



HANDBOOK

Entrepreneurship
The Key To Success



ENTREPRENEURSHIP
THE KEY TO SUCCESS



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1 Introduction

1.1 Information and background of the project



At the beginning of the new millennium, humanity has crossed the threshold of the so-called Fourth Industrial Revolution (Industry 4.0 or 4IR), which forever changed and continues to change the way we live, work and grow. Its strong influence can be seen in all areas, especially in the social, educational and business sectors.

According to the World Economic Forum's Future of Jobs Report^[1], in the light of the Fourth Industrial Revolution, the global labour market is undergoing a significant transformation at all levels, both in terms of entire industries and employees' skill set. While some occupations are slowly becoming obsolete, others are thriving. Regardless of the professional sphere, the workplaces will dramatically change in the next decades and both employers and employees should be prepared to meet those changes. Based on research and analysis performed by the World Economic Forum, we can conclude with certainty that in the next ten years, more than 1 billion people (approx. 35% of the global workforce) will need re-skilling or up-skilling in order to be effective and competitive on the modern labour market.

Alongside the rapid advancements and fundamental discoveries that the Fourth Industrial Revolution makes in the fields of artificial intelligence, robotics, augmented reality and other modern technologies, we also witness the phenomenon of the "soft skills gap/shortage" among the employees in various sectors. So why do "soft skills" matter? According to the University of Law, studies suggested that soft skills determine as much as 80-85% of achievements in an individual's career. The skills and competences needed for an individual to perform and grow in today's labour market differ substantially from ten or even five years ago. Nowadays, having high-profile diplomas and certificates from formal education isn't the only component of the formula for success. Soft skills, such as leadership, communication, teamwork, complex problem solving, critical thinking, creativity, people management, coordination with others, information analysis, flexibility and self-control, is highly sought by potential employers and are vital in what makes an employee stand out as valuable and desirable.

[1] The Future of Jobs Report, 2016, http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf

[2] <https://www.law.ac.uk/resources/blog/the-importance-of-developing-soft-skills/>



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The abovementioned facts and tendencies paved the way for creating the “Entrepreneurship is the key to success” project. It inspired organizations from eight EU countries (Denmark, Spain, Portugal, Italy, Poland, Bulgaria, Cyprus and Greece) to combine their efforts and expertise in the creation of tools and materials aiming to support young adults in acquiring entrepreneurial competences, to build an entrepreneurial mindset with particular focus on developing relevant and high-quality skills needed for any future entrepreneur. These skills are considered crucial, both for successful realization in tomorrow’s labour market and personal life.

While the term “entrepreneurship” could be traced back to the late 17th and early 18th centuries, the concept gained wide popularity only in the 20th and 21st centuries resulting in the fact that today there are more than 582 million entrepreneurs worldwide.^[3] Therefore, developing entrepreneurship means working on peoples active participation in their own life. By strengthening their ability to start a new business, improve their working life, being proactive citizens and consequently cope with the socioeconomic challenges that Europe is facing nowadays, they will become an active part of society.

The innovation of this strategic partnership project lies in creating an educational simulation game that can reproduce hypothetical situations focused on the development and improvement of vital soft skills required for successful realization in the entrepreneurial world. These skills include complex problem solving, critical thinking, creativity, people management and coordination with others. The innovative aspect also reflects that the partnership will create flexible results that can be used in many different training contexts, in non-formal adult education and training context but later could also be adapted to schools, universities, etc. The simulation game should prove a useful and innovative tool because it presents scenarios specifically designed to stimulate the training of those mentioned above, specific skills linked to entrepreneurship.

The EKS partnership includes partners from eight EU countries. It has a collective strength of diversity in status, size, skills and expertise, bringing together three NGOs, one training provider, one consulting company, one adult educational centre, one SME and one social innovation research and development organization.

[3] 11 Entrepreneur Statistics You Need To Know, 2020, <https://www.markinblog.com/entrepreneur-statistics/>



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From a long-term perspective, by providing an innovative and attractive educational tool, the EKS partnership has the ambition to make its contribution to the empowerment of young adults who are more aware of their resources, knowledge, strengths and virtues, as well as to support the unemployed in finding their way into the labour market and to help them to play an active role in their working life and society.

We firmly believe that entrepreneurial education can help to tackle the challenges of a historical period characterized by difficult economic trends, but it also offers new opportunities for those who are trained to act proactively and innovatively.



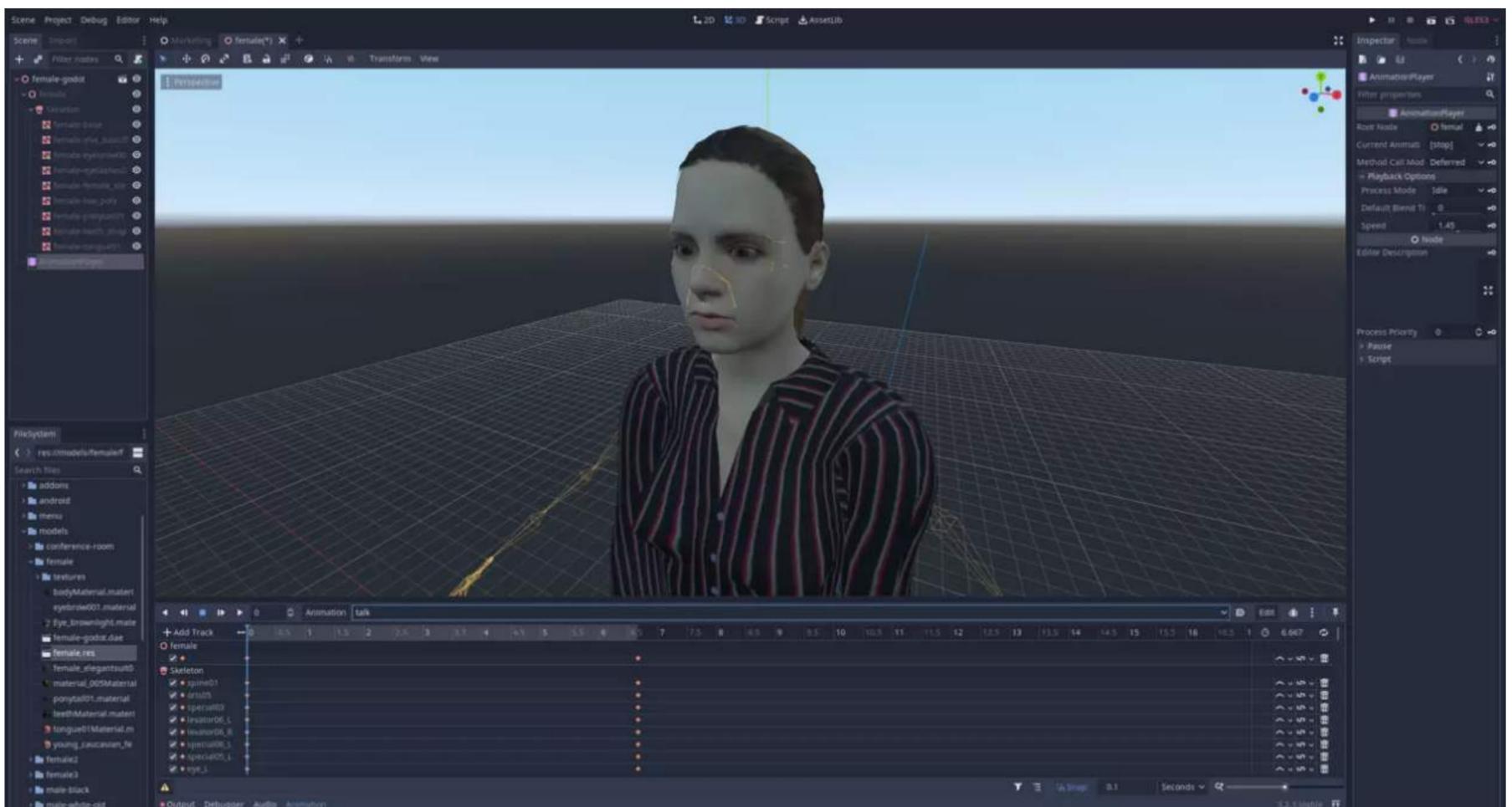
1.2 *Creation process of the simulation game*

The process of creating a simulation game is always challenging. Two colliding worlds: entertainment and education, need to be brought together to deliver a seamless user experience in which the player enjoys advancing through the levels but at the same time is actively engaged and emerged in knowledge acquisition processes.

Within the EKS project, it was clear that the educational aspect should be given priority over entertainment, but not to a great extent. Considering the variety of selected situations to be simulated in the game, it was necessary to create a solution that would provide enough flexibility to accommodate all the needs.

The process of creating a simulation game was run in parallel. All partners worked on delivering the scenarios that would be used as a medium to convey the foreseen knowledge and skills, and the technical team put into test a few game engines that would be best suited for the purpose. The five main areas covered are Creativity, Complex problem solving, Critical thinking, People management, Coordinating with others. Each area of the game has been divided into three levels of complexity. This led to 15 scenarios in total, giving the ability to play and learn about one's capabilities in the areas mentioned previously.

Godot programming environment



As the game was expected to be accessible through a web browser, the appropriate development environment that would provide sufficient capabilities to make it possible was needed to be selected. Out of a plethora of available frameworks that allow creating a web browser-based game, the final decision reached was to use Godot supported by the GDScript programming language. Godot is a framework that will enable creating both 2D and 3D games that can be published on several different devices, including websites.

GDScript example code

```
22 # Called when the node enters the scene tree for the first time.
23 func _ready():
24     print(tasks.size())
25     feedback.connect("feedbackOkClicked", self, "feedbackOkClicked")
26     #setTask(0, currentTask)
27     pass # Replace with function body.
28
29 func choicePicked(feedback, score, scoreType):
30     currentTask.hide()
31     print(feedback)
32     self.score[scoreType] += score
33     showFeedback(feedback)
34     emit_signal("textSpoken")
35     currentTaskNumber += 1
36     print(self.score)
37     pass
38
39 func feedbackOkClicked():
40     print("feedback ok clicked")
41     if(currentTaskNumber < numberOfTasks):
42         currentTask = tasks[currentTaskNumber]
43         setTask(currentTaskNumber, currentTask)
44     else:
45         feedback.hide()
46         print("END")
47     pass
48     setTask(whichTaskNumber, whichTask):
```



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For creating 3D models, MakeHuman and Blender 3D software were used. Creating 3D assets for each game is one of the most time-consuming tasks in the process.

Blender 3D



The division of specific levels and thematic areas was introduced to enable the players to select the desired simulation to be played. Inside each game, the players are asked to carefully read the introductory information to understand the situation they are put in. Subsequently, the players interact with other characters to mimic their actions as if they were acting in the real world. The expectation is that the possible solutions and interactions presented to the players are different, and it is not always the case that one solution is better than the other. Each step taken by the player is designed to trigger specific feedback, which will be presented at the end of the simulation. Doing so enables the players to fully understand their choices and implications they could have had in the real world.



All the levels are of moderate duration to keep the player engaged and interested in accessing other levels with other subject areas, thereby getting acquainted with more knowledge and skills.

The simulation game enables the players to put themselves in different situations that require entrepreneurial skills to be used and applied. While it cannot be considered as a substitute for gathering experience in the real world, it can be used as training towards upskilling in this area.



1

3 Aim of the Handbook

3.1 Structure details



The structure of the Handbook has been designed to support the readers and to deliver an easy navigation through the reading process.

1. Introduction

Informs the reader about the background of the project, as well as provides materials about the creation process of the simulation game. Additionally, the project idea and objectives are clarified. Subsequently, the target groups and users have been defined, and the expected results of the EKS Didactic Handbook are enlightened. The last section of the introduction includes information about the user guidelines for NEETs and adult educators.



2. About Entrepreneurial Skills

Explains the importance of five entrepreneurial skills, their usefulness, applicability and additional development. Under this section can be found also useful links to websites, platforms and OER materials focused on entrepreneurial skills.

3. EKS-Simulation Game

The simulation game's theoretical background is explained, and the expected impact and learning outcomes are clarified. More specifically, this section includes information in detail about the rules and all the steps that need to be followed by the participants. Practical tips, recommendations and ideas are also provided in this section.



4. User testimonials

The last section of the Handbook provides, reviews and experience from the project's pilot testing.



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Target group

1.3.3 users

Primary Target Group

EKS generally addresses young people aged 18-35 who aspire to become entrepreneurs or further enhance their entrepreneurial competencies. Though not exclusively, the project is additionally tailored to enhance the skills and knowledge of young people with fewer opportunities and particularly of young people out of education, employment and training who wish to improve their entrepreneurial skills. According to the European Commission, this term defines “young people that are at a disadvantage compared to their peers because they face one or more of the situations and obstacles which prevent young people from having effective access to formal and non-formal education, transnational mobility and participation, active citizenship, empowerment and inclusion in society at large.” (Erasmus+ Guide, 2013)

Young people





Young people with fewer opportunities – Term definition:^[5]

European Commission has recognized seven types of obstacles that are the most commonly faced by young people today. Often, this term evokes misinterpretation and therefore, here, we aim to clarify its use in the EKS project. The following subcategories do not wish to discriminate or stigmatise a young person who belongs to any of them as they describe their situation and not young people themselves. Instead, this term is an attempt by the EU to raise awareness and to point out the most common challenges faced by young people in Europe to find ways to tackle them as priorities in the EU agenda by offering learning opportunities to overcome them through funded projects just as this. Bear in mind that the following groups vary based on the needs and challenges of each context:

1. Disability (i.e. participants with special needs): people with mental (intellectual, cognitive, learning), physical, sensory, or other disabilities.
2. Educational difficulties: young people with learning difficulties; early school-leavers; low qualified adults; young people with poor school performance.
3. Economic obstacles: people with a low standard of living, low income, dependence on social welfare system or homeless; young people in long-term unemployment or poverty; people in debt or with financial problems.
4. Cultural differences: immigrants or refugees or descendants from immigrant or refugee families; people belonging to a national or ethnic minority; people with linguistic adaptation and cultural inclusion difficulties.
5. Health problems: people with chronic health problems, severe illnesses or psychiatric conditions.
6. Social obstacles: people facing discrimination because of gender, age, ethnicity, religion, sexual orientation, disability, etc.; people with limited social skills or anti-social or risky behaviours; people in a precarious situation; (ex-)offenders, (ex-)drug or alcohol abusers; young and/or single parents; orphans.
7. Geographical obstacles: people from remote or rural areas; people living in small islands or peripheral regions; people from urban problem zones; people from less serviced areas (limited public transport, inadequate facilities).

[5] <https://www.salto-youth.net/rc/inclusion/archive/archive-resources/inclusiongroups/inclusionoffenders/InclusionOffendersWho/>



Why this target group? Gaps and needs highlighted:

‘Europe is behind in entrepreneurship education’ and needs ‘greater focus on entrepreneurship and innovation to help spur competitiveness, growth and job creation, and to achieve the goals set out in the Lisbon Agenda.’ (European Commission, 2000)^[6]

Since 2008 Europe has been suffering the effects of the most severe economic crisis it has seen in 50 years: for the first time in Europe, there are over 25 million unemployed people. This topic has been a priority of the EU Commission as young people, predominantly aged between 16 and 25 years old, are often the most vulnerable to experience social exclusion. Looking at Eurostat data (Labour Force Survey, 2017 last avail.), for young people out of education, employment and training aged 20-24 only in three partnership countries have the rates below EU average (DK: 10.0, PT:14.7, PL: 15.4, IT: 27.9, BG: 18.6, CY: 22.0, ES: 18.5, GR: 22.0 (EU:15,5)).

Accordingly, many EU strategies and programs exist which focus solely on young people and aim to integrate them into the labour market through the enhancing of their entrepreneurial and digital skills. Hence, EKS was created to fill in the gaps and needs which were highlighted at a European level and the partner countries of the consortium. As our target group is primarily young people, it is essential to offer educational opportunities through new mediums such as gamification for lifelong learning.



[6] European Commission (2000), Commitment by the EU Heads of States and Governments to make the EU “the most competitive and dynamic knowledge-driven economy by 2010”, March



Secondary Target Group

EKS addresses adult educators who deal with young people and young people with fewer opportunities. This target group includes adult vocational educators and trainers, counsellors, facilitators, coaches, career advisors, youth workers and generally people working in vocational education settings and non-formal education settings.

Adult Educators

As a project which focuses on adult education, EKS's priority is to extend and develop the competencies (knowledge, skills and attitudes) of educators and other personnel who support adult learners in acquiring and developing skills and critical competencies for their integration into the labour market through entrepreneurship.



Why this target group? Gaps and needs highlighted:

There is a lack of entrepreneurship education in Europe, integrated into the partner countries' national curricula involved in the project. By enhancing entrepreneurship education, we offer young people the competencies to integrate back into the labour market and promote innovation. Hence, there is a great need to provide adult and vocational educators free, digitally available, practical tools to enhance adults' vocational skills. There is also a lack of innovating didactic mediums; hence the aim of the project to create an educational game by using gamification as a tool for lifelong learning that can be included in either formal, informal or non-formal educational settings.



1.3.4 *Expected Impact*

Considering how vital the motivation factor is for the learners during the learning process, the EKS handbook would significantly impact it. Therefore, the EKS handbook's effect is focused on increasing the motivation of the involved young adults to the EKS game and encouraging them to accomplish better qualification of entrepreneurial competences.

Furthermore, the EKS handbook aims to create a positive social impact through the guidance provided for the virtual EKS game. Additionally, the contribution of this handbook to the EKS game would generate a progressive effect on the entrepreneurial mindset of the target group. Besides, the developed entrepreneurial approach of the EKS handbook will have a constructive outcome on the users' abilities for future decisions.

The impact, similar to the effect of the game, is expected to be significant as the handbook will reach not only young people but later, through intensive dissemination, also a broader audience and will provide an important aim for the development of skills needed for the future.

