You th Start

ENTREPRENEURIAL CHALLENGES

OFFICIAL PROJECT HANDBOOK

Table of Contents

Introduction

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In the context of entrepreneurship education in Europe the majority of countries are in a process of educational reform and are now embedding this type of educational offering within a perspective of lifelong learning.

For almost three decades in Europe there has been strongly focus on developing entrepreneurial skills among its citizens and for students at all levels of education. During this time, the field has experienced much development. This has naturally increased the demand for program evaluation to assess different approaches in order to establish their effectiveness and efficiency. Unfortunately, a majority of these assessment studies lack theoretical foundation and they typically focus on a single educational program. Additionally, most of these studies also suffer from severe methodological flaws. It has thus been difficult to draw conclusions about whether it is the program or the characteristics of the participants that generate the effects, and it can be difficult to randomization treatment and control groups. However, considering the costs educational programs entail, it is equally surprising that there are so few examples of educational program evaluations that used the randomized controlled trial method.

The Youth Start Entrepreneurial Challenge Project has focused on providing a significant impact on practical experiential learning programs at the compulsory school level by developing an innovative, transferable and scalable program. It fosters self-directed learning with its transversal interdisciplinary method for conquering the "isolated application" and single activity approach in schools through the collaboration of the high-level public authorities of Austria, Luxembourg, Portugal, Slovenia and Spain.

This project supports the creation of a European champion originating from the members of European Commission's Thematic Working Group on Entrepreneurship Education (2012-2014) and marks further territory for continental Europe in the entrepreneurship education landscape. The development of the entrepreneurial capacity of young European citizens through formal and non-formal learning is a key policy objective for the EU and its Member States. A sense of initiative and entrepreneurship has been identified by the European Commission as one of the eight key competences necessary for a knowledge-based society.

The goal of our project was to fill knowledge gaps in order to guide policy-making in this field, and to more clearly understand what are the mechanisms in entrepreneurship

education that are causing effects in students. The program includes various modules, which focus on different aspects of entrepreneurship, such as core skills, culture and civic aspects. Furthermore, teachers in different subject areas can implement these modules, which makes the program flexible.

The Youth Start Entrepreneurial Challenges project will set the groundwork for evidence-based future of developing policy in the field of entrepreneurship education. It provides ministries and other educational actors a tested and flexible program in an open-source format that they can access in various languages.

Youth Start – Entrepreneurial Challenges project

1. Youth Start - Entrepreneurial Challenges project

1.1. Summary/ Brief presentation of project

The **Youth Start - Entrepreneurial Challenges** project is a European pilot project and represents a collaboration between the ministries of education of Austria, Luxembourg, Portugal and Slovenia. The evaluation process is undertaken by a Danish research foundation (Danish Foundation for Entrepreneurship). We use a **practice-oriented, student-centred approach to entrepreneurship education** to foster core competencies in young people with the aim of improving their chances in the labour market and expanding their outlook on life. The project is characterised by the following important innovations:

- Experimental entrepreneurship education that can be included in existing curricula.
- A flexible, innovative, transferable and scalable programme for self-regulated learning.
- Scientific accompaniment during a field test with the aim of gathering evidence-based data as a basis for reforms in education policy.

The Youth Start - Entrepreneurial Challenges project is designed to increase the students' desire and ability to participate in entrepreneurial activities. We believe that it is through education that we can create a sustainable culture of entrepreneurship, changing the mindset of our students, parents and school communities. Through this project, we are testing the idea that this experiential educational programme will increase the participants' motivation to learn and engage in school activities and help develop their pro-activeness, creative thinking and a risk-taking attitude that will allow them to be more participative, active and responsible citizens while developing their full potential.

The Youth Start - Entrepreneurial Challenges Programme has been newly developed as part of the project. Its main characteristics are:

- it comprises smaller and bigger challenges for big competences divided in Challenge Families;
- it is based on the "TRIO Model for Entrepreneurship Education" and offers challenges in 3 areas: tasks to promote core entrepreneurial skills (such as being able to start an own project), tasks to promote a culture of co-operation and tasks to increase awareness for citizenship and social responsibility;
- it helps students develop the entrepreneurial competencies listed in the Framework of References for Entrepreneurship Competences and includes checklists for self- and teachers' assessment;
- it employs a modular structure and can be used for different grades in various subjects and school types;
- it follows a holistic concept and provides descriptions and instructive videoclips to improve students' concentration, in addition to teaching material for teachers and students;

- it was developed by a team of Austrian experts based on their experience with entrepreneurship education in Austrian schools;
- it is being tested in all participating countries in a field test managed by Danish experts and evaluated in case studies;
- it is currently being used at primary and secondary schools, secondary business and business administration schools as well as secondary schools for tourist and artistic professions.

The programme is oriented around a framework of entrepreneurial competencies and experiential learning theory and is aligned with the Europe Entrepreneurship 2020 Action Plan, specifically with the key action *Entrepreneurial Education and Training to support growth and business creation*. Entrepreneurship education prepares people to be responsible, entrepreneurial and enterprising individuals. It helps people develop the skills, knowledge, and attitudes necessary to achieve the goals they set out for themselves.

1.2. Information about KA3 project (years, data, partners)

PEEP is the project coordinator and implementation occurs between January 2015 and June 2018.

The project is based on a consortium co-funded by the Erasmus+ Programme of the European Union – Key Action 3: European Policy Experimentations. The project partners are: **Portugal** (Ministry of Education; PEEP - Policy Experimentation & Evaluation Platform, non-profit association); **Austria** (Federal Ministry of Education and Women's Affairs; Initiative for Teaching Entrepreneurship, non-profit association; University College of Teacher Education Vienna/Krems; Austrian Federal Economic Chambers - Educational Policy Department); **Luxembourg** (Ministry of Education, Children and Youth); **Slovenia** (Ministry of Education, Science and Sports; The National Education Institute Slovenia and National School for Leadership in Education); and **Denmark** (The Danish Foundation for Entrepreneurship - Young Enterprise). There is also an associate partner from Germany: the Max Planck Institute for Innovation and Competition.

The project addresses the country-specific policy needs of a geographically diverse group of Member States that are at varying levels of policy implementation within the "progression model." The intended systemic impact relates to introducing a rigorous experimentation protocol, creating new teaching methods, reforming teacher training, and giving students the entrepreneurial spirit through experiential challenges.

1.3. Partners' profiles: implementation experience description (2015/2016 and 2016/2017)

AUSTRIA

The Austrian Coordinator of Youth Start is the direct contact person for all 71 schools involved, coordinating the project with the help of regular contact with the authorities at the Ministry and the Municipal School Board in Vienna.

