

# Apprenticeship model for the acquisition of entrepreneurial mindset and competences

## Table of contents

<b>1. Learning entrepreneurship as a transversal competence .....</b>	<b>3</b>
<b>1.1/ The need to foster the development of entrepreneurship learning .....</b>	<b>3</b>
a) French context: a cultural issue .....	3
b) European context: job security prevails over risk.....	4
<b>1.2/ Entrecomp framework as a response to entrepreneurship learning development .....</b>	<b>4</b>
<b>2. Gamification in the entrepreneurial learning process.....</b>	<b>5</b>
<b>2.1/ Gamification methodology applied to learning activity .....</b>	<b>5</b>
a) Gamification vs game-based learning .....	5
b) Fun as driving force .....	6
c) Motivation in gamification .....	6
d) Progression loops and participants profiles.....	7
<b>2.2/ Gamification activities in entrepreneurship learning .....</b>	<b>8</b>
a) Identified competences in Entrecomp framework applied to gamification methodology ....	8
b) Entrepreneurial attitude and innovation .....	9
<b>3. Implementation of App.Mod.E project .....</b>	<b>10</b>
<b>3.1/ Summaries of different type of apprenticeship system and entrepreneurship learning in the partnership countries.....</b>	<b>10</b>
a) Romania.....	10
b) Italy .....	10
c) Bulgaria.....	10
d) Greece.....	11
e) Spain .....	11
<b>3.2/Mentorship and gamification (good practices).....</b>	<b>11</b>
a) Creating a positive, highly participative environment.....	11

- b) The need for autonomy, skill and affiliation ..... 12
- c) Good practices.....Σφάλμα! Δεν έχει οριστεί σελιδοδείκτης.



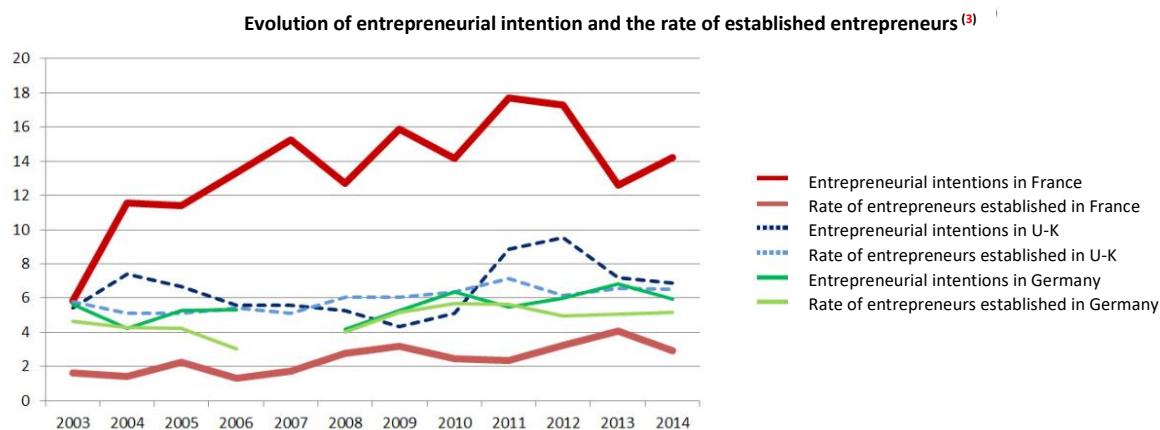
## 1. Learning entrepreneurship as a transversal competence

The development of the entrepreneurial capacity of European citizens and organisations has been one of the key policy objectives for the EU and Member States for many years. The App.mod.E project aims to promote apprenticeship training and the acquisition of professional skills, particularly by developing entrepreneurial skills. Learning to entrepreneurial mindset has nowadays become a priority at European level in order to facilitate the social integration of young people or disadvantaged persons.

### 1.1/ The need to foster the development of entrepreneurship learning

#### a) French context: a cultural issue

In France, 90% of the working population is employed, but several studies show the growing awareness of young people in starting their own businesses. The government has created numerous structures to encourage these initiatives and allow training in business creation. However, despite these development efforts, the cultural deficit on entrepreneurship is notable in France. That's why, in addition to setting up training structures, it is necessary that entrepreneurship culture be taught upstream.