The educational guide's content is also focused on the active attitude towards work, society, politics, and other aspects of entrepreneurial life. Therefore, an additional value of the EKS handbook is that the guide would significantly affect educators as it guides them on how the game can be used as a teaching method during their entrepreneurship learning process with young adults with fewer opportunities. Finally, the EKS handbook, in combination with the virtual game, would support the teachers in developing lifelong entrepreneurial competences and digital skills for the learners.

European Commission recognizes entrepreneurship education as a tool that can support young adults to be more entrepreneurial.

Expected impact on the participants/ users/ target groups

Young people

The EKS game will offer young people a training pathway and **encourage** them never to give up their **learning** throughout their life development.

Will increase young people's digital skills and **entrepreneurial competencies**. At the end of each level, the game will produce a report that will make the user **reflect** upon the decisions taken, the mistakes made, the strategies adopted, and suggestions on how to implement them into real life.

Young people will be better prepared for the labour market, and their **employability** will increase.

They will gain an entrepreneurial mindset which will contribute to their **increased self-esteem**.

Adult Educators

Will offer a useful **didactic tool** for all of them as it will be easy to use (available online).

Will offer **flexibility in teaching methods**, as trainers and trainees can manage the users in the way they prefer.

Introduce **gamification as a didactic tool for lifelong learning** to be used in different educational settings (e.g. non-formal education).

Innovation educational services when it comes to **entrepreneurship education**.

Expected impact on participating organisations and relevant stakeholders

Access to an **innovative didactic tool** designed especially for young people, participating organisations and relevant stakeholders will attract more learners and provide more **effective educational services**.

Promote entrepreneurship education to enhance their institutions' **capacities** to train **lifelong learning and employability**, especially those stakeholders working with young people with fewer opportunities.

Impact on the partner organisations, as they will have the opportunity to **exchange information** and work together to realize an innovative tool that will have **immediate usability within their everyday activities**. Hence, the consortium partners will strengthen their competence in the field working for the creation of an innovative game, and at the same time, they will produce a didactic tool that they immediately include into their training opportunities with the same target group as EKS.

Desired Impact at the local, regional, national, European and/ or international levels

Local

Regional/ National

European

Immediate impact on local young people of each partner country who will participate in the project's activities and enhance their **employability**.

Public and private institutions in the field of adult education will **use the game and handbook in their activities** that they perform with young adults (training, counselling, coaching).

At the European level, the project partners will **involve** all their **existing network** and local/national stakeholders to assure the most significant diffusion and usage of the project outputs.

Vocational educators and trainers will be the game's immediate users and the handbook to provide more **effective** educational services using other **teaching mediums**.

Synergies and collaborations will be established to create stronger institutions on a national level in between civil society organisations.

The **skills** addressed are **transversal and universal**, so useful and appropriate for every different context.

Partner organisations involved in the training of young people will be offered additional **didactic tools and expertise**.

Promote entrepreneurship education at a national level as a factor contributing to young people's **employability and integration in the labour market**.

Promote collaborations, **partnerships** and **stronger institutions** at a European level.

Promote **entrepreneurship education** and enhance institutions **training capacities**.

It will be an instrument that could enrich and **improve existing initiatives with no additional costs for organizing institutions and enhancing their capacities**.

We aim to affirm the principle that **entrepreneurship education** is a matter of business creation and a complex competence made of transversal skills. It can be learned through the right didactic tools, and that must be promoted to promote young people's integration into the labour market.

It is expected that over 1000 people, including both aforementioned actors, will be involved directly in EKS's activities and will benefit from the project's results (outputs: IO1: EKS simulation game and IO2: Didactic Handbook) from all partner countries. The project's innovation is linked with the fact that the partnership will create flexible results that can be used in many different training contexts, in non-formal adult education, in vocational training but later could also be adapted to schools, universities, etc. The simulation game proves to be a useful and innovative tool because it will present scenarios specifically designed to stimulate the training of 5 specific entrepreneurial skills. The project is likely to have a sustainable impact within and beyond the project lifetime on young adults due to its transferability as a translated tool (in 8 languages) to be used across Europe, independently from a specific context.



1.3.5 *User guidelines*

The way entrepreneurship is taught has been traditionally focused on prescriptive and linear processes that often discourage learners. Unfortunately, when talking about entrepreneurial teaching, our minds segue into old fashioned teaching methods, classroom centred and using a literal approach! The EKS Partnership, with the output that designed the EKS Stimulation game, will provide both educators, young people and young adults themselves with a useful educative tool, by which education will turn into a fascinating and amusing experience, stripped from strict and theoretical patterns!

The learner will come across a multitude of real-life scenarios that could often challenge the operation of a real business or put him/her under a struggling condition that ostensibly leads to chaos. The scenarios initiated and developed by the EKS partnership are structured in a multi-levelled approach, including different types of complexity and focused on extending each particular skill. It will present to the user several scenario-based flows that will allow them to interact with different situations by making (in-)appropriate choices. The users will have to face various problems that require the integrated use of the studied and identified skills. The simulation game will utilize a hierarchical, decision-based flow that the user will be able to follow.



In particular, each scenario will include three levels of complexity and present a different life-based situation. The learner will be called to make the most appropriate decisions, among the several choices presented on his/her screen. In addition to fulfilling various tasks in the game, there will be theory provided in an attractive, 'hidden' way so in case the user doesn't know something, s/he will be able to find it. The pieces of information won't be available always and at the same time, and for some users, there will be different prerequisites that will make the game more interesting. In particular, the learner, according to the choices s/he makes, will mark a different entrepreneurial path, a shorten one, in the case of poorer entrepreneurial choices or a bigger one, in the case of making the most rewarding and suitable for each scenario, decisions.

Every decision taken by the user will affect the further advancement of the next actions, storing all preceding steps. It is expected that the game's internal mechanism will not have one correct set of virtual activities that should be taken. The game will provide meaningful feedback based on all preceding steps taken by the user. It will be developed in the form of a web service, possibly taking advantage of gaming frameworks available when executing this project.

A strong focus will be put on the game's playability so that it will not only help in the learning process and knowledge acquisition but also be an entertaining experience to some extent. It will also be optimized for mobile devices (tablets) to have a greater diffusion.



For the Learners/ Young people

The learner will be provided with a friendly educational tool, framed up in an entertainment educational environment, with a rich database that contains diverse entrepreneurial courses with questions and answers that enhance learning skills. The young learner will dive into an unforgettable entrepreneurial experience and be called to make decisions based on real-life scenarios and challenging situations, oriented in the five different skill sectors, which are crucial for someone who wishes to become an entrepreneur and lead an entrepreneurial oriented career path.

This Game-Based Learning (GBL) can be effectively used to improve learning and provide real-world experiences without the physical or virtual presence of a trainer or educator. One of the critical aspects of game-based learning is that each learner automatically receives feedback on their performance with suggestions on improving. Through the gamification method, the development of the aforementioned skills will occur glibly, with the only prerequisite to be the “Download” and “Play” button!



For the Adult educators/ Mentors/ Trainers

The educators, on the other hand, will be familiarized with gamification as a didactic tool for lifelong learning and with obtaining an exciting and engaging educative tool to be adapted in their teaching methods and frameworks either in formal or in non-formal educational settings. The didactic tool will be easy to use and obtain as it will be available online and free of charge. It takes just a simple download, and the trainer will be ready to use this training tool and adapt it to his/her teaching methods, according to his/her preference. Moreover, the educator will acquire a strong basis to improvise and build more multi-levelled scenarios with possible wrong or right entrepreneurial choices, based on the pattern and method presented under the EKS Simulation game. The game could be used exclusively, as it is designed to be holistic and inclusively but also as a supplement to other teaching methods to make the educators’ training methods more appealing and amusing for the learners.

Through the EKS Simulation game, the learning concepts will be enjoyable for the learners and will serve as a strong basis for their creative thoughts to be developed or enriched. The educators (trainers, mentors and coaches) will attract more learners and provide more effective educational services since games encourage creative behaviour and divergent thought, creating a dynamic that can inspire learners to develop skills and build an emotional connection to learning.

For the game's instructions and other useful tips and recommendations on how to play the game, see under unit 4.1!

2 About Entrepreneurial Skills

1 Definition, description and rationale of each skill

The modern job market requires its participants to become more responsive to changing market conditions. That requires specific competencies to respond to fast changing economic conditions successfully.

In the scope of future employment, entrepreneurial skills and mindset are considered critical for your ability to adapt to this reality and your inclusion into the job market.

Why are they important?

Entrepreneurial competencies understood as your ability to turn ideas into actions (EU, 2006), in the first place, can provide you with the opportunity to create your own business – bring your ideas to life, turn them into relevant value to others, create your own opportunities and work directly toward your own or your team objectives. On the other side, entrepreneurial skills are not only relevant for your ability to create and operate your own business.

Entrepreneurial competencies are also highly relevant for your value as a potential and actual employee – allow you to be more perceptive, prepared for and responsive to your job environment, seize opportunities and stand out from other candidates/employees. In this way, entrepreneurial competencies are critical for you to succeed within the job market, either allowing you to become an entrepreneur or to become more entrepreneurial.



But what does it mean?

Following OECD (2016) entrepreneurial individuals ‘demonstrate initiative, they learn through a trial-and-error process, relying on their own judgements, while taking into account other opinions and being aware of likely consequences; and creating their own job environments’.^[7]

Becoming such an individual requires a broad set of skills, attitudes, behaviours and knowledge. The entrepreneurial competencies cover a broad range of technical, business management and personal entrepreneurial skills. The list covers (EACEA, 2008, EU Skills Panorama, 2014; OECD, 2014):

1/ Technical skills:

Communication, environment monitoring and idea identification/creation, ability to capitalise on ideas, problem-solving, technology implementation and use, interpersonal and organisational skills.

2/ Business management:

Planning and goal setting, decision making, people management, marketing, finance, accounting, customer relations, quality control, negotiation, business launch, growth management, compliance with regulations skills.

3/ Personal entrepreneurial skills:

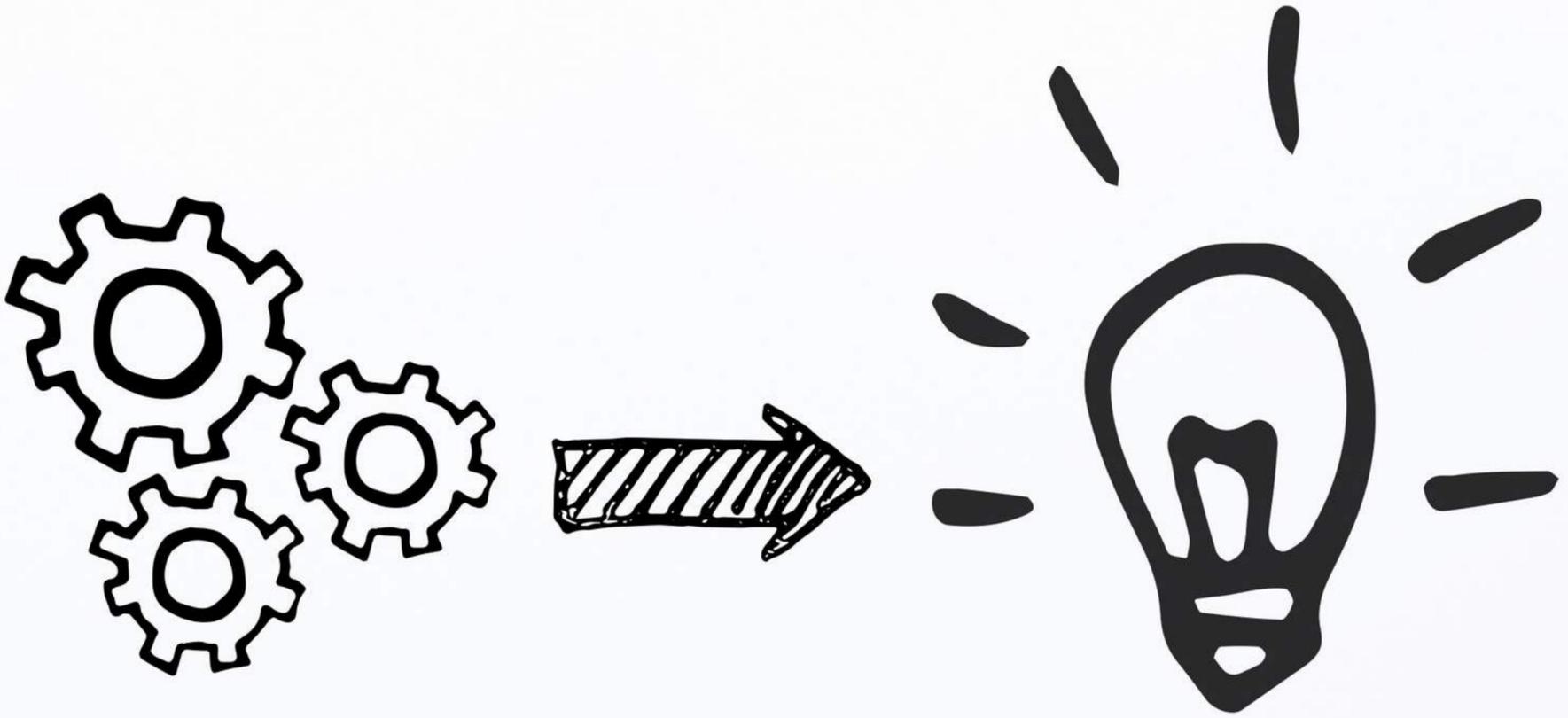
Self-control, self-belief and discipline, ability to manage risk, shoulder responsibility and endure and cope with difficulties, taking initiative, pro-innovative mindset and abilities, persistence, leadership, change management, network building, and strategic thinking.

While the list can look discouraging, the common objective of the skills is to enable you to embrace opportunities, creativity and risk-taking, foster innovation, and manage your projects in a way that will lead you to reach set objectives. To help you effectively build such capacities, the EKS project provides you with unique tools focused on critical aspects of entrepreneurial capabilities – Complex problem solving, critical thinking, creativity, people management and coordination with others. Development of those skills introduced in more detail below will help you to become more entrepreneurial, independently from your objective, whether it is to build and grow your own business, become a stronger candidate on the job market or to contribute with your entrepreneurial competencies to the growth of an organisation you are/will be employed at.

[7] http://www.oecd.org/employment/leed/E360_guidance-note_teachers.pdf, p. 8



In reality, the majority of entrepreneurial skills, as being highly universal and transversal in its application, are strongly interrelated.



Every initiative you wish to implement will require critical thinking, a skill at the entrepreneurial competencies centre. Looking at problems, events, opportunities and operations from different perspectives will be essential in supporting your decision-making and problem-solving.

It will be necessary for the generation and evaluation of new ideas or to solve problems in relations to your coworkers or other organizations. Similarly, problem-solving will often require extensive creativity.

It will improve as you develop your ability to optimally manage your team and effectively engage your internal team and external partners in finding and developing the most appropriate solution to your issues.

Complex Problem Solving

Definition:

Complex problem solving is an essential skill contributing to developing an entrepreneurial mindset to stand out in your future career. It is defined as a group of psychological processes and activities which you can learn to regulate, to react to stressful environments and achieve objectives that cannot be achieved with everyday actions. It is not only a cognitive process but also an emotional one that requires motivation (Dörner & Funke, 2017).

Steps to solve complex problems:

These steps can be used to solve any complex issue, but each situation is different and contains different variables that need to be explicitly addressed.

In general, the various steps are:

STEP 1

Defining the problem

This is a crucial task when solving complex problems. The first step has to do with defining the problem and the different variables. To do so, it is crucial to conduct an initial needs assessment based on an investigation with appropriate data about the problem's roots. You need to know everything about the process: who is doing what, what is the information you have and ways to improve it, which tools are the best to investigate the problem, with whom you can communicate to know more about the topic etc. Remember to differentiate facts from opinions and not offer a solution without gathering as much information as possible. Different methods address this step in a business environment, includes fishbone diagrams or root-cause analysis (ASQ, 2021).



STEP 2

Evaluate and propose solutions

After identifying the problem using quality information and adapting to each situation, it is necessary to evaluate and propose solutions to solve the problem. Ideally, different solutions or actions should be offered from the beginning. Brainstorming techniques are recommended (see the section about creativity for this technique). If you consider other solutions from the beginning, you will probably find the ideal solution faster. Remember not to stick to the first idea you come up with because you will probably miss good ideas that can be useful (ASQ, 2021). There are different methods to do this, such as affinity diagrams that let you organise different types of information and discover relationships between them. These diagrams allow you to see the problem's depth and how various ideas may be connected to find a solution (Mind Tools, 2021).

STEP 3

Design a strategy

After the brainstorming and the proposal of different ideas to solve the problem you have already defined, you must design a strategy. To do so, you have to follow different steps as well, where the most important thing is to prioritize tasks in the long run and the short run. It is advisable to collect a list of all the tasks and identify the tasks requiring immediate attention. These tasks have negative consequences if they are not completed in several hours or a day. When you have identified the tasks that need immediate attention, you should focus on those that carry the highest value. Think about the impact that a task may have to discover the ones that are the most valuable. It would help if you considered the last factor for prioritizing and ordering the task, and this is effort. Productivity experts suggest that you should start with the tasks that require more effort. Still, you need to be flexible and adaptable and change priorities if you consider it is necessary (Team LiquidPlanner, 2018).