In the spring of 2015, for level B1, there was a call from the Austrian Federal Ministry of Education (for the school year 2015/16) inviting two types of schools to participate in the project: Colleges for Higher Economic Education, from the 9th to the 13th grade, and Secondary Vocational Schools for Economics, from the 9th to the 11th grade. In these schools, two classes had the full extensive programme (9 Challenges) and one class had the full intensive programme (6 Challenges). Twenty schools wanted to participate and were randomized into two groups; additionally, two schools for higher vocational education in tourism (from 9th to 13th grade) were chosen to participate in 2015/16 with one Primus-class and one Secundus-class each. For level A1 and A2 there was also a call in spring 2015, inviting two other types of schools to participate in the project: Primary schools, from 1st to 4th grade (level A1) and new secondary schools, from 5th to 8th grade (level A2). In autumn, we were informed that A2 should also have two randomized groups; four additional new secondary schools were found, which agreed to be the control group.

For the school year 2016/17 (level B1), the team had a call from the Ministry in spring 2016, inviting two new types of schools to participate in the project. 15 Colleges for Higher Vocational Education in Tourism, from 9th to 13th grade, were randomized and participated with a reduced intensive programme of five Challenges plus one B2 Challenge, which is part of their curriculum, while 4 Colleges for Higher Vocational Education in Technics, from 9th to 13th grade, started to implement a reduced version of the intensive programme with 5 Challenges. Also, the Vienna Municipal School Board/ European Office in spring 2016 invited a new type of school to participate in the project (level B1): Part-time Vocational Schools/Apprenticeship, from the 10th/11th to the 12th or to 13th grade. 6 schools participated with the reduced version of the intensive programme with 5 Challenges.

For levels A1 and A2, in school year 2016/17, the methodology applied was the same: call from the Vienna Municipal School Board/ European office in spring 2016, inviting new schools to participate in the project: seven new Viennese primary schools entered the project, using five A1 Challenges for the 3rd grade and five A1 Challenges for the 4th grade. Also, six new secondary schools entered the project and were randomized together with six schools that had already participated, using five A2 Challenges for the 5th grade and five A2 Challenges for the 6th grade.

LUXEMBOURG

The project is coordinated nationally by the Ministry of Education, Childhood and Youth. The selection of schools was the responsibility of a department named SCRIPT within the Ministry of Education. It was based on the actual involvement of the schools in entrepreneurial activities and their motivation to participate in the project. To develop further transversal skills in Luxembourgish schools, the Ministry of Education started in 2014 to participate in different projects aiming to develop entrepreneurial, digital and soft skills. Being part of the consortium that implements Youth Start - Entrepreneurial Challenges was the first big initiative in the field of experimental entrepreneurial learning although other activities in this field have existed for a long time.

In 2015/16 Youth Start was implemented in three secondary schools (two technical secondary schools and one classical gymnasium) and in 2016/17 five secondary schools joined the project (three technical secondary schools, one classical gymnasium and one Luxembourgish-german gymnasium). At primary level, 5 schools participated in 2015/16.

PORTUGAL

Schools were selected by the Ministry of Education of Portugal through the Directorate-General of Education (DGE – Direção-Geral da Educação). DGE made the contacts to achieve the number of schools required to participate in the project and managed the follow-up with the schools involved. The original selection of the schools took place between March and November 2015 and was reinforced at the beginning of each school year with the schools that agreed to be involved. To constitute a representative sample that comprised schools providing different training offers within different geographic and social contexts, DGE identified and contacted potential participant school clusters in three different regions (North, Centre and Lisbon & Tagus Valley). School directors were sent information about the project and invited to project presentation meetings, where schools were officially invited to join. During the meetings, school directors were provided further information on the project, cleared up doubts and shared viewpoints. Also, they were given a deadline to decide if their schools would join. All schools willing to participate then sent DGE commitment letters and registration forms identifying the teachers and the classes that were expected to engage, as well as the contact person for the project in each school. A total of 45 school clusters, including all targeted levels (A1, A2, B1), joined the project. A1 was integrated into case studies, whereas A2 and B1 were integrated into the evaluation protocol and case studies. As planned, the school sample for B1 includes public schools, mainstream and vocational schools, normal and intervention schools (under the "Priority Intervention Education Areas Programme").

Randomization of schools was completed by the end of November 2015. Teacher training took place between December 2015 and May 2016 during the first school year of implementation and between November 2016 and May 2017 during the second school

year. Since the beginning of the recruitment process, communication with schools was regularly kept by email, mainly about teacher training and programme implementation.

SLOVENIA

Promoting entrepreneurship in education is the key priority of the Ministry of Education, Science and Sport. In Slovenia, the Ministry of Education, Science and Sport (MESS), acting as the managing partner, involved two important public institutes to collaborate on a strategy for strengthening entrepreneurship in education. The National Education Institute (NEI) is in charge of implementation, in cooperation with the National School for Leadership in Education (NSLE). NSLE has added training for head teachers to the model, since school management is a very important stakeholder in realising the key priority: the development and introduction of entrepreneurship.

The selection of the schools took place in September and October 2015, based on criteria announced in the public tender for elementary and secondary schools (gymnasiums). In the Slovenia project, Youth Start was implemented in 20 primary schools and 19 gymnasiums.

The model developed in the Youth Start project was very well accepted in primary school and in general secondary schools, which corroborates the strategic orientation of MESS. The project implementation was very successful. The implementation of the model has introduced a different culture into the teaching method. The teachers have implemented the model with extraordinary innovativeness and creativity. The students have become proactive and tackled the content sets of individual challenges with enthusiasm.

In order to boost the effects of the implementation, NEI and NSLE have prepared a support programme for schools implementing the challenges. NEI organised the training of heads of regional units for working under the project – the project's strategic goals, the presentation of challenges and the evaluation methodology; it likewise prepared a protocol for implementing support to schools participating in the project. In agreement with the school, the trainers and the head of the NEI regional unit visited the school, saw the implementation of the challenges in practice, and together with the school project team, the students and the head teacher reflected on the project implementation.

All project partners have presented the project at various scientific panels and to many schools that are not actively involved in the project. MESS regularly presents the project to sectoral ministries: The Ministry of Economic Development and Technology and the Ministry of Labour, Family, Social Affairs and Equal Opportunities, which communicate their viewpoints regarding the implementation of entrepreneurship and incorporate Youth Start project activities into the regular notifications sent to their important stakeholders.

MESS also informs SPIRIT (SPIRIT Slovenia - Public Agency for Entrepreneurship, Internationalization, Foreign Investments and Technology) and the Chamber of Commerce and Industry of Slovenia about the project; both are important partners in promoting

entrepreneurship, although they place greater emphasis on entrepreneurialism and the involvement of entrepreneurs in the education system. Both institutions welcome the project and would like to see it upgraded.

The project manager at MESS regularly presents activities to other sectors at the ministry. The project was likewise presented at EU Day, with the aim of achieving greater visibility of entrepreneurship as the key priority of MESS.

1.4. Experimental methodology: what are Random Control Trials (RCT), how to implement in schools and how to collect data?