(1) Enquête TMO pour l'AFE, *Indice entrepreneurial français*, 2016.

(2) Sondage IPSOS-Le Monde en 2014.

(3) Source : *Global Entrepreneurship Monitor*, 2016.

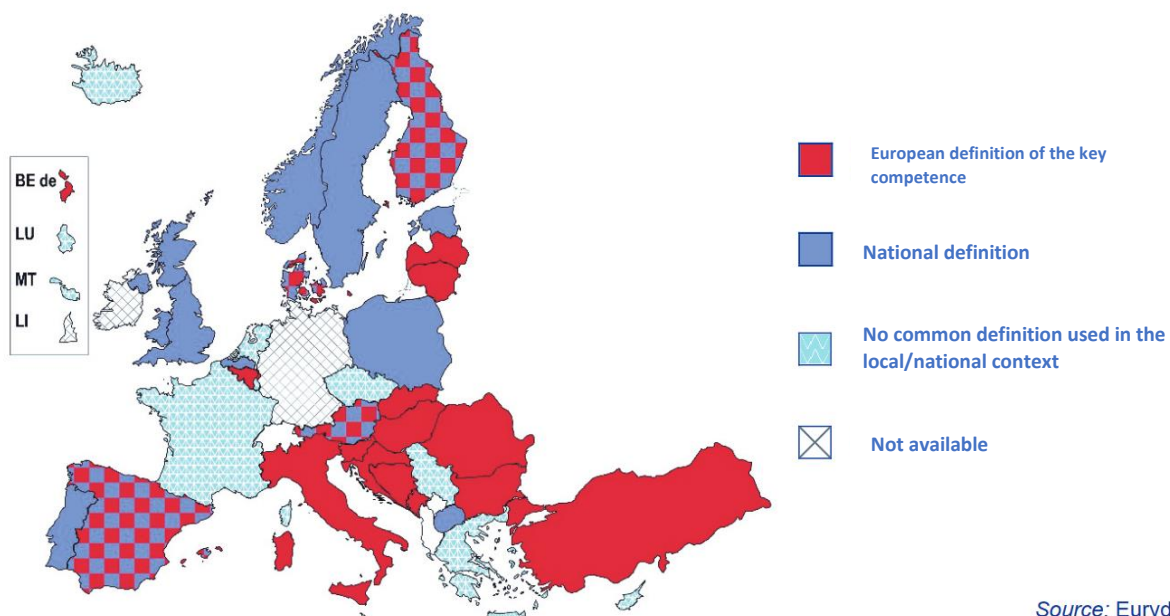
Figure 1 source: *Direction générale des entreprises*

In France, nearly 550,000 businesses were created in 2012, slightly more than in 2011. Only 15% of French people have set up, take over or plan to do so, the lowest proportion in the EU (23% on average). Reasons given? Entrepreneurship appears today, with the crisis, riskier and less stable than employee status. The risk of bankruptcy, irregular income, but especially administrative and financial constraints are the main reasons expressed.

## b) European context: job security prevails over risk

Targeting learning outcomes is rarely defined as a priority in strategies. Few strategies present detailed approaches to monitoring progress and impact. Few countries provide specific information on the monitoring approach adopted; some general strategies do not specifically link to results or impacts related to entrepreneurship education and often do not link to the policy development cycle for entrepreneurship education. Entrepreneurship education is increasingly recognized as a transdisciplinary objective in primary education but is more commonly taught in upper secondary education using a variety of approaches. More than half of the countries have very few or no guidelines on teaching methods. Very few countries include practical entrepreneurship experiences as a regular and mandatory part of the programme.

**Figure 2 : Entrepreneurship training definitions used, shared and agreed by mostly of the stakeholders at a central level,2014/2015**



Source: Eurydice.

The European Commission has published a new Eurobarometer on "Entrepreneurship in Europe and beyond". It looks at Europeans' views on entrepreneurship (entrepreneurial education, risk-taking, start-ups, obstacles to entrepreneurship and business failures), and compares them also with those of other countries, such as the United States, China, India and Russia. Thus, according to the study, the proportion of working people willing to undertake rose from 45% in 2009 (against 49% preferring the employee situation) to 37% in 2012 (against 58%). In 19 out of 27 EU Member States, the majority of respondents prefer to be employed rather than self-employed.