STEP 4

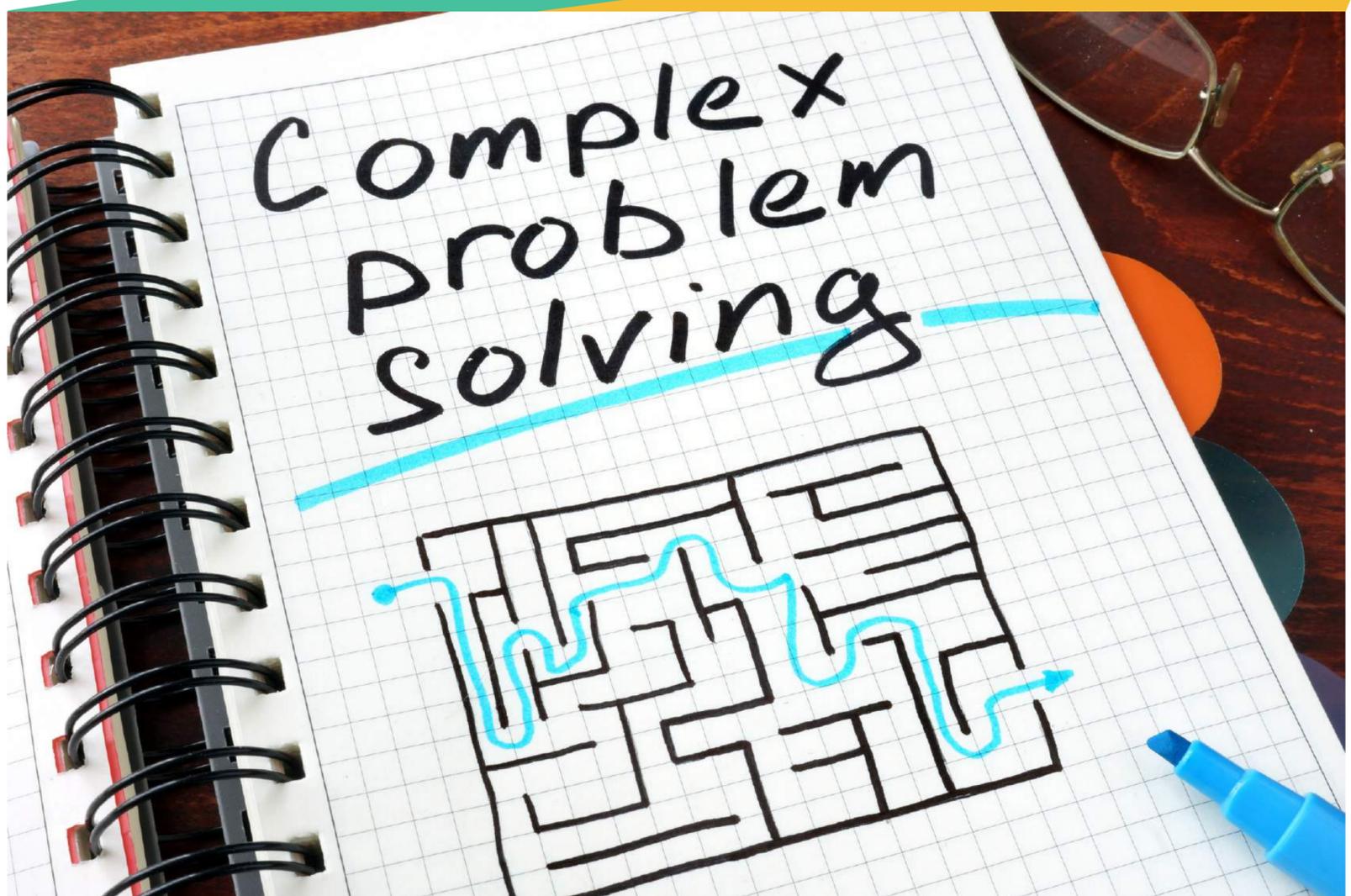
Identify risks, implement, and follow up the steps

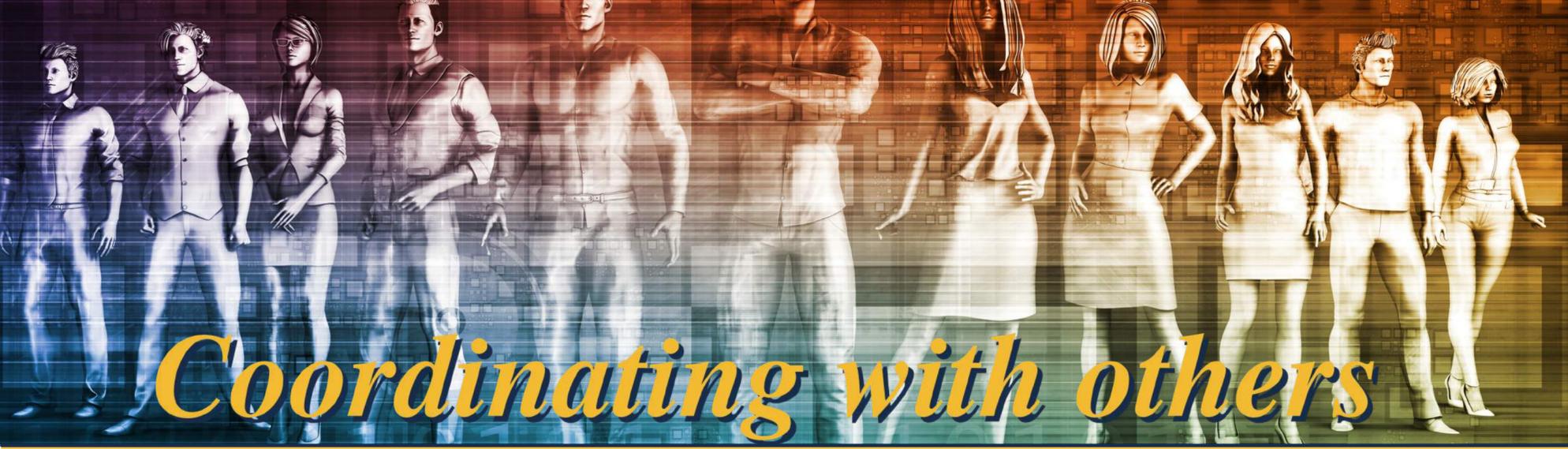
Once you have classified the different tasks you have to accomplish, you can move to the implementation phase. It is advisable to identify possible risks. The decision to write down everything that could go wrong and quantify how likely each risk is to happen and its impact is the best possible idea. When solving complex problems, evaluating the potential risks and revising this anticipation periodically is a must. It aims to limit either the likelihood or the impact of the risk and therefore reduce the effect that it will have on the solution. Another recommendation is to gather feedback and evaluate how the strategy's implementation is going periodically, monitor the results and assess long-term consequences (ASQ, 2021).

Conclusion:

Complex problem solving is essential not only in the workplace but also in our daily life, as we all encounter issues daily. It is an essential skill because it allows us to manage uncertainty situations and come up with solutions that can make us control our environment.

Skilled problem solvers need to pay attention to their reasoning skills and adapt to change and stress. Not every situation is the same, and not every case requires the same actions. To succeed in life and a working environment, we need to act one way or another to reach our goals. Sometimes, the conditions surrounding us change, and the assumptions we had made in a different situation turn out to be incorrect or not applicable to this new reality. It is necessary to be continually analysing our beliefs, our way of thinking and making completely new assumptions when necessary. As its very name implies, it is a complex process that some people handle better than others. Knowing the different steps of the complex problem-solving process is essential and can help us develop an entrepreneurial mindset and attitude.

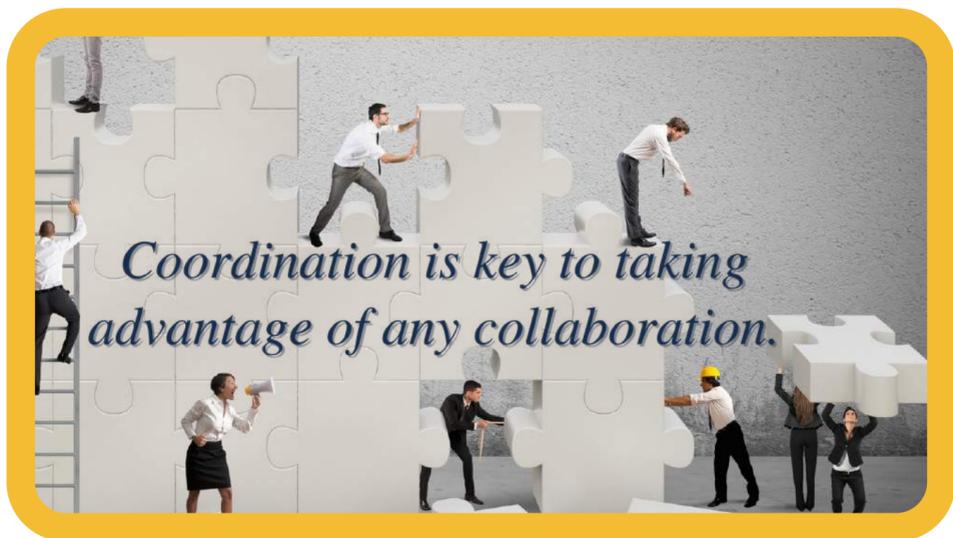




Coordinating with others

Definition:

Coordination with others is an entrepreneurial skill that, with the recent popularization of innovation-based strategies and culture, is becoming one of the most relevant skills for an entrepreneurial individual and, especially, for a small business owner. Coordination with others is a process that involves the use of strategies and patterns of behaviour aimed to integrate actions, knowledge and goals of individual members to achieve a common goal (Rico et al., 2011). Within an entrepreneurial environment, coordination with others can refer to internal activities within your small, internal team, internal activities in which coordination is required among people working in different functions, departments or even locations, and coordination with other organizations to reach a common objective.



Within any working environment ability to coordinate with others will be required from you daily, whether, i.e. you will want to organize a company-wide event, gather information regarding company performance or produce and put on the market your new product. Coordination with others is the key to the effectiveness of any operation involving more than one person.

It is a long-standing knowledge that collaboration can lead to better results than the sum of individual efforts, which leads to increased demand for coordination.

But, nowadays, the importance of coordination with others starts to be more critical than ever. With the rise of global markets and increased competition, individuals and organizations alike need to collaborate and combine their resources – i.e. knowledge, to increase their chances to successfully compete within a globalized market in which products and processes are becoming more and more complex. As a result, both individuals and organizations rarely have the fundamental knowledge and/or resources required to handle the highly complex challenges we are nowadays dealing with within a professional environment daily. The complexity of modern challenges, such as the fast-changing market needs, high level of knowledge requirements, to offer products that can satisfy current customers or technological sophistication that makes coordination between individuals and organizations a daily bread in any professional environment.



Coordination in a nutshell

The key objective of coordination is to ensure that all designated team members contribute to the final result and that the overall contributions are optimal. How to achieve it? In general, coordination with others is a competence requiring skills within three areas:

1 Planning and organization

while working and coordinating a team, you need to be well prepared to deal with dividing tasks, assigning roles and trying to take into account all participants schedule. An effective coordinator also needs to effectively identify, store, track and access information when those are required. Those abilities are critical to be able to make the right decisions in a timely manner.

So, get well organized and try to anticipate your team's incoming needs and your projects in advance.

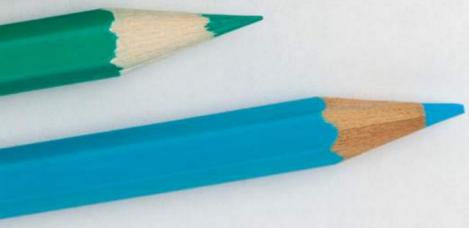
2 Communication skills

good coordination requires clear and effective communication. It includes not only specifying the roles and objectives and passing messages. It includes also communicating in a way that accounts for other communication styles and adapting your and the team communication style to ensure receiving the optimal level of contributions from your teammates.

Give everyone a voice and consider the balance between written and oral communication, depending on the type of communicators you have in your team.

3 People skills

your team is just as effective as the individuals involved and interactions between them. It is your role as a leader to foster trust, healthy relationships and effective workflow within your team. It requires you to know individuals in your team very well- To see the level of autonomy that will be effective in their case, how they will react to pressure and deadlines, what kind of feedback will be most effective for their performance and what type of support they will need to succeed in the role they have.



✓ ACTION PLAN

Coordination in action

In practical terms, the majority of business activities requiring coordination will take a goal-oriented form of a project. Whether it will be creating the company itself, defining a new business strategy or just organizing a promotional event, putting and coordinating a team will allow you to improve the quality of work and the expected outcomes by bringing extra brainpower and other resources together. However, to reach those benefits, you need to know how to deal with challenges coming together with collaboration.

Challenge 1 – Coordinating internal team

1 *Setting and supervising a team*

- ⇒ Invest time in getting to know your team– knowing their individual strengths, motivations and behaviors will help you properly select members for each project. Define individual roles and responsibilities according to the specific skill sets of the members. Help your employees get to know one another. That will foster their collaboration and will help them to better understand their colleagues and the team’s capabilities.
- ⇒ Make it clear who is responsible for which part of the job and ensure that everyone understands who to ask for help in case of need and who to follow up with along different stages of the projects development.
- ⇒ Ensure that everyone knows their role, but also that they know how all the pieces of the project flow between the team members.
- ⇒ Choose a project leader with strong leadership skills that will be able to listen, motivate, provide relevant knowledge and expertise to the project, but also try to nominate a leader with the ability to solve problems that go outside of the typical professional scope.
- ⇒ Ensure that the leader will frequently seek feedback from team members.



2 *Communication is key*

- ⇒ Engage the team members in setting the objectives and/or priorities of the project(s). They will be more engaged and try to demonstrate the relevance of the work for each of the individual team members. This will help you to increase their engagement and encourage their willingness to engage in collaboration making your coordination tasks much easier.
- ⇒ In case of any type of teamwork, make sure that it is absolutely crystal clear for everyone what the objective is, why the work is relevant and what the specific relevance of their work for achieving the objective of the project is.
- ⇒ Make sure that all team members understand the short- and long-term goals and are on the same page. Engage them in discussion regarding the goals and your strategy to reach them and be open to their suggestions.
- ⇒ Remember that communication is a complex process covering creating, encoding, transmitting, interpreting and returning messages where the quality of message sent is as important as the openness to properly receive and comprehend the message. Make sure that your communication will be based on effective feedback loops and your team have space to respond to your communication and feel comfortable to do so. Listening is as important as sending the messages itself.
- ⇒ Encourage sharing notes and feedback within the team to enhance productivity.

3 *Implement practices that support collaboration*

- ⇒ Establish periodical problem-solving meetings to discuss what need to be done in the project to move forward and how to solve potential issues. But make sure that you don't overburden your team with an extensive meeting schedule. That could lead to decrease in productivity and morale.
- ⇒ Establish specific sessions purely focused on collaborative project development.
- ⇒ Develop effective channels for communication within the team and ensure it is clear for all members what channels should be used for different purposes, i.e. discussions, storing partial results, documentation transfer etc.
- ⇒ Establish a common standard for naming files.



4 *Ensure leadership that will foster effective collaboration*

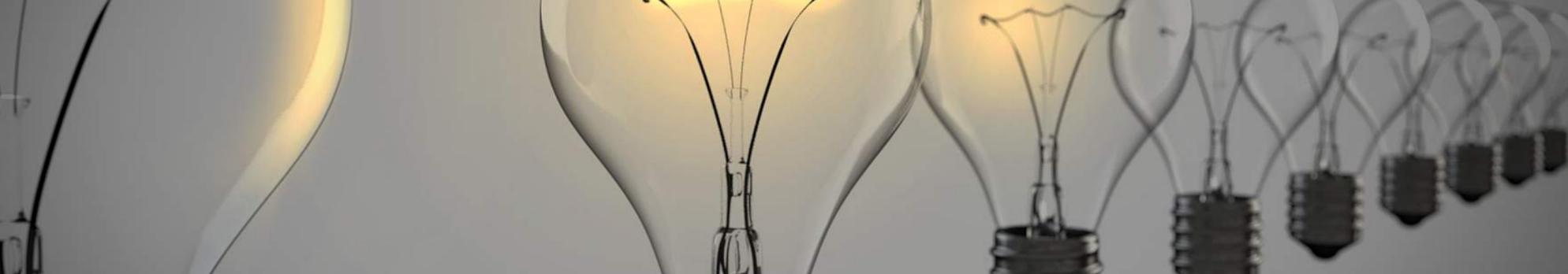
- ⇒ Give your team freedom and empower them to take initiative and explore new ideas.
- ⇒ In mature teams, where team members have existing knowledge of other members, provide your team ambitious objectives and deadlines and let the team figure out the work distribution. In any case, avoid micromanagement.
- ⇒ Set SMART Goals for your team – specific, measurable, attainable, relevant, time-bound.
- ⇒ Show clear appreciation for good work of your team members, motivate engagement and productivity by recognizing achievements and showing gratitude.
- ⇒ Cultivate learning from challenges and improve your approach along your collaborative learning process to make each collaboration and project better.

Challenge 2- Coordinating across organizational borders

Internal coordination is an every-day activity in any business. However, in a highly competitive market, coordination skills often go beyond the internal organization collaboration scope. To grow and effectively adapt to fast-changing customers and market developments, organisations, and especially SMEs, need to coordinate activities with other organisations. That requires some additional competencies and strategies. Building bridges with different groups of people and organisations and capitalizing on their collective brainpower and resources will require further effort and attention.

1 *Choose the right partners*

- ⇒ Independently from the reason to engage in collaboration with external partners make sure that they have not only the capacity, resources and will to contribute to reaching your objective. Behavioral factors are as important for reaching the end objective.
- ⇒ Look for complementary partners that will share your ambitions, time horizons, attitude towards risk and collaborate.
- ⇒ In a majority of cases, the personalities of people representing partnering organisations may be critical for the quality of collaboration and your ability to coordinate the tasks at hand.