A central component of the Youth Start - Entrepreneurial Challenges project is assessing its impact on students. We want to understand how different versions of the programme influence different students, in different national contexts, in different schools, at different levels and with different teachers. There certainly are a lot of differences to consider in this project. So, is it possible to perform this type of policy experimentation? Well, with a rigorous experimentation protocol and randomization you come a long way. By randomizing which students get the educational programme and which students are in the control group, we make sure that factors that might influence the impact of the educational programme have the same probability of occurring in both groups.

This randomization is essential, but it requires a lot of effort, especially from the stakeholders. Since both primary schools and secondary schools are included in this project, and since we follow many students over more than one grade level, there are a lot of stakeholders involved in this project. We use an in-phase randomization method which means that all participating schools eventually will implement the programme, but at different times. Although we measure many variables which many different educational approaches could influence, it is not always motivating to be in the control group, both for the teachers who do not get to implement the challenges as well as the students who do not receive the training. Still, making them understand how important they are to the field experiment is crucial.

To assess the influence of the programme, the data collection must be performed in a correct and structured way. The gold standard within assessment methodology is **Randomized Controlled Trials** (RCT). *Randomized* is the key word here. In order to be able to assess the influence of an educational treatment, it is crucial that it has been randomly distributed. If the allocation of the treatment is not randomized it will be impossible to assess whether it is the treatment or other confounding factors that generate the results measured. To randomly allocate educational treatments is, however, very complicated since educational institutions often are hesitant to participate in these types of experiments. It is therefore important to come up with a well-structured and acceptable strategy for randomization when performing field trials.

One of the main challenges when performing field trials is to identify a suitable control group. Educational institutions typically want to participate in the field trial because they are interested in the educational intervention that is being tested; and the resources that are spent on these types of intervention, such as teaching material and teacher education, can also be attractive to schools. The way this issue is solved in the Youth Start - Entrepreneurial Challenges policy experiment was to make sure that all participating schools got to implement the educational initiative, but at different points in time (this is often referred to as *in-phase randomization*). The randomization was performed at the school level at the start of the project. All participating schools were randomly allocated to two groups: Primus and Secundus. The schools in the Primus group were the first to implement the programme. During this phase, the Secundus schools functioned as a control group, that is, a comparable group who do not receive the educational treatment that is tested. In the second phase, these roles changed. Now the Secundus schools implemented the treatment and the Primus schools functioned as a control group. This approach is possible to implement since the schools receive a new cohort of students each year.

The main advantage of this approach is that all schools included in the field trial become engaged in the project. However, there are some issues with this approach that need to be considered carefully. There is a risk that the experiment becomes contaminated in the later phases. Since in these phases there are teachers who have experience with implementing the programme. Although most teachers continue to higher education levels, some continue to teach on the educational level where the experiment is performed. It is thus problematic to ensure that teachers with experience of the programme do not teach students that were not supposed to get the educational treatment. Even though these teachers are instructed not to teach the programme, it still can have an influence on their students and this would lower the measurable influence which needs to be considered when performing the analysis.

Since it is new cohorts that are included in the field trial each year it is also possible to assess the longitudinal influence of the programme if this is of interest. It is, however, complicated to add new schools, since the randomization is performed at the start of the project. It could be argued that randomization at the class level or at student level would lead to a stronger assessment design since school effects would not have to be considered in the same degree. This is true, but in complex contexts such as schools it would be very difficult to control for contamination issues since teachers typically teach multiple classes and students switch classes, and both teachers and students discuss their educational practice with other teachers and students.

There are multiple variables that can be assessed in these types of field trials. Truancy, grades and test-scores are common indicators to include in assessment studies of educational programmes. The influence of entrepreneurship education is, however, difficult to capture with these types of standardized variables. Many entrepreneurial skills are of a non-cognitive character which means that they are difficult to observe, measure

and assess. In the Youth Start - Entrepreneurial Challenges project, a validated questionnaire which focuses on entrepreneurial intentions, attitudes and self-efficacy was used. Entrepreneurial self-efficacy focuses on an individual's confidence in performing entrepreneurial activities and skillsets. The focus is therefore not on whether the participating students learned entrepreneurial skills, but whether they become confident enough in their entrepreneurial ability so that they also practice these abilities. Education-related variables such as school engagement and educational motivation were also measured, since entrepreneurial education can be very motivating to students as it is hands-on, authentic, collaborative, and lets them take ownership over their learning activities.

The questionnaire was distributed to both the experimental group and the control group at the start of their school year, after their first semester and at the end of their school year. Many students are overconfident regarding their entrepreneurial ability before they experience entrepreneurial education. The mid-test that was distributed after their first semester made it possible to control for this to some degree.

Since it is important in policy experiments to not only understand if a specific programme has the desired effects but also why or why not it has these effects, we test **three different types** in the project. When the schools implement the programme they teach the **extensive version** to two of their classes and the **intensive version** to one of their classes. Both programmes include the same four challenges. These challenges are fairly limited in the required time it takes to implement them. The extensive version does, however, also include two additional challenges. These additional challenges are more extensive and require more time to complete. The third type tested is the **extended version**. One of the classes that have received the extensive version receives a challenge-based entrepreneurship programme also during their next school year. The students that have received the intensive and extensive versions, but who are not selected to participate in the extended version, function as a specific control group to these students. The students who were in the control group during the first stage of the implementation are continuously followed, which makes it possible to compare the results with a pure control group.

By testing different versions, it is possible to assess how extensive the implementation needs to be. Thereby it is not only the effectiveness of the programmes that is tested but also their efficiency. This assessment design also makes it possible to assess the adhesion of schools, since it includes longitudinal data collected during different school years.

Youth Start Learning Programme

2. Youth Start Learning Programme

2.1. Introduction to the Learning Programme

The Learning programme is conceived as a challenge-based learning methodology. It has a flexible and transversal interdisciplinary method and targets students at primary and secondary levels of education. It makes it possible for teachers, in all kinds of schools (regular and vocational) and from various subjects, to embed it in their classes and use the modules with their students. The programme is also adaptable and targets students at primary and secondary schools and involves various subject areas including Languages, Economics, Math, Physical Education, Environment, Arts, Philosophy, Science, and IT, among others.

The programme is based on the "TRIO Model for Entrepreneurship Education", which encompasses three segments. **"Core Entrepreneurial Education"** comprises basic qualifications for entrepreneurial thinking and acting, more precisely the competence to develop and implement ideas. **"Entrepreneurial Culture"** refers to the promotion of personal competences in a social context. We speak of a culture of open-mindedness, empathy, teamwork and creativity as well as risk-taking and awareness of risks. **"Entrepreneurial Civic Education"** aims at enhancing social competencies and empowering students in their role as citizens. After all, democratic thinking and self-reflection help young people express their opinions and assume responsibility for themselves, others and the environment.

The challenges focus on fostering certain competences in the areas of cognitive and personal development, economic education and ethical and social contexts. The 18 Challenge Families of the 3 TRIO segments cover a broad range of themes, activities and situations of entrepreneurship education, with one common goal: encouraging young people to be open to new ideas and to implement these ideas creatively.