### 1.2/ Entrecomp framework as a response to entrepreneurship learning development

Entrecomp defines entrepreneurship as transversal competence, which applies to all spheres of life: from nurturing personal development, to actively participating in society. The Entrecomp conceptual model is made up of two main dimensions: the 3 competences area (into action, ideas and opportunities, resources) that directly mirror the definition of entrepreneurship as the ability to turn ideas into action that generate value for someone other than oneself ; and the 15 competences that

together, make up building blocks of the entrepreneurship as a competence for all citizens. The 3 competence areas 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.

App.Mod.E project applies this framework to respond to the European need of developing entrepreneurship. We studied previously the European barriers of undertaking: risky investment, economic depression, administrative barriers, cultural issue...Entrecomp aims to develop entrepreneurship competences and mindset for purposes of breaking down these brakes and optimize the potentially entrepreneur conditions.

**2. Gamification in the entrepreneurial learning process**



Figure 3 : Gamification word cloud source source womeninbiznetwork.com

Gamification is the process of taking something that already exists – a website, an enterprise application, an online community – and integrating game mechanics into it to motivate participation, engagement, and loyalty. Gamification trend is growing fast and spread out in every sector: brands, businesses, trainings...There is not only one way to use gamification methodology in learning process.

**2.1/ Gamification methodology applied to learning activity**

**a) Gamification vs game-based learning**

Learning Based Games	Gamification
Games have defined rules & objectives.	May just be a collection of tasks with points or some form of reward.
There is a possibility of losing.	Losing may or may not be possible because the point is to motivate people to take some action and do something.
Sometimes just playing the game is intrinsically rewarding.	Being intrinsically rewarding is optional.
Games can be hard and expensive to build.	Gamification is usually easier and cheaper.
Content is usually morphed to fit the story and scenes of the game.	Usually game like features are added without making too many changes to your content.

Source: <http://www.gamification.org/education>

First of all, we have to make the difference between gamification and game-based learning. Gamification is the idea of adding game elements to a nongame situation. In contrast, game-based learning relates to use games to enhance the learning experience. The main difference between these two kind of learning approaches is the first uses fun as a teaching mean while the second as a result.

b) Fun as driving force

## Engagement Loop 2

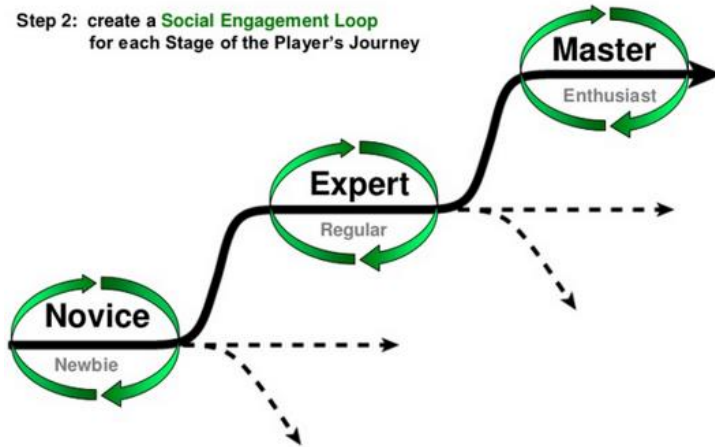


Figure 5 source: Amy Jo Kim Conference in Seattle 2013

to make its activities easier to learn comparing to traditional learning methods that require more rigorousness. Through this methodology students have to understand that they work for themselves: there is no real competition only collaborative learning that allows each participant to progress. (cf 2.1.d Progression loops and participants profile)