2 *Define clear arrangements between partners from the beginning*

- ⇒ Make sure that all the team members have full understanding of the collaboration objectives, rules of the collaboration and that they are on the same page.
- ⇒ Clarify with your partners, leadership model, responsibilities, workflow, how new and unexpected situations and conflicts will be dealt with and when the collaboration will be finalized.

3 *Ensure leadership and partners support within the partnership*

- ⇒ Make sure that the partnership is a win-win situation in which all partners benefit from the collaboration and each of you is better off by joining the group effects rather than working on its own.
- ⇒ Support between partners in tough situations, jointly looking for solutions, sharing risks and benefits will have critical impact on performance of each partner and the overall project.

4 *Once again, communication will be critical*

- ⇒ In addition to the overall team communication rules stated above, cross-organizational collaboration will require special attention to managing tensions and problems proactively. Especially when partnership needs to deal with failure, relations within cross-organisational collaboration can break under pressure. Interviewing partners on periodical basis can help you identify problems and tensions in time to deescalate them.
- ⇒ Dealing with problems will require also disciplining partners when they do not comply with their obligations and rules of the partnership. A clear set of rules will make it easier to provide support as well as enforce corrective procedures when needed.
- ⇒ Also make sure that communication within the partnership occurs regularly. Low communication levels can decrease the strength of the network and commitment of the team.
- ⇒ Make sure that team members are taking into account possible cultural differences between team members from different organizations, having different backgrounds or communication literacy to make information and workflow smoothly across the team.



5 *Don't forget about managing your own company!*

- ⇒ Disseminate extensively information regarding the nature and relevance of your cross-organizational collaboration and specific projects within your own company to make sure your internal team is aware of its importance for reaching specific objectives of your own organization.
- ⇒ But make sure you won't neglect management of your own company over the management of your partnerships.



Definition:

When talking about creativity^[8], we refer to the act of turning something new and imaginative into reality. It is about the ability to perceive the world and the facts in new ways, find hidden patterns, make connections between, with a first look, unrelated phenomena and generate solutions, which translates to two processes, thinking and then producing!

Following the Oxford Dictionary, we can share another definition of creativity as “the use of imagination or original ideas to create something; inventiveness”. According to the EntreComp Framework, creativity as a competency is the ability to “Imagine the future. Develop a vision to turn ideas into action. Visualise future scenarios to help guide effort and action”.

Creativity begins with a foundation of knowledge, learning a discipline, and mastering a way of thinking, the one of Creative Thinking^[9]. “Creative Thinking” refers to the ability to create something new due to the process of structuring information related to a social and cultural context in which the individual is inserted. Creative thinking could mean devising new ways to carry out tasks, solve problems, and meet several challenges. It is about bringing a fresh, and sometimes quite unorthodox, perspective to your work and includes analysis, open-mindedness, problem-solving, organisation and communication. This way of thinking can help departments and organizations be more productive.

[8] <https://www.creativityatwork.com/2014/02/17/what-is-creativity/>

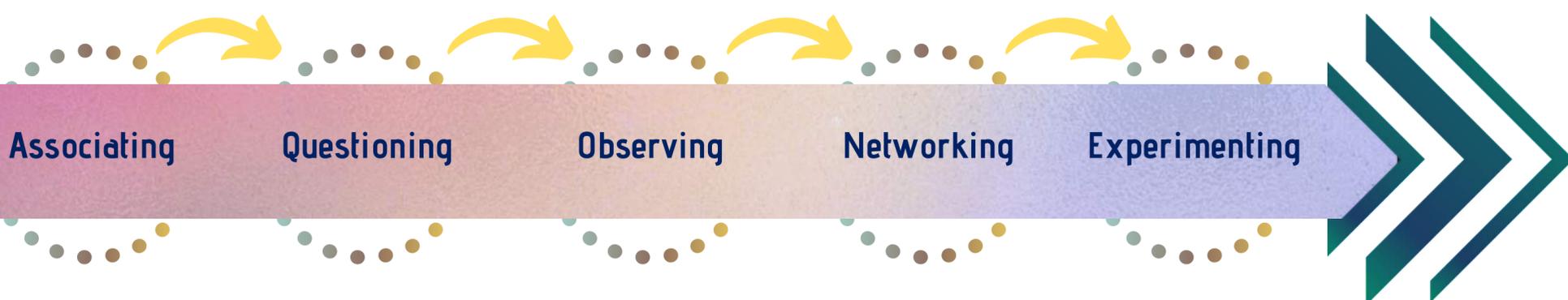
[9] <https://www.thebalancecareers.com/creative-thinking-definition-with-examples-2063744>

What is Creative Process

According to Graham Wallas (Wallas, 1926), the creative process goes through 4 stages :^[10]

- ⇒ Preparation. It corresponds to the moment in which you formulate a problem or question and think intensely about it. It is fully conscious and entails part research, part planning, part entering the right frame of mind and attention.
- ⇒ Incubation. Where you collect information and unconsciously activate analysis processes. This stage, according to Wallas, has two divergent elements: a negative one, where we do not consciously deliberate on a particular problem, and the positive one, where a series of unconscious, involuntary mental events taking place.
- ⇒ Illumination. It appears when responses start to emerge spontaneously. All the elements gathered during the “Preparation” stage and then floated freely around during “Incubation” are now beginning to click into an illuminating new formation.
- ⇒ Verification. It allows evaluating the ideas that emerged and testing their validity or effectiveness. Verification is the conscious and deliberate effort to test the idea's validity and reduce it to an exact form.

M. Christensen^[11] stated the ability to generate innovative ideas is not merely a function of the mind but also a function of five key behaviours that optimize the thought process for originality and innovation:



[10] <https://www.brainpickings.org/2013/08/28/the-art-of-thought-graham-wallas-stages/>

[11] <https://www.creativityatwork.com/2014/02/17/what-is-creativity/>

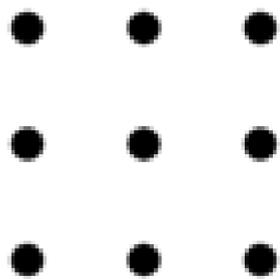
THINK OUTSIDE THE BOX



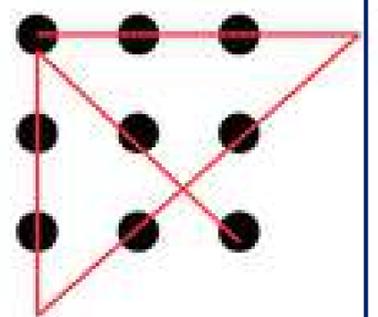
Nowadays, it is quite common to hear in organisational management consulting and entrepreneurial circles the expression "Thinking outside the box".^[12]

In the age of digitalism and algorithms, it is a phrase that garners significant attention and translates into thinking creatively, freely and off the trodden paths. It is not something new since its origin in 1969, where there is a certain controversy about its origin. There are two versions, the one by John Adair, who popularized the term with the puzzle "the 9 points" and the other, by Mike Vance, who, according to him, previously used it in a training group in corporate consulting at Walt Disney.

The 9-points-puzzle consists of asking participants to link all the following image points with only four straight lines.



As you can see below, the solution can only be solved by enlarging the vision outside of the square formed by the points, thinking "outside the box".



Thinking, using alternative solutions, can have a powerful and positive effect on your career. As an entrepreneur, you need to think outside the box to get ahead and gain a competitive advantage.



[12] <https://medium.com/personal-growth/how-to-truly-think-outside-the-box-fee0ea11777f>

Here are some tips to help you practice your outside the box thinking:

- **Believe in yourself**
- **Practice constantly**
- **Ideas need a voice**
- **Forget about limitations**
- **The only failure is not trying**
- **Focus on quality, not quantity**
- **Be curious and seek inspiration**
- **Set parameters to focus your ideas**
- **Look for inspiration in unexpected places**



Brainstorming:

When talking about creativity, brainstorming^[13] is one of the most effective tools to start with. It is a method consisting of letting ideas come out effortlessly as they emerge from your mind, without any filters or restrictions. It has been used since 1953, when Madison Avenue advertising executive Alex Osborn developed the original approach. Brainstorming is used to generate ideas and come up with creative solutions to problems and different situations. Brainstorming created an open and accessible environment where criticism is discouraged, and everyone is encouraged to participate and contribute with unlimited, imaginative and sometimes even quirky ideas. It can be both an individual and a group process.

Individual brainstorming:

This is most effective when you need to solve a simple problem, generate a list of ideas, or focus on a broad issue. To get the most out of your brainstorming session, you can choose a comfortable place to sit and think. Minimise distractions so that you can focus on the problem at hand and consider using Mind Maps to arrange and develop ideas.

Group Brainstorming:

This is often more effective for solving complex problems. Using group brainstorming, you can take advantage of all team members' full experience and creativity. Even if one member gets stuck with an idea, another member's creativity and expertise can take the concept to the next stage.

In a business context, not only can brainstorming help you generate ideas that might not have otherwise been considered, but it can also help you better understand where your business is struggling and where you need to focus your time. In business, brainstorming is often done in groups, but you can use brainstorming techniques to generate ideas, even as an independent entrepreneur.

See more under section 3.2 Complex problem-solving.

[13] <https://www.mindtools.com/brainstm.html>



Creativity in business

Creativity is one of the most critical elements of entrepreneurship and could be the key to developing entrepreneurial skills. Entrepreneurs are expected to be curious, observative, and notice what people need (demand) to find a need-based solution (supply). Creative thinking is a must-have skill that an entrepreneur must have to create innovative ideas to satisfy this need and make the entrepreneurial process a success.

Applying a creative approach to entrepreneurship generates more novel ideas and techniques to solve problems. Creativity and entrepreneurship are indissolubly related and often translated into the ability and the willingness to take risks and progress through discomfort to get to the finish line. Stimulating creativity and exploring entirely new and sometimes unknown territories increases the business's added value and productivity.

However, creativity is not only about problems. It is about being able to visualise and to think ahead, to move forward. Creativity is the steppingstone to innovation and is also part of personal development or realising our potential. Entrepreneurship's creativity can also embody new and valuable solutions to business problems, creative business strategies, or creative changes. Start-ups and small businesses mostly rely on creative minds to find innovative solutions and think ahead about potential problems.

Types of Creativity in business: ^[14]

Deliberate and Cognitive Creativity

A person equipped with this type of creativity is usually very good at research, problem-solving, proper investigation and experimentation. This kind of invention occurs in the brain's front part, which is known as the brain's prefrontal cortex.

Spontaneous and Cognitive Creativity

Here, a person is required to think "out of the box". The unconscious mind connects with unique and unrelated tasks to link their ideas differently and provide creative solutions to the problem.

Spontaneous and Emotional Creativity

During this process, a person looks at the problems or situations, seeking a more profound viewpoint. It does not require any specific knowledge about a particular area, but there should be a talent such as writing, musical, or artistic. It cannot be acquired by working.

[14]<https://101entrepreneurship.org/creativity-in-entrepreneurship/>



Creativity is not limited to artistic types or a fixed trait that only some people possess. It is a skill that anyone can nurture and develop. Beliefs that only talented people are creative have been proven a myth as creativity can be cultivated through encouragements, training, and practice. The effects of rising complexity and competitiveness call for entrepreneurs, managers, CEOs and their teams to lead with bold creativity, engage with customers and audience in imaginative new and original ways and design their operations and services for speed and flexibility to position their brands for success.

Creative thinking is the most critical skill of an entrepreneur when creating new ideas and allows a person to innovate processes, offering many advantages. Creativity leads to success by creating new ideas for competitive advantage, developing novel products, and improving business processes. It enables people to connect dissimilarly and, at a first look, unrelated subjects and make successful entrepreneurial ideas and allow entrepreneurs to think beyond the traditional solutions, develop something new, attractive, versatile, and possibly successful. Linking creativity and business is like having a magical recipe for a sustainable and successful professional career.





Definition:

The World Economic Forum (WEF) lists "critical thinking" as the second most important skill for the labour market in 2020.

In today's labour market, there are no longer any exclusively operational tasks. Making independent judgments is an essential requirement, especially given the regulations in force in the European Community regarding health and safety at work. From this perspective, critical thinking becomes a prerequisite for entering a professional community and starting any entrepreneurial activity. In this scenario, the ability to exercise critical thinking is no longer the prerogative of a small number of people in top positions within organisations, especially in the face of complex market demands and the introduction of automation in all areas of our existence. We owe to the pedagogue and cognitive psychologist Robert H. Ennis the definition of critical thinking as "rational, reflective thinking focused on deciding what to think or do".

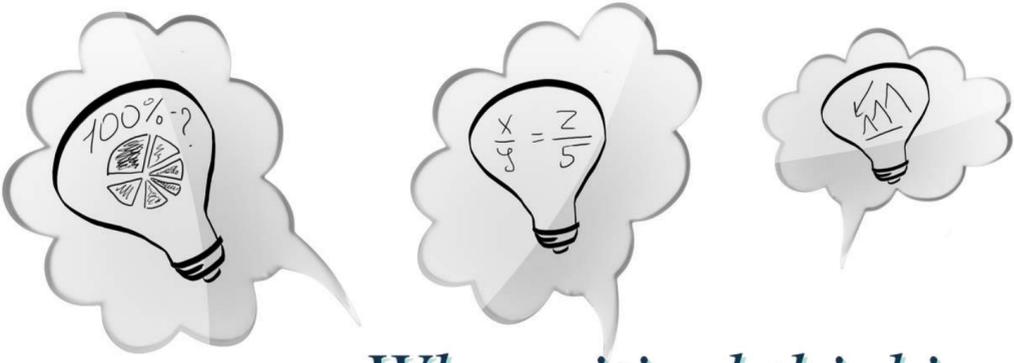
Critical thinking is the human ability to devise strategies by analysing information to focus on essential action points.

In psychology, critical thinking is a mental process that involves analysing or evaluating information to reach a judgement capable of finding a synthesis between empirical evidence and common sense.

The two primary components of critical thinking are:

- **The set of information and beliefs that underpin the development of the skills.**
- **The habit of using these skills to guide behaviour from a conscious intellectual engagement.**

The ability to think is considered to be a characteristic of the human being. Uncontrolled thinking leads to distorted, biased and prejudiced results. It can limit the ability to realise and achieve goals in life, so it is necessary to train and stimulate critical thinking skills as a lever for individual and economic well-being.



Why critical thinking?

Through critical thinking, the individual acquires awareness of thought structures and defines their intellectual standards.

Critical thinking enables one to:

- **Tackle problems, starting with a clear and precise formulation;**
- **Search and use relevant information to arrive at well-considered conclusions, which can be verified based on consistent criteria and standards;**
- **Adopt alternative systems of thought, analysing their assumptions, implications and consequences;**
- **Communicate effectively with others to find shared solutions.**



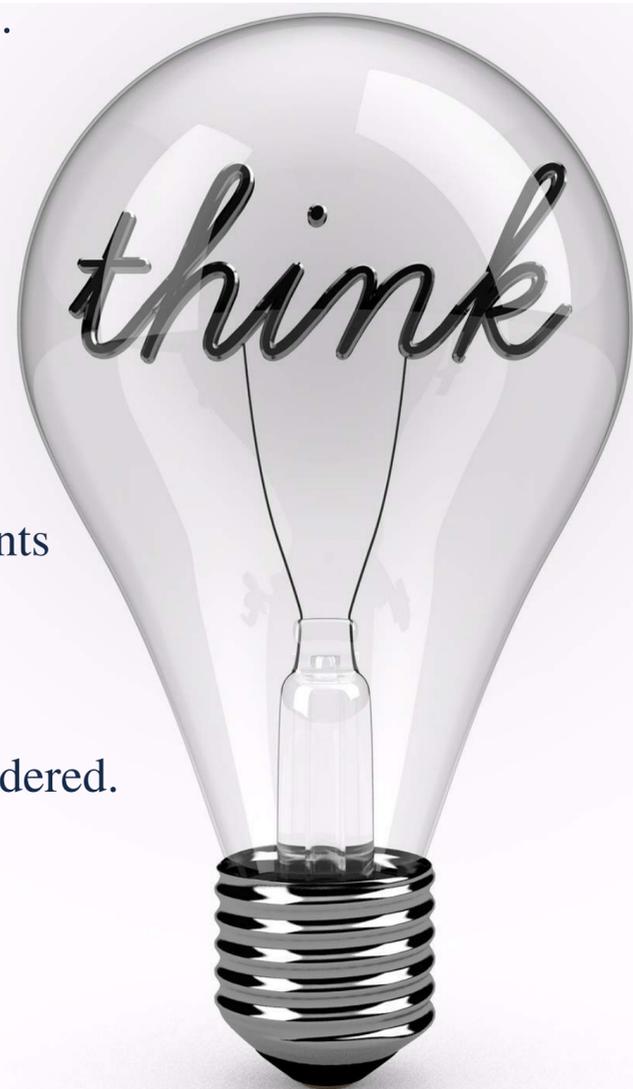
Critical thinking approaches a problem from information gathered through observation, experience, reasoning or communication. The aim is to go beyond the individual subject's bias by appealing to the fundamental values of clarity, accuracy, precision, and evidence. A critical thinking process is not triggered by the need to develop a solution urgently but rather by an accurate strategy, as it has a dialogical nature.

This soft skill cuts across different disciplines, such as science, mathematics, engineering, history, anthropology, economics and philosophy and many others.

A critical thinking process is always a process of knowledge enrichment. It relates to the concept of lifelong learning because it involves the acquisition and storage of information, which will allow the development of a judgement and the consequent implementation of the resulting directions.

Critical thinking involves analysing data in two directions:

- **Horizontal through focus:**
relevant ideas are selected to highlight their key points
- **Vertical through in-depth excavation:**
more profound questions are asked, correlations are activated, and alternative perspectives are considered.



How to activate critical thinking?

On a historical level, the origin of critical thinking can be traced back to Plato's Socratic method. Through dialogue with the teacher, the pupil identifies his point of view, recognises its fallibility and learns to argue correctly.