There are a great variety of different competencies. To provide a structured overview we have based our programme on the Framework of References for Entrepreneurship Competences, which provides three main categories: **"Developing Ideas"**, **"Implementing Ideas"** and **"Thinking Sustainable"**. In addition, we have grouped the competences according to teaching levels from A1 to C2. Competence descriptions, for instance, include "I can develop creative ideas; "I can evaluate business risks using case studies;" and "I can see ethical problems and solve them". This multi-dimensional diversification makes it possible to set very precise goals for learning success.

The Challenges are based on the "Framework of References for Entrepreneurship Competences" and encompass four proficiency levels, from beginner/ elementary (A1) to upper-intermediate (B2). B2 challenges are aimed at upper secondary education students who have completed B1 challenges throughout the previous school year. These challenges have been highly praised by the participating students and teachers due to the wide range of themes, activities and situations of entrepreneurship education they provide, with the purpose of encouraging young people to think creatively and turn their ideas into practice.

2.2. Brief description of each Entrepreneurial Challenge

The learning programme pedagogical material is directed toward children on the primary level and students on the secondary levels I and II, with age-appropriate challenges for each of these groups. You can find the complete challenges descriptions, materials and resources at http://www.youthstart.eu

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Core Entrepreneurial Education

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Idea Challenge

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A1 Get your ideas moving forward

To introduce the children to this topic in an age-appropriate manner, we will start by analysing a product, in this case, cookies. The children will learn that by using various materials, work and money, something "valuable" can be created from an idea. If possible, this challenge is best concluded by letting the children bake their own cookies.

A1 Create Value

If somebody has a good idea, they can use it to create value. But we should not forget that generating a product often comprises many steps. This challenge uses strawberry jam as an example to teach children about the steps involved, from planting to consumption, and to remind them that sustainability should always be an important factor in production.

A2 Design Thinking- The Perfect Chair

Developing successful ideas takes empathy and a profound understanding of the needs of others. This is what students learn by designing a chair for a specific target group. For this purpose, they will create prototypes, gather feedback and develop solutions.

A2 Design thinking- Welcome to Your New School

Developing successful ideas takes empathy and a profound understanding of the needs of others. Students exercise these principles by welcoming new students with open arms and by supporting them in their integration into the class.

A2 Design Thinking- Make something for your friend!

Developing successful ideas takes empathy and a profound understanding of the needs of others. Students design everyday products, such as key chains or lunch boxes, to make life easier for those around them.

B1 Entrepreneurial Design- a sustainable business model

Students analyse the entire process chain of generating and marketing a product by developing a sustainable business model for their own idea. Furthermore, they will learn about topics such as trademark protection.

Hero Challenge

A2 What makes someone a true hero

What are my special talents and how can I identify them? To answer these questions, students will play a game called "Talent Star". Then they will reflect on how their personal heroes use their talents to succeed. This challenge is intended to motivate students to follow their heroes' example.

B1 Interview an Entrepreneur!

An active approach to learning from practical experience: students select somebody who has successfully implemented a business idea and interview them, using certain guidelines. Then they present their results to the class – using visual aids, if possible.

My Personal Challenge

A1 What's it worth?

How much is a product or service? To provide a practical example, students will be asked to write down what they can buy with 4 Euros. They will also estimate and check the prices of various products. Finally, they will assess their performance in pairs.

A2 Stretching my Pocket Money

Students learn to make do with limited financial resources. They make a budget plan, write down their expenses and discuss reasons for any discrepancies. They learn to make decisions and will develop a better understanding of the concepts of luxury and basic needs.

B2 My First vacation

If you want to go on vacation, there is usually a lot to plan and organise. For this activity, students will reflect on what they expect from a vacation and will then plan a trip – this includes making a financial plan, deciding on how to get there and back, organising accommodation and activities at the destination.

Lemonade Stand Challenge

B1 Selling products

From implementing an idea to purchase planning and accounting, this challenge gives students first-hand experience of what it takes to make a product or a service a big seller and how to achieve the greatest possible success within a given budget.

Real Market Challenge

B1 Core Business Plan

How can you develop an idea into a business model? What are the necessary requirements? Step by step, the students draft a core business plan for their own product or service: including start-up costs, market opportunities, target groups and a financial prognosis.

Start Your Project Challenge

B2 Start your Project

What defines a project? What phases are there, and which tools do you need? The students find answers to these questions while planning, implementing and completing their own project. Depending on how many lessons are available, it is possible to implement smaller or greater activities.

Entrepreneurial Culture

Empathy Challenge

A1 My feelings-Your feelings: Giraffe Language

It is never too early to learn how to empathise with others. The prerequisite for this is that children learn to articulate their own feelings and needs, to understand those of others and to develop ways to work together in class.

A2 Friendship Bag

The "Friendship Bag" helps students resolve conflicts independently. They learn to change their perspective and to empathise with the feelings and needs of others, to appreciate each other and to develop constructive solutions to conflicts.

B1 Empathy Map

Empathy plays a crucial role in business, as the examples Nike and LEGO illustrate. Those, who analyse the way their target clientele group thinks and feels have better chances of

success. To understand this, students use key questions to create an Empathy Map for their own innovative idea.

Storytelling Challenge

A1 Creative Writing 1

Being able to tell a good story can help you succeed in life and in business. The children are introduced to the concept of storytelling through a variety of inspiring activities, carried out in a playful manner. They learn to use their imagination and write down their thoughts.

A2 Creative Writing 2

This challenge builds on and expands the skills developed in "Creative Writing 1". It offers a broad range of writing exercises and inspiring activities and requires students to use network thinking and to give their stories a logical structure and conclusion.

B1 Grab their attention with a story!

An object of everyday life becomes something special when it is featured in a story. The Storytelling Challenge teaches students how this works and how to attract and hold the interest of an audience. This challenge can also be completed in a foreign language.

B1 Elevator Pitch!

Students present their business idea to a group of "investors", but are given only 1 minute to do so. In addition to that, they need to succeed against their competitors. This task is not easy and requires quite a lot of know-how.

YouthStart ENTREPRENEURIAL CHALLENGES

Co-funded by the
Erasmus+ Programme
of the European Union

Buddy Challenge

B2 Buddy Coaching

Your buddies are there for you! Students experience this concept in two ways: they complete a "buddy training" that enables them to supervise and direct physical exercises during class and they learn how to support their peers in achieving their goals.

Perspectives Challenges

A1 Tracking 20 Euro

The aim is for children to perceive themselves as part of the economy and society. For this purpose, they track a 20 Euro note, identify market participants and deduce a simple economic system. Furthermore, the security features of Euro notes are discussed.

A2 Why are there no more fish in the lake?

What are the causes of an event and what are its effects? To understand this, students try to find out why there are no more fish in a lake – and they suggest solutions. They will also discuss the topic "litter and disorder in the classroom".