By gamifying its learning approach, App.Mod.E project will bring some fun in the classroom. It's a key point to create a highly participatory environment and motivate students to get involved actively in the project. The trainers have to maintain this working environment to support students and help them to go through the steps of training. Learners have to get involved into a "the more they learn the more they want to learn" reflection. That's why App.Mod.E have to choose gamification to provide its training activities. Fun in gamification allows

c) Motivation in gamification

### Types of Motivators

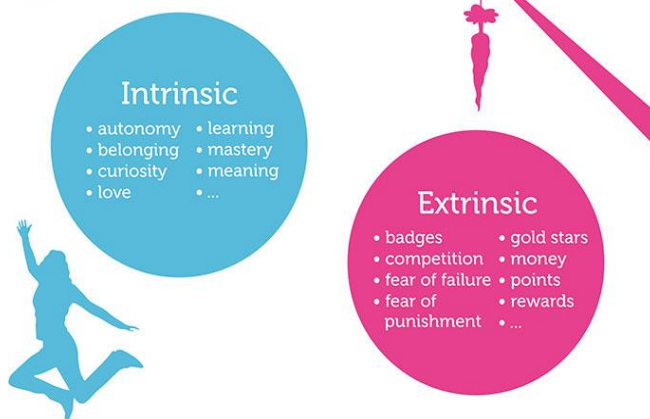


Figure 6:source Interaction-design.org

By gamifying his training, the trainer expects the learner to be taken with an addictive desire to form. He would be inspired to learn by his thirst to succeed in new challenges. The gamification allows the learner to be caught in the game and thus form almost effortlessly.

But the pleasure of learning is only possible if the learner wants to learn. He must be convinced that this training can bring him new skills. The motivation of the learner is also very important: the sense of personal effectiveness. The more the sense of know-how grows, the more self-confidence increases and the more we dare the more

we succeed. Two types of motivation are distinguished: intrinsic motivation and extrinsic motivation.

Intrinsic motivation can be defined as behaviour driven by internal rewards. In other words, the motivation to engage in behaviour comes from within the individual because it is intrinsically gratifying.



“Intrinsic motivation occurs when we act without obvious external rewards. We simply like an activity or see it as an opportunity to explore, learn, and update our potential. » (Coon et Mitterer,2010). Experts also suggest that people are more creative and involved when they are intrinsically motivated

Extrinsic motivation can be defined as the realization of an action by an individual not for the inherent pleasure of this practice but because he perceives through it, opportunities to achieve something else that he desires, get a reward, avoid a punishment etc...

Extrinsic motivation in a skill learning by a gamification method, although necessary, is not fundamental in the long term. Rather, it corresponds to traditional educational practices using the binomial notation/sanction. In a learning methodology based on cooperation and mutual assistance chosen for the App.Mod.E project, it will have an importance on the competitive aspect of learning.

The rewards, badges, which are tangible or not, have an effect on the short term on the motivation. Studies have shown that they devalue the activity itself, and that for the participants the reward loses its appeal and is no longer a source of motivation.

#### d) Progression loops and participants profiles





Players	What are their personalities?	How do you engage them?
 <b>Achievers</b>	Like to ACT ON THE WORLD. They set goals and play to win.	Offer points or badges for progressing through levels to help them feel they've met their goals.
 <b>Socializers</b>	Like to INTERACT WITH OTHER PLAYERS. They chat, share and empathize with others.	Give them the opportunity to socialize, collaborate and discuss.
 <b>Explorers</b>	Like to INTERACT WITH THE WORLD. They love discovery and learning.	Let them give ratings or vote content up or down to share their views about what they've learned.
 <b>Killers</b>	Like to ACT ON OTHER PLAYERS. They like domination and using the tools of the game to win.	Offer places to share their reputation as a fierce competitor (leaderboards, rankings) and feel superior.

Figure 7: Gamification player table

If the motivation is strong enough, user will take an action or to overcome a challenge, else the loop dies and another motivator arises to provide the same effect. A well designed gamified system will keep this process going so that each piece reinforces other pieces. Instead of getting the players to move one big leap which seems overwhelming, break the process into multiple smaller progressive steps. Seeing the accomplishment through the action becomes a motivator. Step by step, project learning

activities have to be adapted to participants level to avoid a lack of motivation and keep them into a positive attitude. App.Mode.E project should take into consideration the profile of each participants to reach group goals. According to Richard Bartle, a writer, professor and game researcher, they're 4 different type of players:

-**Achievers** are all about points and status. They want to be able to show their friends how they are progressing. They like to collect badges and put them on display. This is the type of person who responds particularly well to incentive schemes such as Air Miles, where every additional mile collected is an achievement in its own right. Bartle estimates that roughly 10% of people are players of the Achiever type. Chances are you will know several people of this sort; someone who boasts he used a quicker route to get to a destination than his friend did is an Achiever type

-**Explorers** want to see new things and discover new secrets. They're not as bothered about points or prizes. For them, discovery is the prize. Explorers are fine with repetitive tasks as long as they eventually “unlock” a new area of the game, or they deliver some kind of “Easter Egg” (an Easter Egg is a small bonus within a game – sometimes it's as simple as a little joke, whereas in other cases it might be a full extra video sequence regarding what has been accomplished). Explorers really enjoy the surprise that's

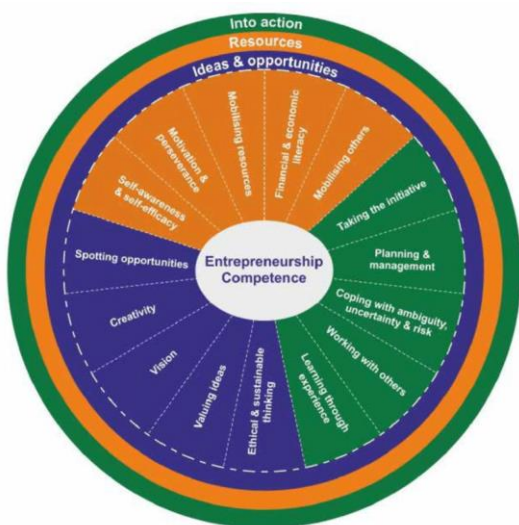
possible in a game, and around 10% of players fit into this category. These are the players who will feel at walls in a game in order to access a secret passage; their satisfaction on doing so is what makes them tick, not bragging to their friends about their discovery. Build this sort of feature into your gamification design—and you’ll be speaking their language

-The vast majority of players are **Socializers**. That’s almost 80% of people who play games. Socializers experience fun in their games through their interaction with other players. Socializers are happy to collaborate in order to achieve bigger and better things than they could on their own. Games, such as Farmville (Facebook’s largest game), appeal to the Socializer. For instance, Socializers are happy to water someone else’s farm in exchange for new crops for their own farm. For example, office workers who leave at the end of the day and remind each other to water each other’s’ crops may be friends... or they may just be acquaintances. Whatever the deal is, the point with Socializers is that joining forces makes sense to them.

-The **Killer** denotes an ominous-sounding type, but one that is nonetheless valid. Killers are similar to Achievers in the way that they get a thrill from gaining points and winning status too. What sets them apart from Achievers is that the Killers want to see other people lose. They’re highly competitive and winning is what motivates them. They want to be the best at the game—and it should come as little surprise that the only way for that to be true is if they beat everyone else. You may expect this personality type to be common, but Bartle’s research suggests that only a small number of players are Killers – less than 1% to be precise

## 2.2/ Gamification activities in entrepreneurship learning

### a) Identified competences in Entrecomp framework applied to gamification methodology



EntreComp is a reference framework for entrepreneurship as a transversal competence that applies to all spheres of life, across levels of education, sectors, domains and purposes of application. As a reference framework, EntreComp is a tool that bridges the world of education and work, by establishing a common ground for initiatives dealing with the promotion (e.g. through education and training), (self)-assessment and recognition of entrepreneurship as a competence.

The stakeholders involved in the review of the Entrecomp framework (including the progression model and learning outcomes) regard it as a very comprehensive and encompassing tool (3 competence areas, 15 competences, 15 descriptors, 8 proficiency levels and 448 learning outcomes). The acknowledge

that Entrecomp Framework (i) reflects the complexity of the entrepreneurship competence domain, which touches upon several aspects of our everyday lives and (ii) it aims to serve as a multi-purpose



reference guide. In practice, one could only be interested in the competences and their descriptions (i.e. Summary Matrix), and might find it useful to have an in-depth view of the learning outcomes of a specific proficiency level. Therefore, the various levels of EntreComp reference framework permit a jigsaw adapted to the interests of the user.

