differences in a large variety of teaching approaches.

The Entrepreneurial Skills Pass developed by several European partners is an international qualification that certifies that students (15-19 years old) have had a real entrepreneurship experience and

have gained the necessary knowledge, competences and skills to start a venture of their own or be successfully employed. The Entrepreneurial Skills Pass includes a full-year in-school mini-company experience; an assessment tool where students involved in the entrepreneurial experience reflect on their own entrepreneurial competences as they progress through the year; an examination of business, economics and financial knowledge.

For more information on the different assessment tools and recommendations, go to the ICEE web site:

<http://innovation-clusters.icee-eu.eu/ICEE/Assessment>





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