A2 My Dream Job

What are the causes of unemployment, what are its effects and how can it be avoided? Students use case studies to create a cause-and-effect diagram. In another step, they will describe their dream job and will discuss in class what they will need to do to make their dreams come true.

B2 Network Thinking

Companies face challenges on many levels. Students formulate various goals, investigate correlations and complete a field analysis. Furthermore, they assess the outcome of events and develop different scenarios.

__Trash Value challenge__

A1 Recycling adds Value – New Creations from the Rubbish Bin

It is possible to create interesting things from garbage. This is what children learn by collecting seemingly "worthless" waste products and using them to create new objects. The children then present their recycled creations to the class and assess each other's work.

A2 Recycling adds Value – Useful Objects from the Rubbish Bin

Students learn how to create useful objects from waste products. They then present their creations on advertising posters. They also learn more about Dutch inventor Boyan Slat, who fights ocean pollution by plastic debris.

B1 Increase Value with Upcycling

Students learn how to upcycle waste products. They use them to create individual objects. Then they present their objects and assess each other's presentations. A key aspect of this challenge is the analysis of the values created (material and immaterial values).

__Open door Challenge__

B2 Networking with parents and the school environment

This challenge requires organisational skills! Students plan and organise an event in collaboration with external partners. They are responsible for all steps – from designing invitations to correct final accounting.

Extreme Challenge

A1 Being able to assess oneself

How well can I estimate how much time has passed? To get a better sense of timing, the children compete in a special race, in which the winner is not necessarily be the fastest runner: their task is to run the same route twice and to make sure that their time in the second round is as close as possible to their time in the first round.

B1 Parkour 4 you

Students are introduced to "parkour", a popular training discipline that is all about efficient and creative ways to overcome obstacles. In the gym, they exercise parkour movements and practice how to keep each other safe. These activities boost their self-confidence and teach them how to better assess risks.

B2 Sports and Entrepreneurial Spirit

This challenge is all about setting and achieving long-term goals. The challenge opens with a game of sports. Students then write down their personal training goals for this semester and decide on the necessary steps they need to take. The process and its results are evaluated at the end of the semester.

Be A Yes Challenge

A1 Concentrate on the things which are good for you!

The children talk about their talents and skills and learn to identify and use their personal strengths. Through various tasks, games and projects – such as the "I CAN DO THAT Flower", the "Oracle of Dices", Knietzsche videos, etc. – they gain a better understanding of their own abilities.

A2 Training in Optimism

Being aware of our own abilities makes us more content and enhances our interaction with others. Through various games, activities and projects – from the "Qualities Alphabet" to "Einstein's Disco" – students learn to use their personal strengths in creative ways and with lasting effects.

B1 My Character Strengths

Students first assess their unique personal character strengths in a standardised test. After that, the "Be A YES" programme helps them focus on things that went well and they learn to make conscious decisions.

Expert Challenge

A2 Learning and exercise

Many studies show that physical exercise supports and enhances learning processes. This challenge shows students how a running game with domino cards can help them better remember English terms. The students also reflect on team work versus individual work.

Entrepreneurial Civic Education

My Community Challenge

A2 I live in a Sustainable Way

Students learn how communities make do with limited resources – and how they themselves can contribute. In the "Fishing Game" they learn about the role of sustainable management in the protection of natural resources. In a next step, they monitor their use of plastics over the course of one week and think about strategies to minimise it.

B1 Improving the Quality of Life

How can you measure the quality of life? And what do terms like gross domestic product or the Gini coefficient have to do with it? Specific tasks in the different training units help the students answer these questions. Finally, they develop their own indicator to measure quality of life and discuss, question and debate various aspects of wealth in our society.

Debate Challenge

A1 Let's talk – debating and philosophizing

By reflecting on specific topics and discussing them in an organised manner, children can strengthen many of their personal skills and become more open-minded. The topic is briefly introduced and then it is time for the "Philosophy Box". Finally, the children have a "Ping Pong Debate", presenting their arguments for and against the topic at hand – e.g. plastic bags, television, etc.

B2 Debate club

How can we exchange arguments for and against a certain topic and be fair at the same time? The debate club teaches you the rules and helps you learn to discuss controversial issues, which may even concern your own group.

Volunteer Challenge

A2 Wanted: Volunteers

Charitable work and social commitment are important pillars of our society. This is one of the things students learn by interviewing a person who works as a volunteer. They also learn about the variety of opportunities for voluntary and charitable work.

2.3. Educational materials

The Pedagogic materials are translated into 6 languages (Portuguese, English, German, French, Slovenian and Bulgarian) and adapted to each implementing country's national context – this makes it easier for teachers and students to relate to its content. The different available materials include a Teacher's Guide, a Student Handbook and a PowerPoint presentation for each challenge. All materials can be downloaded at www.youthstart.eu, to be used in the classroom.

Youth Start in Schools

3. Youth Start in Schools

3.1. Which schools can implement Youth Start - Entrepreneurial Challenges?

All types of schools can implement Youth Start - Entrepreneurial Challenges – primary or secondary level, regular, technical, vocational or intervention schools – as the programme is adjustable to all teaching subjects and all student needs. From the experience of our three large-scale interventions, the learning programme was introduced in all types of schools in all participating countries. This is one of Youth Start's greatest assets: its flexibility makes it fit everywhere.

The primary target group in this 3-year project is teenagers from 13-17 years old, although, through the leadership of the Ministries of Education from each of the participating countries, the programme was also successfully introduced in primary schools (students from 8-11 years).

3.2. What is expected from school leaders – leadership forums?

The Youth Start – Entrepreneurial Challenges project promotes the development of a multi-faceted entrepreneurship education strategy focused on leadership forums targeted at school Leaders. These forums encourage debate on entrepreneurship, entrepreneurship education and entrepreneurial school culture, taking the Youth Start - Entrepreneurial Challenges as a starting point for a much-needed wider reflection that goes beyond the project. Schools develop strategic plans tailored to address school management, teachers, parents and community partners. The focus is placed on leadership, capacity building and the mobilization and management of resources, as well as on how the school integrates with its external ecosystem. The Consortium not only trains teachers but also runs School Director Leadership Forums, because they are essential to effectively bring entrepreneurship in a transversal way to their schools and build an innovative learning environment.

The OECD, with the support of the European Commission, launched a foray into Entrepreneurial Schools with Entrepreneurship 360, which developed a comprehensive set of statements that can be used in assessing a school's level of entrepreneurial development. With our project we saw the need for more actionable approaches to accelerate organizational change in schools, which require the effort and commitment of all relevant stakeholders. School development in supporting teachers and directors is needed to develop the competences and skills to lead, teach and assist students in entrepreneurial education and to develop a creative mindset.