In any case, the order in which the competences of EntreComp are listed does not imply a sequence in the acquisition process or a hierarchy: no one 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. EntreComp establishes three competence areas (i.e. ideas and opportunities; resources; into action) that are tightly intertwined: entrepreneurship as a competence stands on all three of these together. There is no entrepreneurship competence if one of these competence areas is not developed at all. The 15 competences are in turn interrelated and interconnected and should be treated as parts of a whole. Although we are not suggesting that the learner should acquire the highest level of proficiency in all 15 competences, nor shall have the same proficiency across all the competences, the framework implies that a transversal entrepreneurship competence is made up of 15 building blocks.

## b) Entrepreneurial attitude and innovation

Entrepreneurship competence is developed in action, by creating value as individuals as well as collective entities.

Progression in entrepreneurial learning is made up of two aspects:

1. Developing increasing autonomy and responsibility in acting upon ideas and opportunities to create value;
2. Developing the capacity to generate value from simple, predictable contexts up to complex, highly dynamic contexts.

The EntreComp Progression Model does not lay down a linear sequence of steps that every citizen is expected to take to become proficiently entrepreneurial or to start-up a venture. It rather shows a potential for pushing the boundaries of individual and collective entrepreneurial competences forward, to achieve greater and greater impact through value creating endeavors.

The EntreComp Progression Model provides a proficiency reference that covers value creation achieved through external support up to transformative value creation. It consists of four main levels: Foundation, Intermediate, Advanced and Expert. Each of such levels is in turn split into two sub-levels, as illustrated in Table 2.

At Foundation level entrepreneurial value is created thanks to external support, at Intermediate level entrepreneurial value is created with increasing autonomy, at Advanced level responsibility to transform ideas into action is developed. At Expert level, the value created is expected to be impactful in its reference domain. The level of proficiency is a lens through which the reader shall look at the Learning Outcomes. For instance, the first learning outcome of the eighth proficiency level is the following: I can detect and make use of windows of opportunities. Although windows of opportunities can be exploited at lower level, they are under the spotlight in level eight since it is at this level that making use of a window of opportunity can lead to high growth, breakthrough innovation or radical transformation.

It shall be noted that entrepreneurial value creation and entrepreneurial learning take place in any sphere of life. The EntreComp Progression Model does not refer to any specific setting, especially not to formal education settings. By focusing on the development of competences through the actual creation of entrepreneurial value the progression model breaks the boundary between the sphere of education, work or civic engagement. In this respect, the EntreComp Progression Model is transversal to formal, non-formal and informal learning contexts.

### 3. Implementation of App.Mod.E project

#### 3.1/ Summaries of different type of apprenticeship system and entrepreneurship learning in the partnership countries

##### a) Romania

*In Romania, we can find trainings dedicated to entrepreneurship skills development, especially in the private sector, but the public education sector hasn't yet implement a clear program addressed to youngsters and students. However, in the last 2 years, we can observe a positive evolution and a set of new initiatives promising good results and the evolution of entrepreneurial competences in Romania. Initiatives such as START UP NATION and START UP PLUS offered a good opportunity to finance startups and help them to develop. The high media coverage helped to increase the visibility of entrepreneurship in Romania and attracted public attention towards developing entrepreneurship in Romania. The apprenticeship system needs more attention, new legislation simplifying the process and correlation between VET public education curriculum/teaching methods and the needs of the provide sector/companies.*

##### b) Italy

*In Italy, there are three main apprenticeship categories:*

*-Type1: apprenticeship for vocational qualification and diploma minimum duration contract is six months to a maximum of 3 or 4 years.*

*-Type 2: occupation-oriented apprenticeship, cannot exceed 3 years, or 5 years for craft occupational profiles*

*-Type 3: higher training/education and research apprenticeship, it usually may not exceed the duration of the school/university-based programme.*

*Given that Type 1 is not a distinct type of VET programme, there are no specific apprenticeship curricula. There are gaps between VET/school training standards and curricula, on the one hand, and working contents relevant for the company on the other hand. There might also be misalignment between the qualification, diploma or certificate to be achieved and the apprenticeship occupational/contractual qualification of the apprentice.*

##### c) Bulgaria

*In Bulgaria, the apprenticeship system is not well-developed. Current legislation is not encouraging enough the companies to have more active participation in the process. Though apprenticeship is part of the professional high schools' program students not well prepared for the actual business needs. The*

development of the dual educational system is a good start but is currently financed under the Bulgarian-Swiss cooperation programme and after the end of the project it is unclear whether the created partnerships will remain. Entrepreneurial education is included in the curriculum at a very beginning of students' education, however more efforts are needed for its introduction in high schools where just specialized one are providing education in the field. The NGO sector is more active and has developed some good practices on entrepreneurial education. However most of the initiatives are project-based and run thanks to external financial support and often they do not sustain.