The American educational psychologist Linda Elder, one of the leading scholars of critical thinking, points out that the human mind is alternately stressed by egocentric (the innate human tendency to consider the world only in relation to oneself) and socio-centric (the innate human tendency to view the world from the perspective of the group to which one belongs) attitudes, which inhibit the potential capacity to process rational thought.

Cultivating critical thinking means training one's aptitude for reflective scepticism, enabling one to intercept errors, inconsistencies, weaknesses and recognise what is appreciable.

Critical thinking, understood as an intellectual capacity, is not an individual aptitude but a process that allows one to go beyond prejudices, considering different views to elaborate a balanced (and temporary) synthesis. Activating critical thinking means distinguishing between situations and limiting the influence of prejudices, stereotypes and illusions.

This competence can be acquired and trained.

Ennis identifies three fundamental strategies for activating critical thinking

1 *Reflecting:*

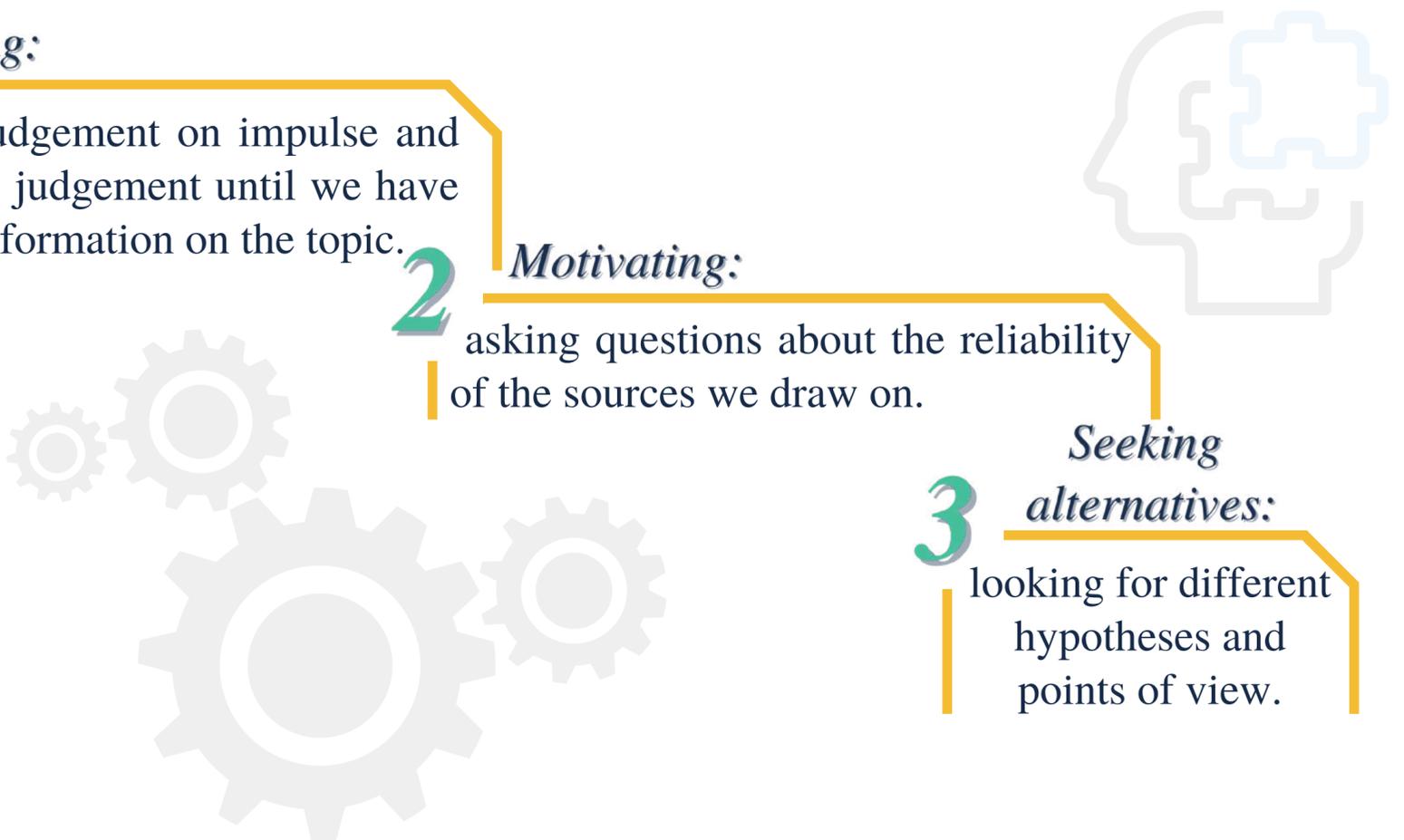
rejecting judgement on impulse and suspending judgement until we have gathered information on the topic.

2 *Motivating:*

asking questions about the reliability of the sources we draw on.

3 *Seeking alternatives:*

looking for different hypotheses and points of view.



In January 2018, research by the Faculty of Psychology at the University of Cambridge showed that activating critical thinking skills enables people to make considered decisions without being manipulated and find independent and effective creative solutions to the problems they face.

Let us summarise the stages of a critical thinking process:



1 Search

The problem is defined by answering the questions:

- What is the problem?
- How can I describe it?
- Why do I have to evaluate it or solve it?

Based on the answers obtained, data, information and opinions are collected.

2 Analysis

The problem is divided into parts, each part being tackled individually, identifying causes, effects, implications and consequences. The reference questions are:

- What caused this situation?
- How did it evolve?
- Where does it come from?
- What are the prerequisites?

3 Synthesis

The individual parts analysed are brought back into an organised and coherent overall framework, which compares positions, looks for correlations and proceeds by analogies.

4 Evaluation

Making an informed decision is rationally founded but not definitive, which is the basis for an interlocutory discussion with others.

The promises of critical thinking?

A judgement obtained by this process offers no guarantee that the conclusion obtained is correct. Indeed, the information and data may be partial or incomplete (because the assessment is incomplete, or the information is not available). The biases of the assessor may distort the result.

It is, however, proper for critical thinking to introduce strategies to limit the weight of prejudice. This is why, especially in the initial stages of the process, it is essential to suspend judgement.

Activating a critical thinking process requires becoming aware of one's prejudices if the aim is an objective evaluation of the problem and if one does not want to fall into the trap of proceeding towards an assessment that confirms one's initial convictions.

When it comes to critical thinking, it is good practice to apply a Socratic method approach, proceeding by successive in-depth questions. The questions should relate to the topic under investigation but also the method of investigation.

Here are some examples:

- **What is the source of this information?**
- **What would happen if you were wrong?**
- **How can I verify that my belief is correct?**
- **What do I mean?**
- **How do I come to this conclusion?**
- **What convinces me that I am right?**
- **Is there an alternative explanation for this phenomenon?**
- **I can find sources that disagree with this position, on what grounds are they based?**



Critical thinking does not lead to a 'final' judgement but rather to progressive evaluations obtained by successive iterations in an 'accurate' but not 'exhaustive' process.



Why it is important

Critical thinking aims to achieve sound judgement in considering situations and problems in as objective a process as possible. Personal convictions, past experiences and prejudices are not the compass for decisions but are confronted with new information and have its validity verified in the field.

Critical thinking should be understood as that overall cognitive competence that enhances the individual's ability to take new actions, use creativity, and experiment with effective complex problem-solving processes through analysis, evaluation and inference. Acquiring this competence means monitoring the underlying data before making a premature decision.

In this perspective, critical thinking is a helpful resource to avoid indulging in social and professional conformism, which prescribes the worker to comply with the procedure without introducing novelty and improvement elements.

At the individual level, a critical thinking approach to work is an excellent antidote to depersonalisation. It fosters motivation, improving both the quality of the result and the company's workforce's stability, limiting turnover, which is a significant cost item. The worker is encouraged to use personal resources and improve his knowledge, thus increasing his experience in the sector.

There are many good reasons why critical thinking is an essential soft skill for entrepreneurship. On the one hand, it enables developing innovative solutions, products and services for the market proposition. On the other hand, it allows the new entrepreneur, especially if raised in a disadvantaged environment, the emancipation from the limiting beliefs related to the possibility of success.

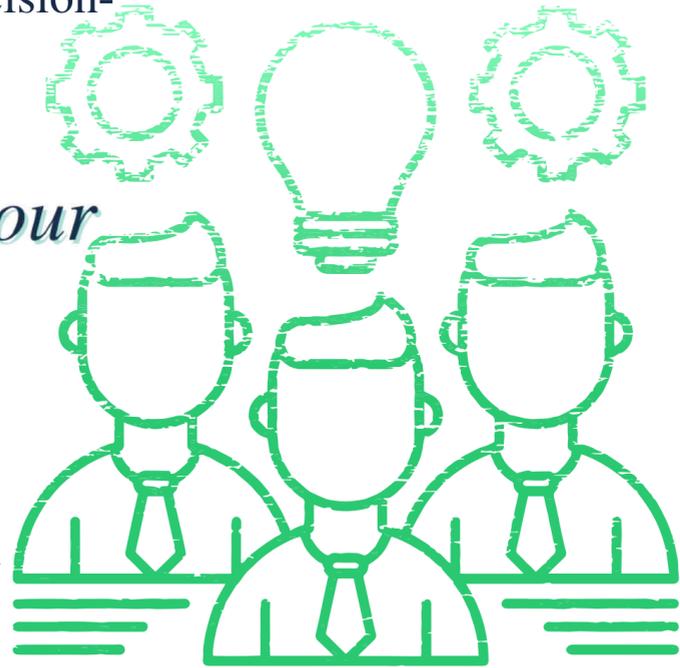
There are many misconceptions that only those from an entrepreneurial family and cultural background will have the strength and network to start and launch their own business. Other prejudices relate to the equation of money, success and confidence. It is essential not to forget that an entrepreneur has to be a leader of himself and potentially the leader of a team whose potential has to be exploited and enhanced.

Interconnection between soft skills

Critical thinking enriches the intersects contribution to creative thinking, presupposes problem solving and decision-making skills, and involves moral choices.

How can critical thinking influence our professional development?

Critical thinking allows one to analyze and search for information, identifying the relevant and vital elements of the problems one faces and the context in which they occur. Broadening the level of attention to aspects not considered leads to suggestions for improvements. It supports awareness and offers the tools to bring uncommon, innovative and decisive opinions. It allows analysis of the feedback of the resources involved in a project uninfluenced by prejudice related to roles or positions.



Critical thinking is a transversal competence and among the most demanded in the labour market for qualified and operational profiles. It has become an indispensable feature for managers and entrepreneurs who have to define strategies and face new situations.

Developing critical thinking is a fundamental necessity to not be held back or misled by one's interpretations, build effective relationships in the professional sphere, and discern between possible solutions.



People Management

Definition:

People management is defined as a set of practices that include training, motivating, and directing employees while providing continued support to optimize workplace productivity and promote professional growth for an organization's employees. It is mainly used by workplace leaders, managers and department heads for fostering performance and supervising employees' workflow. ^[15]

People management is an umbrella of human resource management as it includes all aspects of how people work, behaves, engages and grows at their workplaces. The overall work of an organization is dependent on people management, therefore crucial elements such as employer branding, recruitment, compensation, performance management, organization development, safety, wellness, benefits, employee motivation and engagement, communication, administration, and training interlace within an organization and form the employee experience. ^[16]



The importance and usefulness of people management

One of the essential soft leadership skills is people management. Its benefits are observed in staff's productivity and motivation, as it plays a critical role during periods of transition and uncertainty. Indeed, people management is the key to successful change management. ^[17]

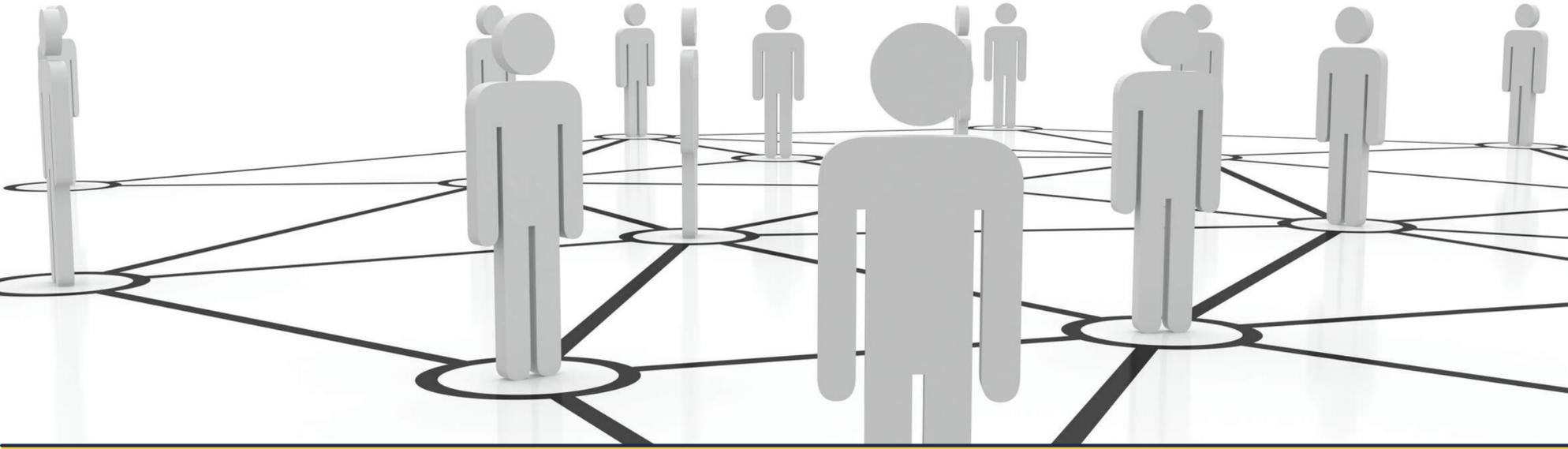
Effective people management can be used for handling interpersonal conflicts as a mediation that encourages collaboration and respect between managers and employees. One of the core elements of people management is providing constructive feedback and mentoring employees to achieve success in their professional performance, improving individual developments. Managing deadlines is another usefulness of effective people management that encourages work progress and establish achievable goals. All of these help for the building company's culture in which every employee can be part by providing their perspective of the company leading to a positive work environment. ^[18]

[15] <https://www.hrtechnologist.com/articles/performance-management-hcm/what-is-people-management/>;
<https://www.indeed.com/career-advice/career-development/guide-to-people-management>

[16] <https://www.hrtechnologist.com/articles/performance-management-hcm/what-is-people-management/>

[17] <https://www.imd.org/mp/leadership-reflections/people-management/>

[18] <https://www.indeed.com/career-advice/career-development/guide-to-people-management>



Key Components of People Management

There are five key components, also known as the 5 Cs of people management: ^[19]

1 *Create*

The key to success is finding the best-fit talent, namely by knowing each member and team's purpose allows creating a functioning workforce framework. Investing in training and evolving employees' skills to the continually changing business needs builds a successful plan and creates more loyalty and commitment.

2 *Comprehend*

A comprehensive approach towards employees' personalities, motivations and personal and career goals leads to a deeper mutual understanding. Thus, active listening, empathy and a people-first approach result in more in-depth insights into an organization's future.

3 *Communicate*

Communication is a vital tool for people management. Open, effective, trouble-free and often, communication is a critical criterion that affects how the work is performed. Providing opening channels of communication and encouraging feedback is at the core of influential people management.

4 *Collaborate*

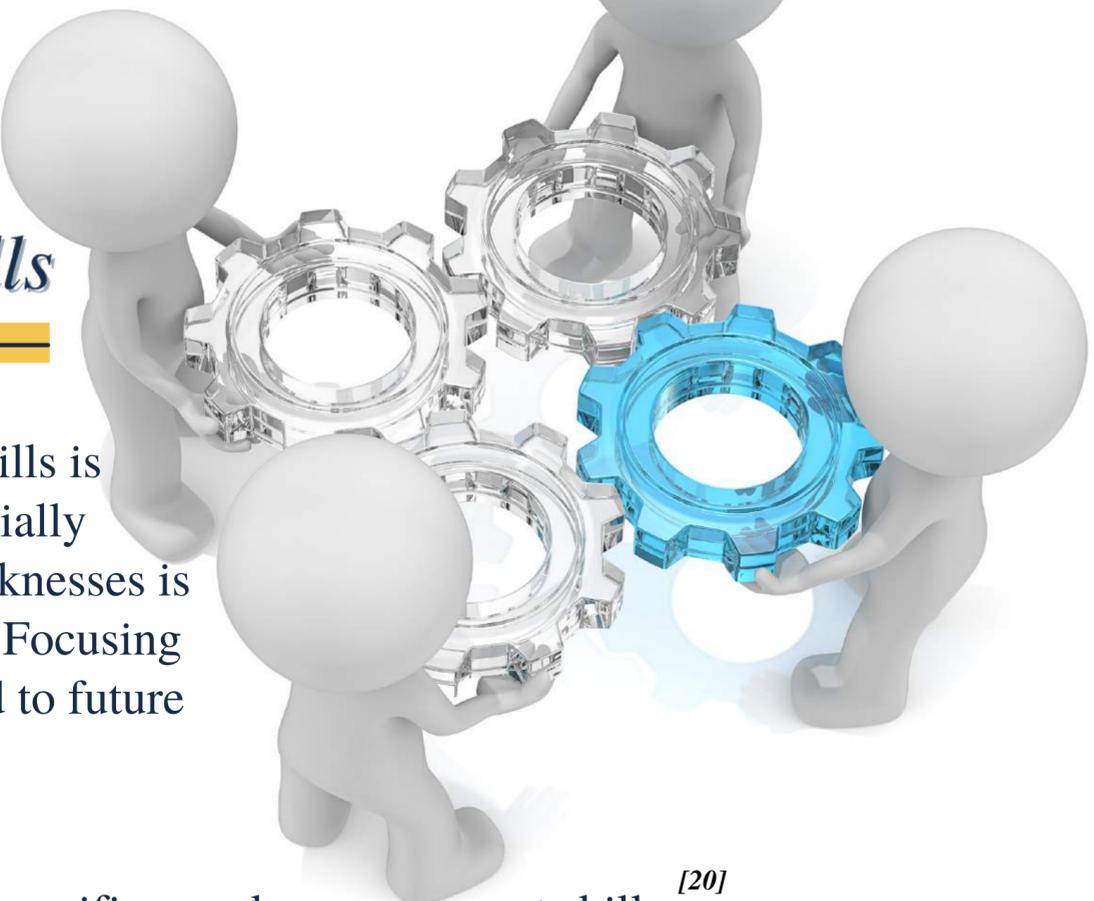
Team collaboration is essential for smarter, faster and more robust results and business endeavours of an organization. Sharing tasks and responsibilities within a team bring a better perspective on work performance and help members realize that they can contribute to their larger vision.