The Youth Start – Entrepreneurial Challenges Leadership Forums have been developed in the participating countries by the consortium partners responsible for teacher training and leadership development, together with the national Ministries of Education. Forums have

not only provided specialized training and counselling but have also created opportunities for peer learning and the exchange of good practices. Assistance in developing entrepreneurship education in schools has been provided by introducing new approaches to school management and offering key support and encouragement to educators.

In all participating countries, school directors have been informed about the programme and the project. The way they interacted with their teachers is very individual. There isn't a single answer that encompasses all the schools. Directors allowed teachers to participate in teacher training seminars, they informed their teams about the research and supported the project, as they agreed that research could be done at their schools. Mainly, school leaders and teachers have worked together at every phase of the project. This close relationship was of great importance, making teachers feel supported by their directors at every critical step. One good example of this is when teachers try to convince their colleagues to join and participate in the implementation process – which wasn't always easy, particularly with teachers whose students are preparing for final exams. All involved in Youth Start agree that the involvement and open communication between school directors and teachers are key to handle challenges. For that reason, in many Leadership Forums, it was defined that the school leaders involved should be more active in the data collection process and in the collaborative work with teachers, supporting them. Our experience has shown that having a teacher coordinating the project in each school is essential to its progress, as is the support from its school director.

3.3. How do teachers embed the Entrepreneurial Challenges in their subjects?

The Youth Start – Entrepreneurial Challenges project is an important example of how entrepreneurship education can include teachers from a variety of subject areas who wish to embed the challenges into their existing coursework. The Entrepreneurial Challenges focus on a variety of themes that derive from Civic Education alongside Entrepreneurship Education that come across the curricula of several subjects. Teachers from different countries have embedded the different challenges into a vast variety of subjects – from mathematics to arts, from economics to languages, from biology and history to physical education and geography.

Based on direct inputs from participating teachers, which were collected through face-to-face interviews, we can say that some challenges appear to be easier to adapt to the curriculum than others: from the teachers' feedback, a challenge that addresses the topic from a business or economic perspective tends to be difficult to introduce in Biology classes, for instance. For that reason, some of the teachers chose to implement the challenges in sequence, or through a school project that they had already planned to introduce in class. It all depends on how the teacher will use these entrepreneurial tools, although in some cases it's the embedding is very straightforward. For example. B1 and B2 challenges proved to be excellent exercise for vocational schools (Tourism and Economy courses, mainly) as they are a great learning tool to develop business skills (administration, training, behaviour, customer orientation, personal development, marketing and project management).

The point is to make it easy for the teachers to use Youth Start - Entrepreneurial Challenges in their classrooms. That's why each challenge from the learning programme has many areas for teachers to focus on. These help teachers plan and better understand where to integrate the given challenge in the curriculum.

3.4. Training trainers & teachers

Any teacher can implement Youth Start - Entrepreneurial Challenges in their classroom, although training is highly recommended to ensure a good understanding of each Entrepreneurial Challenge and how to embed it in the classroom. During the Youth Start project, teacher training has been conducted in all implementation countries – and more than a thousand teachers were trained and certified in Youth Start's learning program.

Teacher training was mainly done by the country coordinator. In order to assure high standards, one of the trainers in each country is a member of a Higher Education Institution and pledged to introduce the Youth Start methodology in the initial teacher training programme. It is extremely important to have a teacher trainer who understands the whole programme and not only some challenges.

Teacher training was quite successful and was evaluated each school year very positively by the teachers. Most of the teachers were pleased with the Entrepreneurial Challenges presented, as they thought they represent a big change from the traditional perspective of the entrepreneurial business they were used to. Most of the teachers were well organised and together they sought the best opportunity to implement the challenges. Some of them took more time, but they were all keen to implement the Challenges within a project or within one of their 82 subjects. The implementation options varied according to the time they had, the number of classes they could devote to the Challenges and the opportunity they had to work with their colleagues as not all schools were able to send three teachers to from one class of levels B1 or A2.

To have teacher training means to have trainers and operational decisions (training schedule, number of sessions and geographical dispersion). About these, all the implementing countries took the decisions that best fit their educational system. For example, teacher training took place at the beginning of the school year in Portugal (and continues through the school year in a blended learning format), but in Austria it was possible to make sure that, at the very beginning of the school year, participating teachers had already been trained. The same applied to the specific training sessions – each country had to adapt it in order to match their national requirements for certified training.

Who were the trainers? Any teacher with interest in entrepreneurship can become a Youth Start trainer. Teachers interested from all countries gathered in "train the trainers" sessions, led by the Austrian expert Youth Start partners. These sessions allow not only to assure all trainers have a profound knowledge about Youth Start learning programme, but also to make the training consistent in all countries.

Evaluation & Results

4. Evaluation & Results

4.1. Introduction to Evaluation within the project

The Youth Start – Entrepreneurial Challenges used the **Random Control Trials** (RCT) methodology as our experimentation design since we have full control over the educational "treatment" and are able to randomize which students experience it. All participating schools used the educational modules at some point, except in some cases where the schools were part of the "pure control group". The questionnaires used to evaluate the programme were first developed through the ASTEE project, which developed measurement tools to assess the impact and the influence educational programmes had, not only on participants' entrepreneurial self-efficacy, attitudes, mindset and intentions, but also their future intention to work in innovation-oriented professions. During this project, we tested the effects of an extensive and an intensive version of Youth Start - Entrepreneurial Challenges at primary and secondary schools in four countries. Since it is particularly important to test different moderators in order to inform policymakers in the most efficient way, we tested the programmes in different types of schools and different educational levels.

There are many ways the collected data in Youth Start - Entrepreneurial Challenges can be processed and analysed. Since the educational intervention has been randomly allocated it might be enough to only use the data collected at the end of the school year and analyse on which variables the students in the experiment group differ from the students in the control group. The matched data from the teacher survey could be used as control variables or as moderators in order to investigate the influence teachers had on their students. The analysis should include the school effects as well. The simple way to do this is was to nest the data at school level or even at the class level and account for these clusters in the analysis.

Since there is access to both end line data and baseline and follow-up data this should be used in the analysis to make it stronger and more reliable. A common way to perform this type of analysis is to use ANCOVA or Difference-in-difference. In these types of analysis, it is the difference between the time points that are compared between the groups, e.g. whether the students in the experiment group had increased their level to a significantly higher degree than the students in the control group.

In experimental settings where the educational intervention has been randomized, only the variables that can be expected to have an influence on the treatment effect should be included and the analysis should investigate whether or not these variables interact with the educational intervention. Including additional control variables would only lower the statistical power and it would be unnecessary to include these since their occurrence in the groups should be at random. Controlling for baseline data can be important since Likert-scales, unlike true continues variables, have a natural ceiling. If a respondent has a max-

score in one of the dimensions in the baseline test they will not be able to increase their score further.

It is important to keep in mind that effect sizes in educational interventions typically are smaller than in other studies. Many important educational studies have effect sizes at Cohens P=.10. Cohen usual categorization of effect sizes as .20=small, .50=medium and .80=large should thus be interpreted with care when it comes to assessing the effects of educational interventions.