#### d) Greece

Apprenticeship programmes in Greece are mostly run by OAED, the Greek public employment service. Their courses last two school years (four semesters). They admit students aged 16 to 23 who have completed at least one class of the upper secondary school. In addition, the EPAL 'apprenticeship class' is an option for those who have completed the three-year upper secondary education programmes at EPAL schools (post-secondary school). They belong to the non-formal system, and they serve to avoid early specialization of students by helping them choose field and profession at a more mature stage and allows a possible professional redefinition for school-based EPAL graduates. The paid practical work takes place four or five days a week in public or private sector enterprises on terms specified in the relevant apprenticeship contract. Participating enterprises are subsidised amount paid to the trainee student is 75% of the minimum wage set by the national general collective labour agreement (EGSSE)(in both upper secondary and post-secondary level).

#### e) Spain

The learning and transversal competence development process, which includes developing essential creative entrepreneurial skills at Politeknika Txorierrri, has changed over the past decade, thanks to institutional support for teachers in innovation, specific entrepreneurial ventures Ikasenpresa, Urratsbat and methodological approaches such as PBL and ETHAZI 'an integral learning model based on creative challenges, both in technical projects (core, sub and inter-modular challenges). Access to innovation in (international) project participation has also contributed a lot.

All of the above in coordination with practical WBL (apprenticeship opportunities) foster ever greater competence development which apart from technical mastery includes:

- autonomy and responsibility in learning (initiative, motivation, drive, engagement)
- development of personal competences and attitudes (commitment, resilience, flexibility, openness to risk...)
- experience of collaborative methods and project development (process design and implementation, critical thinking and analysis, results focus, problem solving, environmental awareness, corporate responsibility, evaluation, continuous improvement, excellence...)
- interpersonal competence (team work, communication, conflict resolution...)

### 3.2/Mentorship and gamification

#### a) Creating a positive, highly participative environment

Many organisations implement formal mentoring programmes to engaging employees or accelerating learning process. In the App.Mod.E project the relation between the mentor and the mentee is important. Relationships is the core of the project success: most mentor-mentee relationships require a defined goal that the mentee wants to achieve. More the objectives are clear more the mentee will

be motivated to reach these goals. It's also have an impact on the learner motivation: if he knows the path to acquire an identified competence or knowledge, he will be more cooperating and participate to the high positive collaborating environment that App.Mod.E wants to create.

The need of a positive environment is essential to increase gradually the difficulty in the learning process.

## b) The need for autonomy, skill and affiliation

Autonomy is defined as the feeling of being at the origin of its actions. But this definition doesn't exclude the need to be guided. Autonomy implies having the freedom to make your own choices. Many studies show that autonomy is the most fundamental need to improve intrinsic motivation. The apprenticeship model of App.Mod.E project have to take it in account: mentee have to be guided not forced to learn entrepreneurial skill. Identified as a transversal competence, entrepreneurship have to change learner behavior.

Satisfaction of autonomy need will engage the learner in the desire to master his field of competence more and more. By improving his skills, he greatly improves pleasure in learning. When he's totally focused on its objective, he will make all the effort needed to improve himself as effort become a real pleasure. This is called the flow: a state where we are completely absorbed in our tasks. In practice, encouraging the flow can be achieve through measures as simple as clarifying its objectives and regularly receiving feedback on its performance.

The need for affiliation or social affiliation corresponds to the need to be connected to others, and to share feelings of sympathy and empathy. The two needs that we have just seen would be insufficient to provoke intrinsic motivation. As social creatures, we need social contact, and we seek it naturally through encounters or interactions with one or more people.