5 *Confront*

Confronting is the final critical characteristic of people management.

[19] <https://www.hrtechnologist.com/articles/performance-management-hcm/what-is-people-management/>

Development of people management skills



Developing people management skills is essential for leadership roles, especially identifying one's strengths and weaknesses is also essential for entrepreneurship. Focusing on areas for improvements can lead to future business adventures.

These are some tips for developing specific people management skills:^[20]

- Select individual skills based on your interests.
- Find and enrol in training development courses.
- Having a mentor/business coach is one of the most used ways to develop people management skills within a short period.
- Ask for feedback.

Top 5 people management skills^[21]

It is not that difficult to make a distinction between a manager and a great manager. Some skills for effective people management define this difference:

1 Trust-building

is a crucial skill for teambuilding. Building trust is a basis for honesty and transparency. Thus managers should always make sure that their team feels supported and encouraged.

2 Empathy

is the ability to understand and perceive the world from the other's perspective, taking into account their challenges, risks, opportunities and fears. Here active listening is a key element.

3 Motivation-mapping

is the skill to establish stronger bonds, better decisions and progress.

4 Praising and rewarding

for a well-done job impact individual in many ways, from their perceptions and efforts towards the work to the whole organization's vision. Even small gestures make a difference in employees' experience.

5 Knowledge-seeking

is a powerful tool that provides insights and enables an in-depth understanding of people and processes.

[20] Guide to People Management: Definition, Tips and Skills | Indeed.com

[21] www.hrtechnologist.com/articles/performance-management-hcm/what-is-people-management/



Conclusion

People management encompasses a wide range of tasks, recruitment, management, and continued support and direction for an organization's employees. These tasks include hiring, performance management, training, safety, wellness, benefits, employee motivation, and communication. It is not only focused on hiring the right people but, more importantly, getting the best out of these people.

The development of people management skills is key for the overall vision of an organization. Unlocking people's potential is considered the main driver of any business's success and vital for entrepreneurship. Effective communication, open feedback should always be encouraged by team leaders, managers and department heads. Following personal development strategies, enrolling in training courses, and inspiring motivational gratitude can lead to a better future for an organization.



3

Simulation game

1 *Theoretical background*

The European Commission has stressed the importance of lifelong learning and, in 2006, identified 8-key competencies for personal fulfilment and development, employability, active citizenship, and sustainability.^[22] Entrepreneurship, which is among them, has become a policy priority, especially in (vocational) education and training.

As the Council's Recommendation on Key Competences for Lifelong Learning (2018) has defined entrepreneurship competence as the "capacity to act upon opportunities and ideas and to transform them into values for others. It is founded upon creativity, critical thinking and problem solving, taking the initiative and perseverance and the ability to work collaboratively to plan and manage projects that are of cultural, social or financial value".

Entrepreneurship has been described as a combination of knowledge, skills, and attitudes (Council of European Union's Recommendation on Key Competences for Lifelong Learning, 2019). Specifically, entrepreneurial competence requires knowing that there are different contexts and opportunities for turning ideas into action (ibid). An entrepreneurial attitude is characterized by a sense of initiative and agency, pro-activity, forward-looking, courage and perseverance in achieving objectives (ibid).



[22] This didactic handbook adopts the approach as used in the European Key Competence Framework (European Parliament and Council, 2006). Entrepreneurship is associated with abilities and attitudes applied in a broader context, instead of having connotations solely to business. Hence, we use the adjective 'entrepreneurial' (entrepreneurial competences, entrepreneurial learning) instead.

The European Commission has established various initiatives to support entrepreneurship. One prominent example is the Entrepreneurship 2020 Action Plan (ENTREPRENEURSHIP 2020 ACTION PLAN. Reigniting the entrepreneurial spirit in Europe, 2013), aiming at supporting and boosting entrepreneurship in Europe. Entrepreneurship has been identified as an essential component in economic growth and employability and marks the basis of a knowledge-based society. The Entrepreneurship 2020 Action Plan calls upon all Member States to work on the following priorities on a European, national, regional, and local level:

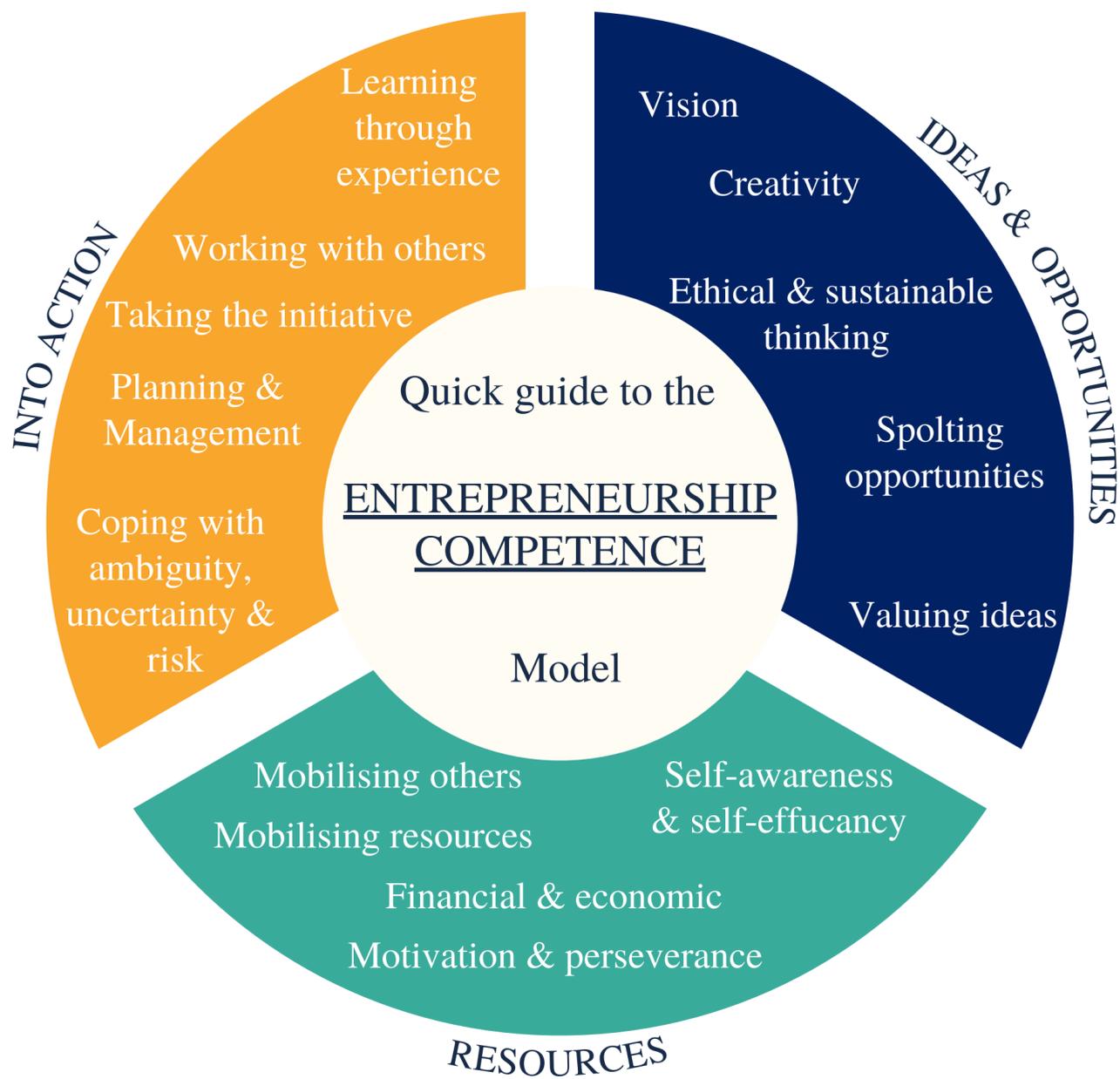
- a) Embed entrepreneurship education and training in their educational systems,
- b) Create an environment where entrepreneurs can flourish and grow within a sustainable ecosystem for the development of enterprises by removing existing barriers and,
- c) Disseminate best practices, initiatives, and projects that promote entrepreneurship and reach out to specific groups in society to enhance inclusion and integration.

According to the European Key Competence Framework, entrepreneurial competences are understood as a set of knowledge, skills, and attitudes (European Parliament and Council, 2006). In 2016, EntreComp Framework was launched to support developing an entrepreneurial mindset and bridge the gaps that existed on a European level. EntreComp classifies within the entrepreneurial competence three interconnected competence areas, i.e., 'ideas and opportunities', 'resources' and 'into action. Under each of the competence areas, the framework describes the knowledge, skills and attitudes required in that area.^[23] It aims to support policy and practice to develop entrepreneurial competencies, assess entrepreneurial skills, support educators' training to deliver and design programs and vocational training on entrepreneurship.^[24]

EntreComp's definition of entrepreneurship embraces various types of entrepreneurship, which encourages cultural, social, or economic value. All types could be applied to either individuals or groups (teams or organizations) and eventually refer to the worth creation within the private, public and third sectors or any hybrid combination of the three.

[23] <https://ec.europa.eu/social/main.jsp?catId=1317&langId=en>

[24] Check out the video here: <https://audiovisual.ec.europa.eu/en/video/I-163141?&lg=EN>



It is vital to comprehend entrepreneurship as a transversal competence. Such a competence could be beneficial to all spheres of life: from nurturing personal development, encouraging active citizenship to foster employment and social inclusion, and starting up ventures (cultural, social, or economic).

"Entrepreneurial learning can hardly be reduced to fixed pre-specific statements of learning outcomes since it deals with the creation of value that does not exist prior to the entrepreneurial learning process and cannot be foreseen in abstraction." (Bacigalupo et al., 2016, p.17)

Finally, EntreComp Playbook is a useful tool for building entrepreneurial competencies – and can be used as a methodology for vocational education and training.^[25] It is an innovative set of practices, tools, and examples of how to activate the nine principles of the EntreComp framework.

[25] EntreComp Playbook: https://publications.jrc.ec.europa.eu/repository/bitstream/JRC120487/jrc120487_entrecomp_playbook.pdf

Entrepreneurial learning

"Entrepreneurial learning is about developing a mindset" (Opeduca, n.a).^[26]

Entrepreneurship learning cultivates a mindset of innovation, a driving factor for sustainable development in the fourth industrial revolution.

Entrepreneurial Learning



Entrepreneurial learning is when an individual (a young person) assimilates entrepreneurial competences (European Parliament and Council, 2006).^[27]

Based on the above, entrepreneurial learning is vital since it improves an individuals' entrepreneurial attitudes, skills, and knowledge, which will equip them with competencies to turn their creative ideas into action. Through the promotion of entrepreneurial learning thus, value is created in all areas of life, which ultimately contributes to a more sustainable labour market and society.



3.1.1 Gamification as an educational tool

Since 2006, the European Commission and the EU members have made significant efforts in promoting entrepreneurial learning among young people, with particular attention to young people with fewer opportunities. Initiatives like Youth Guarantee^[28], Erasmus for young entrepreneurs^[29] and other EU funded projects like EKS aim to contribute to the goals of Europe's 2020 strategy for growth, inclusion, and employability. The EU members' effort does not solely focus on strengthening formal education systems' capacity but also aims to find innovative tools and solutions to create value and enhance young people's entrepreneurial employability, using non-formal methods and experiential/interactive learning. This happens in various educational settings to empower and inspire young people who do not participate in formal education to benefit from initiatives and vocational education and training opportunities and participate in the labour market and society. Therefore, attention is recently focused on evaluating and better understanding entrepreneurial learning, which happens in non-formal and informal settings and identifies new educational methods and innovative tools to reinforce the impact of this learning on young people's inclusion in the labour market by either being entrepreneurs themselves or by enhancing their entrepreneurial competencies which will increase their employability capacities.

[26] The OPEDUCA project: https://www.opeduca.eu/Entrepreneurial_Learning.html

[27] According to the 'Sense of initiative and entrepreneurship' in the European Key Competence Framework', entrepreneurial learning, "includes creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve objectives. This supports individuals, not only in their everyday lives at home and in society, but also in the workplace in being aware of the context of their work and being able to seize opportunities, and is a foundation for more specific skills and knowledge needed by those establishing or contributing to social or commercial activity. This should include awareness of ethical values and promote good governance. The entrepreneurial competence is composed of several specific competences, which are relevant in different stages of turning ideas into action."

[28] <https://ec.europa.eu/social/main.jsp?catId=1079&langId=en>

[29] <https://www.erasmus-entrepreneurs.eu/>



Introducing gamification as a tool in vocational education and training is very important, especially with young adults with fewer opportunities. Unger et al. (2013)^[30] studied gamification and blended learning on employee productivity. Gamification's technological elements, e.g. virtual achievement badges and/or digital certificates, offer recognition and validation while being interactive and fun for the learners. This research has discovered that there through gamification, there was an increase in learners' engagement and productivity.

Some of the benefits of using gamification as an educational tool are:

- Giving learners ownership of their learning.^[31]
- Offering opportunities to learners for self - development through taking on alternate selves/scenarios.^[32]
- Offering a chance to fail and try again without adverse repercussions.^[33]
- Offering fun and interactive learning (either self-learning or within the classroom).^[34]
- Offering innovation in learning by using technology and improving digital skills.
- Making learning visible.^[35]
- Improving decision-making and problem - solving skills.
- Offers learner the freedom to discover their intrinsic motivators for learning.
- Motivating students with fewer opportunities by enhancing their motivation and improving their engagement in learning.^[36]

Finally, according to Elisavet Kiourti (2018)^[37], gamification, when effectively used by either young people or educators for both their individual learning and vocational education, has been scientifically proven to enhance people's socialization skills, emotional intelligence, literacy skills, problem-solving skills, creativity skills, critical thinking skills and coordination with others. All these through an interactive and entertaining medium which has a lifelong impact on people's cognitive and metacognitive factors of learning.

[30] [1]K. Unger, D. Schwartz, and J. Foucher, "Increasing Employee Productivity through Gamification and Blended Learning," in Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education, 2013, pp. 2538–2545

[31] Pavlus, John (2010). "The Game of Life". Scientific American. 303 (6): 43–44. doi:10.1038/scientificamerican1210-43.

[32] Klopfer, E.; Osterweil, S.; Salen, K. (2009). Moving learning games forward (PDF) (Report). The Education Arcade / Massachusetts Institute of Technology. Retrieved 4 August 2016.

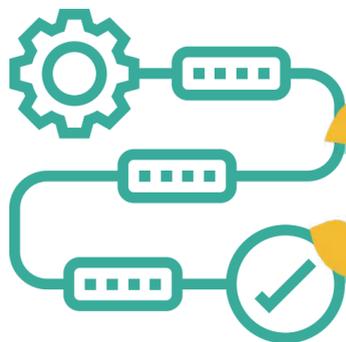
[33] Same as footnote 5.

[34] Lee, J.; Hammer, J. (2011). "Gamification in education: What, how, why bother?" (PDF). Academic Exchange Quarterly. 15 (2). Archived from the original (PDF) on 2011-05-16.

[35] Ibid.

[36] Gooch, Daniel; Vasalou, Asimina; Benton, Laura; Khaled, Rilla (2016-01-01). Using Gamification to Motivate Students with Dyslexia. CHI Conference on Human Factors in Computing Systems. CHI '16. New York: ACM. pp. 969–980. doi:10.1145/2858036.2858231. ISBN 9781450333627.

[37] Kyriazis, Marios & Kiourti, Elisavet. (2018). Video Games and Other Online Activities May Improve Health in Ageing. Frontiers in Medicine. 5. 10.3389/fmed.2018.00008.



3.1.2 *EKS* Methodology

Entrepreneurial learning and young adults with fewer opportunities: Educational needs and gaps highlighted from research

Although entrepreneurial education has become an EU priority to act upon labour market exclusion, there is a lack of a consistent approach to integrating young adults with fewer opportunities for entrepreneurial education systematically. It can then be concluded that fragmentation of entrepreneurial knowledge is revealed. As already mentioned, to promote entrepreneurial learning, new tools and methods are needed to encourage entrepreneurial competences among young adults who wish to become entrepreneurs. The development of youngsters' capacities to turn their ideas into action is an integral part of the EKS methodology. Hence, EKS based its approach on recent studies showcasing the importance of gamification as an innovative educational tool that will help young people to enhance their entrepreneurial competencies and hence decrease youth unemployment ^[38].

Furthermore, to reach our goals as a consortium, research has been carried out by all partner countries to identify best practices of projects working on entrepreneurship and young adults as well as to find national challenges, gaps and needs which we could have addressed through our game in terms of entrepreneurial learning, youth's employability, and inclusion through gamification. Indeed, based on our findings, there is still work to be done in promoting entrepreneurial learning both within formal and informal settings in all partner countries.