In order to test whether students have acquired the relevant core competencies, we offer several forms of assessment for all our challenges. An essential feature of our model is the self-assessment to be done at the end of the challenge. The students reflect on their own behaviour, using questions such as: Have I reached my goals? What role did I play in the group? How can I apply what I learned to my daily life? This self-assessment helps students assume responsibility and makes them aware of how important it is that they actively contribute to projects.

4.2. Overview of results of the project

The results show that the programme is most effective on secondary level of education (B1/B2). At this level, Youth Start Entrepreneurial Challenges has a significantly positive influence on students' confidence in performing multiple entrepreneurial competences, and it increases their entrepreneurial intentions and ambition to work with innovation in established organisations. In addition to this, the programme has a significantly positive influence on students' level of school engagement. On average, the programme works most efficiently when implemented in its intensive version, that is, in its shorter version where the number of challenges and teaching units required is limited. However, this varies between the countries and relates to the schools' preparedness to implement this type of programme. The results also demonstrate that the programme has the strongest influence on students who have prior experience with social entrepreneurship education. This indicates that entrepreneurship education should be provided multiple times at different education levels, but that it is important that there is alignment between the educational offerings. The results also show that female students improve significantly more in competences that are often identified as the reasons why they are more reluctant to be self-employed, including financial literacy, resource marshalling and managing uncertainty.
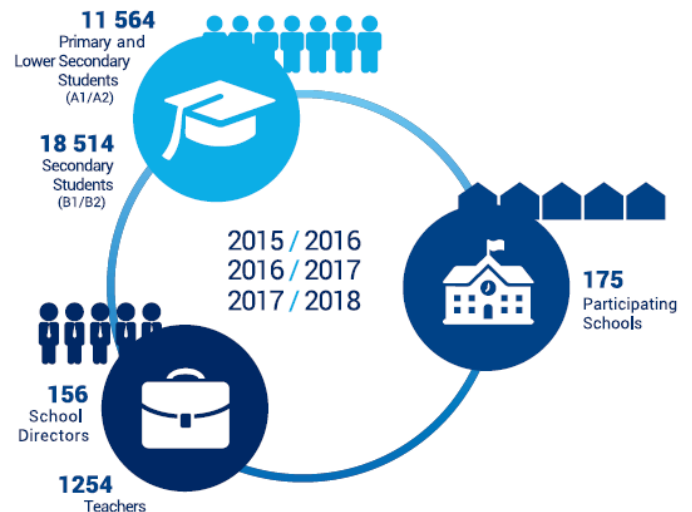
At primary and lower-secondary level (A2 level, with a focus on pupils aged 9-12 or 10-14, depending on the country), the effects are more limited. At this level there seem to be issues with the transferability of the programme design, since it is only in Austria, the country in which the programme was developed, that the intended effects of the programme could be identified.

YouthStart
ENTREPRENEURIAL CHALLENGES

Co-funded by the
Erasmus+ Programme
of the European Union

RESULTS PART 1/4
EXPERIMENTATION PROTOCOL

YouthStart
ENTREPRENEURIAL CHALLENGES
www.youthstart.eu + www.youthstartproject.eu

WHO was involved

The project was a collaborative effort in evidence-based public policy development involving the Ministries of Education of Austria, Luxembourg, Portugal and Slovenia. It promoted an experiential learning program at the compulsory school level, embedded into the existing curriculum. The project used a practically-oriented, student-centered approach to entrepreneurship education to foster core competencies in young people.

11 564 Primary and Lower Secondary Students (A1/A2)

18 514 Secondary Students (B1/B2)

2015 / 2016
2016 / 2017
2017 / 2018

175 Participating Schools

156 School Directors

1254 Teachers

HOW it was tested

Control Group

8 320

Students

10 860

Treatment Group

A central component of the project was to assess its impact on students. Randomizing which students received the educational program (treatment) and which students were in the control group ensured that factors that might influence the impact of the educational program had the same probability of occurring in both groups. Comparing the results of these two groups was key to understanding the impact of the program.

WHAT was measured

The influence of entrepreneurship education is hard to capture, as many entrepreneurial skills are non-cognitive in nature. The project used a validated questionnaire focusing on entrepreneurial intentions, attitudes and self-efficacy. The results revealed which competences and attitudes the program positively affected.

COMPETENCES ◄ ► ATTITUDES

Financial literacy

Marshalling resources

Managing uncertainty

Planning

Venture creation self-efficacy

Creativity

Intrinsic motivation

Entrepreneurial teachers

Innovative employee

Entrepreneurial attitudes

School engagement

Entrepreneurial intentions

In association with QiPP
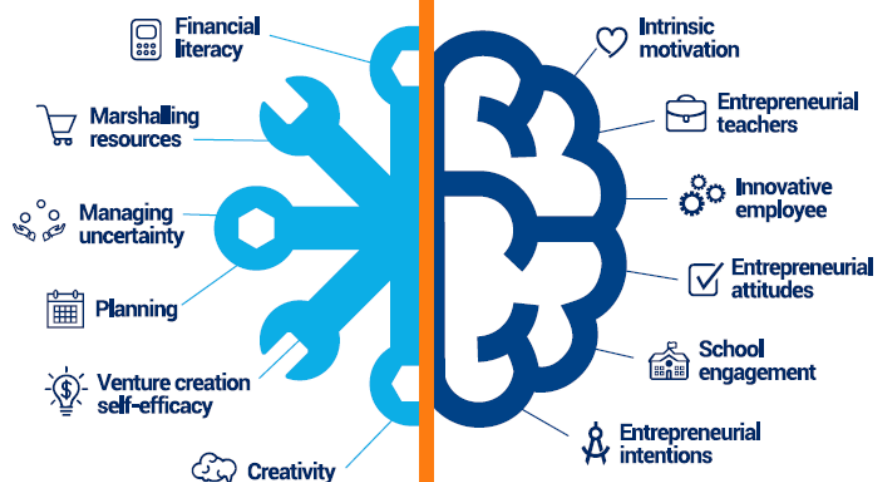
RESULTS PART 2/4
COMPETENCES AND ATTITUDES

YouthStart ENTREPRENEURIAL CHALLENGES
www.youthstart.eu + www.youthstartproject.eu

Main findings

At secondary level, the Youth Start learning program has a significant positive effect on student (n=2199) confidence to perform multiple entrepreneurial competences and it increases their entrepreneurial intentions and desire to work with innovation. It also increases student engagement. Students with prior experience with entrepreneurship education performed the best, and those who continued on to take a 2nd year of the program further increased their level of self-efficacy. The results also show that female students improve significantly more in key competences, including financial literacy, resource marshalling and managing uncertainty.