Common highlighted gaps from research

Lack of an entrepreneurial mindset and value of entrepreneurship as a transversal skill. There is no sufficient cultivated entrepreneurial education in educational curricula.

Limited vocational education and training opportunities on enhancing entrepreneurial competences of young people with fewer opportunities.

Lack of innovative tools and educational methods to approach young people and include them in the labour market through self-learning or supporting VET professionals.

Lack of understanding of the importance of gamification as an educational tool for lifelong learning.

[38] https://ank.ee/wp-content/uploads/2017/09/8f5910d8-6b64-11e7-b2f2-01aa75ed71a1.en_.pdf

The EKS consortium, through this game and partners' expertise, seeks to bridge the gaps which were highlighted above and contribute to the European Commission's efforts to enhance the employability and inclusion of young people with fewer opportunities through an entrepreneurial learning pathway. The general methodology of both intellectual outputs is based on Open Educational Resources to promote open access to developed educational tools.

Aim of EKS game



The EKS game is a simulation game, which aims to allow young people to work innovatively on the five skills: complex problem solving, critical thinking, creativity, people management and coordination with others, presented in the previous chapter, to enhance young adults' entrepreneurial competencies to foster their participation in the labour market and encourage their personal development.

The game includes both theory and practical tasks that will be tailored to the users' needs, and targeted elements (information, exercises) will be provided depending on the users' actions. At the end of each level, the game will produce a report that will make the player aware of the right and wrong moves s/he made and tips on implementing those skills in real life. Hence, the learners will be able to test themselves and self-evaluate their acquired skills and knowledge and use their tailored assessment report as a tool for further learning.

Furthermore, EKS aims to demonstrate the impact of gamification as a new educational method. The EKS game reproduces virtual, plausible, or hypothetical situations in which the players should overcome through a set of decisions. The game scenarios are a result of partners' expertise and knowledge as well as the research phase conducted by the consortium in previous stages of the project, including both desk-based and field-based findings. As a result, the EKS game's educational goal is to use gamification as a technology tool to engage and motivate adult learners and enhance their entrepreneurial competencies.

Hence, through the EKS game, the consortium aims to generate new knowledge and a transnational entrepreneurial learning model across the partner countries. To motivate the users to play and learn, there will be a possibility of receiving the certificate of achievement, which NEETs will include in their CVs.

Elements of innovation:

EKS is innovative because it uses gamification as an educational tool for lifelong learning and secondly because it focuses on enhancing the entrepreneurial competencies of young adults with fewer opportunities.

Exploitation and Dissemination of EKS game

The tool's flexibility will assure a comprehensive dissemination and exploitation potential, as it will be available for free on the project's website, even beyond the project's duration. Therefore, it could be easily integrated into the various activities carried out by either the partners or external stakeholders and VET institutions. This will multiply the tool's usage. It will be an instrument that could enrich and improve existing initiatives with no additional costs for the organizing institutions or individuals. Finally, EKS methodology might impact the users' lifelong learning and inspire further research and initiatives on entrepreneurial education through gamification of young people with fewer opportunities.

3.2.1 *Expected impact and learning outcomes*

Expected impact of the game

The project is likely to have a sustainable impact within and beyond the project lifetime.^[39] The project's expected impact concerns partners' organizations, their staff and learners, young adults, especially young adults with fewer opportunities, educators, and stakeholders in the sector of adult education (adult education providers, NGOs, job centres) and vocational training. Having EKS' innovative didactic tool, specifically designed for young adults, the aforementioned target groups will attract more learners and provide more effective educational services.

It is expected that the impact will be significant as the game will reach not only young people with fewer opportunities but later, through intensive dissemination, also a broad audience. Playing the game will impact the way young adult learners think by shaping their mindsets and directing them into an entrepreneurial path, influencing their future decisions. As an added value, the impact can also be seen on educators, who will use the game as a didactic tool for teaching entrepreneurship and working on their learners' rising digital skills. Therefore, the expected impact is that it will promote entrepreneurship education to enhance institutions' capacities to train lifelong learning and employability, especially those stakeholders working with young people with fewer opportunities.

[39] For more about the project's impact through these deliverables (EKS game and handbook) on a national and European level, refer to the relevant section in the introduction.

Transferability potential:

Gamification is a transferable educational tool that can be applied in either formal or non-formal educational settings. The EKS game concept will be possible to be transferred to other contexts and with different target groups. Moreover, the game's transferability potential is high as it could be a useful tool for early school dropouts. Using the game itself, regardless of its target group, will enhance individuals' digital skills, literacy, and competence. Therefore, the EKS game could be easily integrated into different training courses, workshops or other educational activities that the target organizations usually carry out, within and outside of the consortium.



3.2.2 Learning outcomes for young adults and educators

The EKS game offers young people to a training pathway and **encourage** them never to give up their **learning throughout their life**.

Young adult learners

Knowledge

The EKS game offers young people to a training pathway and **encourage** them never to give up their **learning throughout their life**.

Skills

Increase in **digital skills**.

Competencies

Increase of **entrepreneurial competence**(skill, knowledge & attitude).

Develop an **entrepreneurial mindset**

The game will enhance **five targeted entrepreneurial skills: complex problem solving, critical thinking, creativity, people management and coordination with others**.

Develop an **entrepreneurial mindset** that will contribute to increased **self-esteem**.

Offer a **self-assessment tool** for individual learning and self-development.

Increase their **emotional literacy skills**.

Offer young people ownership of their learning and thus **enhance their learning to learn competence**.

Young people will be better prepared for the labour market, and their **employability** will increase.

Increase their **decision - making skills**.

Increase of engagement and motivation of adult learners with fewer opportunities.

VET professionals, educators, counsellors

The EKS game offers a useful **didactic tool** for all of them as it will be easy to use (available online).

It offers **flexibility in teaching methods**, as trainers and trainees can manage the users in the way they prefer.

Introduces **gamification as a didactic tool for lifelong learning** to be used in different educational settings (e.g., non-formal education).

Innovation in educational services when it comes to **entrepreneurship education**.

It offers an **innovative medium to motivate and increase young adults' learning engagement, especially young people, with fewer opportunities**.

Will offer educators an **assessment tool** that could be used for **peer-to-peer learning** or **group learning**.

3.3 *User guide*

In this section, you will learn how to play the EKS simulation game. You will find detailed rules of the game, steps to be followed, practical tips, scoring process and final screen conclusions. The EKS game is available for free on the project website and available after the project. The EKS simulation game can be easily integrated into various activities carried out by partners, stakeholders and VET institutions.



How to enter the game?

1

First of all, you need to go on our official project website: eks.erasmus.site. Then go to the results and click on the icon 'EKS simulation game (IO1)'



ENTREPRENEURSHIP
THE KEY TO SUCCESS

[Picture: Project website]



Results



EKS simulation game (IO1)



EKS Didactic Handbook (IO2)

2

The game is divided into five scenarios with different levels of difficulty. The scenarios will help you to develop the following skills: complex problem solving, critical thinking, creativity, people management and coordination with others. As you can see from the picture below, each skill is divided into three difficulty levels.

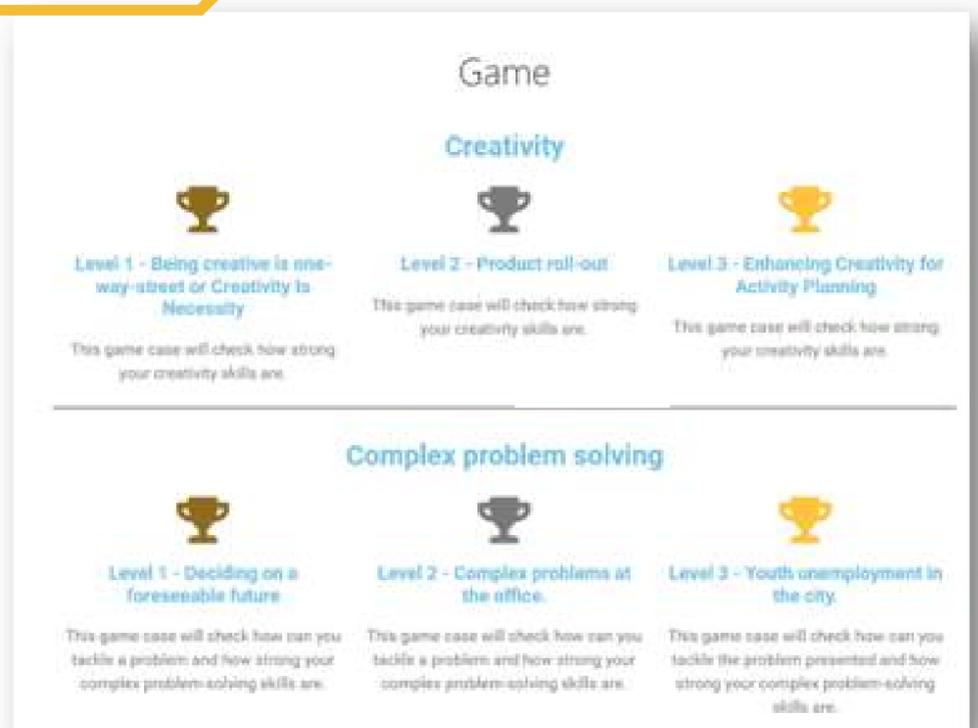


TIP

Start with the first difficulty level and then move on to more advanced ones. This will help you to identify your skills and develop them accurately.



[Picture: EKS game]



3

Select the game you want to play by clicking on the game title and start developing your skills!

How to play a game?

1

Once you have selected the skill you wish to develop, you will be redirected to the game.

2

Each game, at each level, contains both theory and practical tasks that are tailored to the users' needs. Information and exercises are provided according to users' activities.

3

Each game begins with an Introduction. At this stage, you will be presented with a situation that you must find yourself in and imagine that this is the challenge you are facing. (Picture - Introduction of the game

4

Have you read the introduction? Great! Click continue.



[Picture: Introduction of the game]

5

You will then be asked about the various tasks that you must answer. Each question will put you in a different situation. You have to answer what you would do in that situation (Picture Example of a task to be solved)



[Picture: Example of a task to be solved]

6

At the end of each level, you will get a generated report based on your answers. You will also find here tips on how to use these skills in everyday life. (Picture: Final feedback and tips on how to use skills in everyday life)



[Picture: Final feedback and tips on how to use skills in everyday life]

Scoring process

Each of your answers affects the final feedback that is generated at the end of each level. Based on your responses, the system automatically recalculates the level of your skills and explains to you how you can use these competencies in your everyday life.

What competencies will you develop?

<i>Competence/ Level</i>	<i>Level 1</i>	<i>Level 2</i>	<i>Level 3</i>
Creativity	Being creative is a one-way-street or Creativity Is Necessity- This game case will check how strong your creativity skills are.	Product roll-out - This game case will check how strong your creativity skills are.	Enhancing Creativity for Activity Planning- This game case will check how strong your creativity skills are.
Complex problem solving	Deciding on a foreseeable future- This game case will check how can you tackle a problem and how strong your complex problem-solving skills are.	Complex problems at the office- This game case will check how can you tackle a problem and how strong your complex problem-solving skills are.	Youth unemployment in the city- This game case will check how can you tackle a problem and how strong your complex problem-solving skills are.

<p>Critical thinking</p>	<p>Taking remedial actions to decline in sales level - This game case will check how you can tackle the problem presented and how strong your critical thinking skills are.</p>	<p>Expansion into new markets- This game case will check how can you tackle the problem presented and how strong your critical thinking skills are.</p>	<p>Expanding business activities- This game will test your critical thinking skills in a situation of expanding your business.</p>
<p>People management</p>	<p>Keeping the balance - This game scenario will check how you can improve your team's communication in circumstances that require some compromise. The game case will also urge you to think about managing people in situations where you can't find a common solution that will satisfy everyone's needs and expectations.</p>	<p>The team manager's dilemma- This game scenario will put you in the role of a newly appointed team leader/manager and check your abilities to analyze problematic situations and make decisions in the company's and team's best interest.</p>	<p>Dream team - This game scenario aims to take you a step back and guide you through some of the successful team creation process's main aspects.</p>
<p>Coordination with others</p>	<p>Setting your team for new product development- The game case will test your ability to coordinate with others. In this challenge, you will test your ability.</p>	<p>Supporting your team in facing project challenges- The game case will test your ability to coordinate with others. The challenge will test your ability to react to unexpected problems in your group projects.</p>	<p>The coffee revolution – can you handle it?- Following the level 1 focused on building skills for internal coordination of tasks across your team, it is time to go a step further and learn how to look not only at coordination within your team but at how to coordinate with other organizations in your environment to increase the competitiveness of your company.</p>

3.4 Recommendations and tips on how to „play” the game



DO

What to do when playing the game

EKS game could be played in teams and for better motivation, the participants can compete between each team.

As an adult educator, encourage learners to play the game and come back to you with their scores. Proceed with their entrepreneurial training, based on the information you can find in the Core part of the EKS Educational Handbook. After the training, ask them to play one more time and the debrief and reflect on the results!

After users play the game, a nice suggestion is to self or peer- reflect on what went well and what not and define which of the 5 skills they need to work more on. Entrepreneurship is a lifelong learning competence and through reflection, learning can be more impactful for the end-users.

DON'T

What not to do when playing the game

Don't multitask while you are playing. You will achieve a best learning experience if you are focused on your strategic decisions while playing the EKS game.

Don't disregard the facts given in the description box. In case you do so, the results may be discouraging and so will your score.

Do not give up! You can replay the scenarios more than once if you want to challenge yourself. EKS game gives you the opportunity to learn from your mistakes and improve! Cultivating an entrepreneurial spirit is an ongoing learning process anyway.

DO

What to do when playing the game

Do take the time to carefully read the introduction. It contains important information that will enable you to fully understand the situations.

Remember that each game and level can be played multiple times. Use this opportunity to learn about other possible choices.

Remember to read carefully the feedback given. You will find the answers to the scenarios, and additional tips for your daily life and for the development of an entrepreneurial mindset.

If you struggle to figure out the right answer, don't be afraid to look for further information online or discuss different possibilities and their consequences with people in your surroundings. Looking for additional information that will help you take better decisions or asking the right people for advice can help you avoid bad decisions as an entrepreneur, as much as in our simulation game.

For more efficient learning results, you can take notes while you are playing the EKS game. Writing down the significant information, would help you to improve your entrepreneurial knowledge and to remember them for a longer period.

DON'T

What not to do when playing the game

Do not get impatient if the game takes some time to load. Because it uses 3D models, it requires some time to load – and it all depends on the speed of your Internet connection.

Do not rush the gameplay. Think carefully of the possible choices and do not take the decisions that you think will give you more points. Act as if you would be asked to decide in real life.

Do not get discouraged or demotivated if your results are not the best on the first place. Remember that facing failure and mistakes is an important part of success!

Don't forget that you can find relevant for the game knowledge within the EKS handbook. Section 2 of EKS handbook will help you develop your entrepreneurial skills before playing the game or will make it easier to figure out how to improve your results in next try.

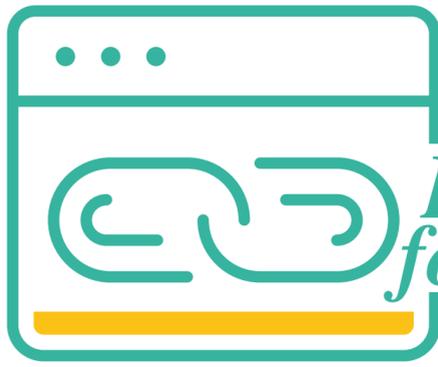
Do not try just to remember while playing the EKS game, but try also to understand. Gaining deeper understanding of the entrepreneurial knowledge would benefit you in your professional future as successful entrepreneur.



4 *Useful links to websites, platforms and OER materials*

The EKS project provides you with a unique opportunity to test and develop your entrepreneurial skills in a virtual environment. Within the EKS game, supported by the material provided in this handbook, you will focus on five critical entrepreneurial skills – complex problem solving, critical thinking, creativity, people management and coordination with others. Whether you feel like your performance in the scope of our simulation was unsatisfactory. You need to improve your entrepreneurial knowledge and skills to face the EKS game's challenges more successfully. Maybe you look for further development possibility to be better prepared to face entrepreneurship challenges. There is a range of open-source materials available that will help you. The list below presents practice-oriented and free of charge resources for your entrepreneurial development.





Recommended links for users in Denmark

a) **Startup Odense** has an online platform that provides a solution by collecting entrepreneurial activities, resources, and actors in and around the Odense region. The platform is for the community and by the community. All stakeholders of the forum are asked to get involved in both the development process and in the delivering content to the platform – to ensure its effectiveness and ergonomic nature.

<https://startupodense.com/>

b) In the **AAU Incubator**, you will find a start-up community and workspaces, where entrepreneurs have a place to work on their start-ups and where guidance is always just around the corner. It is not just a physical meeting spot and a place to go for students with an entrepreneurial mindset but also a focal point for entrepreneurship activities at AAU.

The AAU Incubator hosts a series of workshops, programs, and social events that give you the necessary knowledge and skills to start your business venture. Through our events, you will learn to test and validate business ideas, build a strong business concept, and learn how to get your business off the ground.

<https://www.sea.aau.dk/inkubator>

c) Entrepreneurship must be for everyone because it gives children and young people the skills to create, change and make a difference in the world. The goal is that entrepreneurship should be a natural part of teaching at all levels of education in Denmark. The **Entrepreneurship Fund** was established in 2010 by an inter-ministerial partnership between four ministries based on the, then current, government's overall strategy for entrepreneurship education.

<https://www.ffe-ye.dk/>

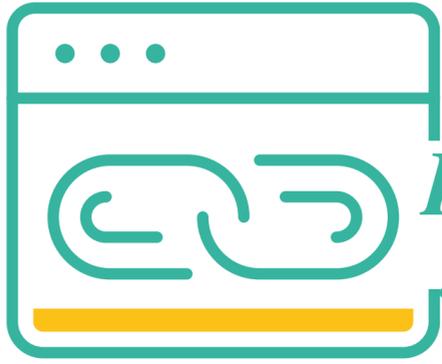
d) **START GROWTH Aarhus** provides guidance and sparring to entrepreneurs and businesses.

Their purpose is to support entrepreneurship and business in the municipality and, therefore, a free and fully confidential offer to everyone in Aarhus.

<https://www.startaarhus.dk/>

e) Every company in the area can get impartial, specialized guidance tailored to their specific needs, dreams and challenges. The 29 municipalities own **Copenhagen Business Hub** which manages part of the state business promotion effort. In Denmark, business support is seen as a good and dignified investment in the community and the future. The independent 1:1 sparring only costs time, will and drive, and every year the Business Hub helps more than 1000 companies with targeted information, concretization and planning etc.

<https://ehhs.dk/omos>



Recommended links for users in Poland

a) Model of support for NEETS in one of the Polish municipalities:

<https://wupbialystok.praca.gov.pl/documents/102984/1047082/Model%20wsparcia%20os%C3%B3b%20z%20grupy%20NEET%20w%20woj.%20podlskim/7aa3a8ad-f27f-4d3e-a15c-f79dc05c044d>

b) Research and advisory centre specializing in the design and implementation of activities in the field of social policy and the development of entrepreneurship including support for NEETs:

<http://www.szkolonia.bdcenter.pl/>

c) District Development Agency established to provide comprehensive development opportunities in the region, including services supporting NEETS:

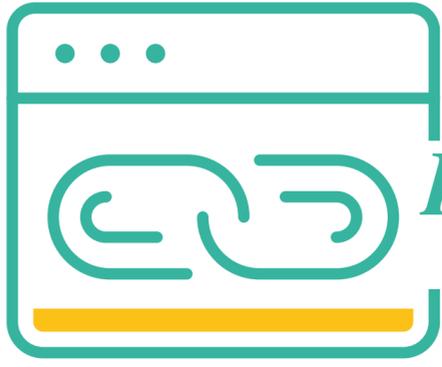
<https://rarr.rzeszow.pl/>

d) District Labor Office, an initiator, organizer facilitator and provider of job opportunities to the unemployed, including NEETS:

<https://wuprzeszow.praca.gov.pl>

e) Training centre designing and providing training for various groups, including NEETs:

<https://www.szkoleniapois.pl/>



Recommended links for users in Italy

a) GARANZIA GIOVANI is Italian initiative in the framework of the European plan to promote the employment of young people up to 29 years of age:

<http://www.garanziagiovani.gov.it/>

b) DUL (Dote Unica Lavoro) - Lombardy Region initiative aimed at qualifying or professionally retraining unemployed people:

<https://www.regione.lombardia.it/wps/portal/istituzionale/HP/servizi-e-informazioni/cittadini/lavoro-e-formazione-professionale/dote-unica-lavoro>

c) SELFIEmployment is Initiative that finances with interest-free loans the start-up of small business initiatives, promoted by NEETs, inactive women and long-term unemployed, throughout the country:

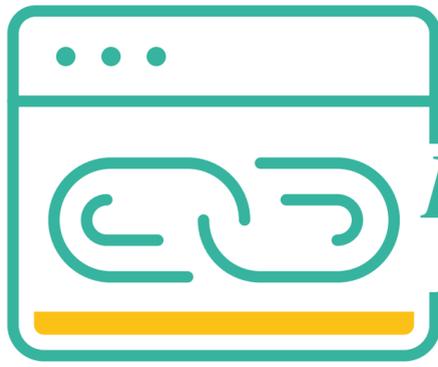
<https://www.anpal.gov.it/selfie-employment>

d) GaranziaHack- Hackathon by the Ministry of Labour and Social Policy dedicated to young developers, designers and technology enthusiasts enrolled in "Garanzia Giovani":

<https://www.eurodesk.it/notizie/garanziahack-partecipa-sviluppa-vinci>

e) Crescere in digitale is free online training project that enhances digital skills, promotes job placement and consolidates companies' digital innovation process through internships for young digitalisers:

<https://www.anpal.gov.it/iniziativa-per-le-competenze-digitali>



Recommended links for users in Cyprus

a) The Cyprus **Ministry of Labour, Welfare and Social Insurance** offers a scheme that provides incentives to recruit young people (Aged 15-29) not in employment, nor Education or Training:

<http://www.mlsi.gov.cy/mlsi/dl/dl.nsf/All/360A922C79D7CDA0C225865400489580?OpenDocument>

b) **UINNO Erasmus+ project** offers a training package to equip with innovation and entrepreneurship skills unemployed adults who are potential entrepreneurs or future start-up creators:

<https://www.uinnoproject.eu/>

c) "**Youth Guarantee to ACTIVate and Empower YOUTH**" in Cyprus: an integrated communications campaign" (Project Acronym: "Active Youth") is a programme offered by Youth Board Cyprus and aims to combat youth unemployment and inform on employment and training opportunities:

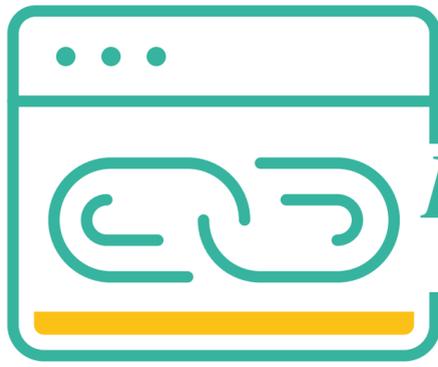
<https://onek.org.cy/en/home-page/programs-and-service/information/active-youth-youth-guarantee/>

d) **Human Resource Development Authority** of Cyprus (HRDA) offers training schemes for unemployed persons to substantially improve their knowledge and skills for productive integration or reintegration into employment:

http://www.hrda.org.cy/easyconsole.cfm/page/project/p_id/82/ &
http://www.anad.org.cy/easyconsole.cfm/page/project/p_id/227/pc_id/17178.

e) **NEET-SYSTEM Erasmus+ project** aims to design and develop a challenge-based educational intervention to re-engage young adults and support them to build skills and competences to assist their reintegration to education or employment:

<https://www.neet-system.eu/>



Recommended links for users in Greece

a) **OAED** supports and offers various services such as CV post area, job searching in Greece and Europe, New Entrepreneurs programmes, public work programmes, registration in counselling groups, etc. :

<http://www.oaed.gr/e-yperesies/oaed-anergoi>

b) **New pilot entrepreneurship programme** by the Greek **Manpower Employment Organization (OAED)** is for young unemployed persons, prioritizing women: to support unemployed young people aged 18 - 29 wishing to develop a business or turn their business ideas into the quality and sustainable business plans:

<https://akep.eu/>

c) **The Academy of Entrepreneurship (AKEP)** is a nonprofit organization that aims to contribute to creating a healthy business environment and supporting young entrepreneurs' business goals and plans:

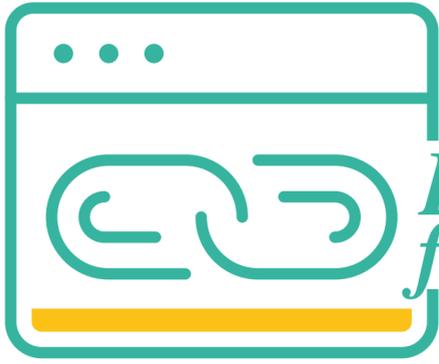
<https://onek.org.cy/en/home-page/programs-and-service/information/active-youth-youth-guarantee/>

d) **Youth Entrepreneurship Education Technology (YET)** is a meeting place for young and future entrepreneurs who want to exchange ideas and promote the necessary conditions for innovation and entrepreneurship:

<https://yet.org.gr/el/yet-greek/>

e) **επιχειρώ** is an online repository space that is continuously updated with links to online free entrepreneurial-oriented courses, seminars, coaching and training services regarding anything related to start-ups and entrepreneurial future in Greece:

<https://www.neet-system.eu/>



Recommended links for users in Bulgaria

a) Mobile games in youth work (mGames in YW) web platform offers mobile games for entrepreneurship, intercultural learning and green skills. Available in English, Bulgarian, German, Polish, Slovenian and Italian languages:

<http://www.mgames-youth.org/index.php/bg/>

b) **Rinker's Challenge** (since 2014) is a unique start-up entrepreneurship program for Bulgaria that includes racing and modular training. The winners receive a grant of up to BGN 20,000 and one-year support from mentors. The competition is once a year:

<https://www.rinkercenter.org/en/>

c) **eNEET Rural** - Facilitating Entrepreneurship and Improving Skills of NEETs Living in Rural Areas Project offers an innovative Toolkit to train young people who are no longer in the education system, not working or being prepared for work (NEETs) and boost their entrepreneurship and increase their employability in agriculture in rural areas:

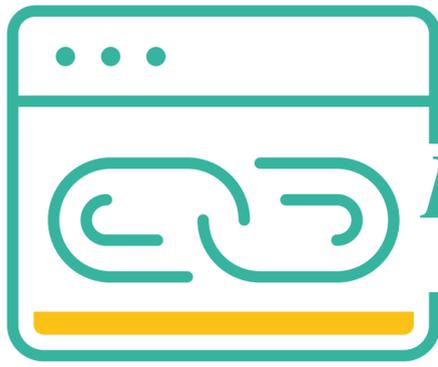
<https://eneet-project.eu/>

d) **My Future** is online platform and provides useful information and resources aimed at students and young adults, helping them explore career pathways and tools to develop self-knowledge to help with career decision-making:

<https://myfuture.bg/>

e) **What can we become** is a website for young people graduating from secondary education, for their parents and teachers, as well as for anyone interested in issues related to career choice and development. Offers useful learning materials and information about various professions:

<http://www.kakvidastanem.bg/>



Recommended links for users in Portugal

a) A free course in Critical Thinking from the **Technological University of Monterrey**:

<https://www.edx.org/course/pensamento-critico-tomada-de-decisoes-fundamentadas>

b) A free online **entrepreneurship course** primarily oriented toward migrant population:

<http://peionline.pt/>

c) A base of **government support** measures to support entrepreneurship and the creation of self-employment:

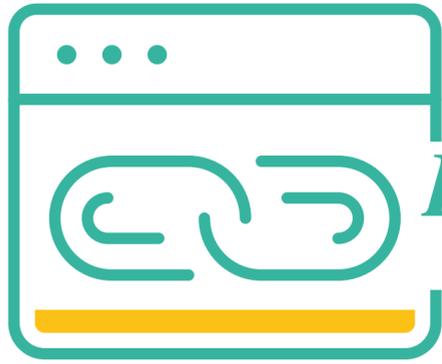
<https://www.iefp.pt/empreendedorismo>

d) **Association of young entrepreneurs** supporting the entrepreneurial activity of youth providing information and support to young entrepreneurs and links to upskilling opportunities:

<https://www.anje.pt/>

e) The base of free online courses supporting the development of skills in the area of management and leadership:

<https://www.santander.pt/empresas/solucoes-nao-financeiras/formacao-online-gratuita/cursos-gestao-e-lideranca>



Recommended links for users in Spain

a) Injuve is a Youth Institute in Spain. INJUVE is an autonomous body of Spain attached since 13 January 2020 to the Spanish Ministry of Social Rights, responsible for promoting actions for young people's benefit. It is responsible for initiatives and activities to facilitate young people's participation in society, promoting cultural, artistic, civic, solidarity, and intercultural development. It also seeks autonomy and emancipation with programs aimed at employment, business and housing guidance:

<http://www.injuve.es/>

b) Youth Guarantee Spain is the National Youth Guarantee System application has been modified to expand some of its possibilities. Youth Guarantee is a European initiative that aims to ensure that young people between 16 and 29 years old can receive an offer of employment, further education, or a traineeship after finishing formal education or becoming unemployed. In any case, the Youth Guarantee in Spain presents a comprehensive, preventive, and early attention approach to facilitate the improvement of employability and labour market insertion of young people:

<https://www.sepe.es/HomeSepe/Personas/encontrar-trabajo/Garantia-Juvenil/preguntas-frecuentes-garantia-juvenil.html>

c) Obvious Project aims to include young NEETS and their participation in society through innovation, the access to training to foster their motivations and necessities, to make them easier their access into the labour market and a future professional career:

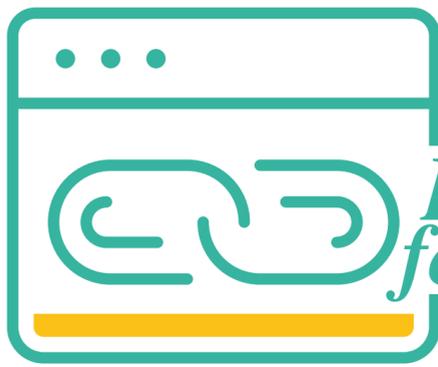
<https://www.agreste.org/proyecto-obvious-incluyendo-a-los-jovenes-n-i-n-i/>

d) UNIR-University on the Internet is a program for Complex-Problem Solving: It is a methodology that consists of using generic or tailor-made formulas in an orderly manner to find practical solutions to problems. One of the main obstacles when solving a problem comes from mental schemes that prevent its correct approach and solution. Applying an excellent problem-solving process can make a difference in terms of speed and effectiveness. The opposite can lead to ineffective solutions, in many cases generating enormous frustration:

<https://www.unir.net/empresa/programa-resolucion-problemas-complejos/>

e) Soft Skills Course. edX is a free online courses in soft skills, covering different business leadership styles, characteristics of how to be a good leader, and more, from institutions such as the Polytechnic University of Valencia:

<https://www.edx.org/es/aprende/habilidades-blandas>



Recommended links for international users

a) **Start-up School** is a free entrepreneurship MOOC course for wannabe entrepreneurs and start-uppers:

<https://www.startupschool.org/>

b) **Online course of University of Auckland regarding Logical and Critical thinking:**

[https://www.futurelearn.com/courses/logical-and-critical-thinking?](https://www.futurelearn.com/courses/logical-and-critical-thinking?utm_campaign=Courses+feed&utm_medium=courses-feed&utm_source=courses-feed&utm_source=RakutenMarketing&utm_medium=Affiliate&utm_campaign=3347507:Class+Central&utm_content=10:1&utm_term=USNetwork&ranMID=44015&ranEAID=SAyYsTvLiGQ&ranSiteID=SAyYsTvLiGQ-.ztS68zxdVEiv.NdbXloqw)

[utm_campaign=Courses+feed&utm_medium=courses-](https://www.futurelearn.com/courses/logical-and-critical-thinking?utm_campaign=Courses+feed&utm_medium=courses-feed&utm_source=courses-feed&utm_source=RakutenMarketing&utm_medium=Affiliate&utm_campaign=3347507:Class+Central&utm_content=10:1&utm_term=USNetwork&ranMID=44015&ranEAID=SAyYsTvLiGQ&ranSiteID=SAyYsTvLiGQ-.ztS68zxdVEiv.NdbXloqw)

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[=44015&ranEAID=SAyYsTvLiGQ&ranSiteID=SAyYsTvLiGQ-.ztS68zxdVEiv.](https://www.futurelearn.com/courses/logical-and-critical-thinking?utm_campaign=Courses+feed&utm_medium=courses-feed&utm_source=courses-feed&utm_source=RakutenMarketing&utm_medium=Affiliate&utm_campaign=3347507:Class+Central&utm_content=10:1&utm_term=USNetwork&ranMID=44015&ranEAID=SAyYsTvLiGQ&ranSiteID=SAyYsTvLiGQ-.ztS68zxdVEiv.NdbXloqw)

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c) **Online course from the University of California regarding Problem-solving:**

[https://www.coursera.org/learn/problem-solving?](https://www.coursera.org/learn/problem-solving?ranMID=40328&ranEAID=SAyYsTvLiGQ&ranSiteID=SAyYsTvLiGQ-os_peiCGGhib2ibc9CfApg&siteID=SAyYsTvLiGQ-os_peiCGGhib2ibc9CfApg&utm_content=10&utm_medium=partners&utm_source=linkshare&utm_campaign=SAyYsTvLiGQ)

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[rce=linkshare&utm_campaign=SAyYsTvLiGQ](https://www.coursera.org/learn/problem-solving?ranMID=40328&ranEAID=SAyYsTvLiGQ&ranSiteID=SAyYsTvLiGQ-os_peiCGGhib2ibc9CfApg&siteID=SAyYsTvLiGQ-os_peiCGGhib2ibc9CfApg&utm_content=10&utm_medium=partners&utm_source=linkshare&utm_campaign=SAyYsTvLiGQ)

d) **Online course regarding People Analytics and Evidence-Based Management:**

<https://open.sap.com/courses/pa1-tl>

e) **Online course of University of Minnesota on Creative Problem Solving:**

<https://www.coursera.org/learn/creative-problem-solving>

f) **Online course from Imperial College of London regarding creative thinking:**

<https://www.edx.org/course/creative-thinking-techniques-and-tools-for-success>

g) **Online course from the University of Queensland regarding Design thinking and creativity for innovation:**

<https://www.edx.org/course/design-thinking-and-creativity-for-innovation>

h) **Online course from State University of New York regarding creativity:**

<https://www.coursera.org/learn/ignite-creativity>

i) The UN guidance to collaboration best practices presenting detailed recommendations regarding how to coordinate collaboration-oriented meetings to engage in collaboration with different types of participants:

<https://emergency.unhcr.org/entry/47908/coordination-skills-methods-and-good-practices>

j) **Carrier guide** presenting joining a community as a strategy to improve your career:

<https://80000hours.org/career-guide/community/>

k) **Advanced guide** to coordination presenting details of how best to coordinate a group of individuals to optimize the impact of their joint efforts:

<https://80000hours.org/articles/coordination/>



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