- ●●● Business skills .337
- ●●● Enterprising skills .187
- ●● Managing uncertainty .147
- ●● Venture creation self-efficacy .142
- ● Planning .125
- ● Creativity .093
- Marshalling resources N/S
- Financial literacy N/S

- Entrepreneurial intentions ● .137
- School engagement ● .099
- Innovative employee ● .096
- Entrepreneurial teachers N/S
- Intrinsic motivation N/S
- Entrepreneurial attitudes N/S

Legend

- ● PERCEIVED EDUCATIONAL FOCUS OF THE PROGRAM
- ● ATTITUDES
- ● COMPETENCES

STATISTICAL SIGNIFICANCE
- 0.001 (highest level) ●●●
- 0.01 ●●
- 0.05 ●

EFFECT SIZE
Measures the magnitude of impact of each competence/attitude
- > .25
- > .20 – .25
- > .15 – .20
- > .10 – .15
- < .10 (but significant)
- Not significant

In association with QiPP

YouthStart
ENTREPRENEURIAL
CHALLENGES

Co-funded by the
Erasmus+ Programme
of the European Union

YouthStart
ENTREPRENEURIAL
CHALLENGES
www.youthstart.eu + www.youthstartproject.eu
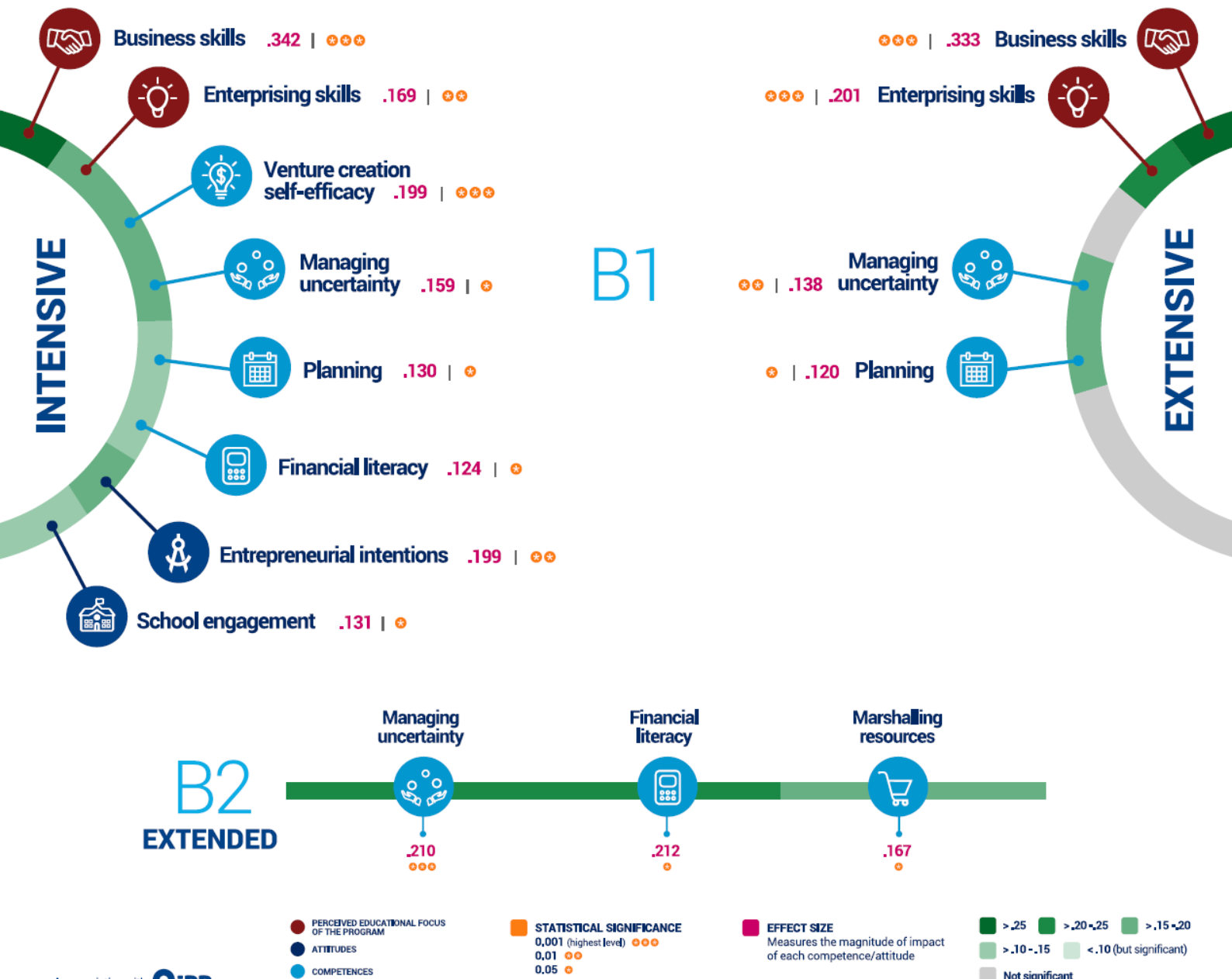
Main findings

The Youth Start Project experimentation was implemented in 1-semester in 20 hours (B1 intensive), 2-semesters in 36 hours (B1 extensive) and 1.5-years in 75+ hours (B2 extended) formats. This Random Control Trail compared students (B1 n=2199; B2 n=1064) aged 13 to 17 year-olds who participated in the program with those in a control group, using pre and post-test evaluations. The results demonstrate that all of these approaches increase competences and attitudes, however, the intensive implementation had a stronger impact on the majority of students.

INTENSIVE — B1 — EXTENSIVE

Business skills .342 | ●●●

Enterprising skills .169 | ●●

Venture creation self-efficacy .199 | ●●●

Managing uncertainty .159 | ●

Planning .130 | ●

Financial literacy .124 | ●

Entrepreneurial intentions .199 | ●●

School engagement .131 | ●

●●● | .333 Business skills

●●● | .201 Enterprising skills

●● | .138 Managing uncertainty

● | .120 Planning

B2 EXTENDED

Managing uncertainty .210 ●●●

Financial literacy .212 ●

Marshalling resources .167 ●

PERCEIVED EDUCATIONAL FOCUS OF THE PROGRAM
ATTITUDES
COMPETENCES

STATISTICAL SIGNIFICANCE
0,001 (highest level) ●●●
0,01 ●●
0.05 ●

EFFECT SIZE
Measures the magnitude of impact of each competence/attitude

> .25
> .20 -.25
> .15 -.20
> .10 -.15
< .10 (but significant)
Not significant

In association with QiPP

RESULTS PART 4/4
PRIMARY/LOWER SECONDARY STUDENTS

YouthStart ENTREPRENEURIAL CHALLENGES
www.youthstart.eu + www.youthstartproject.eu

Main findings

The Youth Start Entrepreneurial Challenge demonstrates how entrepreneurship can be embedded in primary school in different subject areas. The field trial included students at the A2 level of primary/lower secondary school with 91% between 10-12 years old.

Results show that the learning program had the largest influence on students' financial responsibility, social orientation and empathetic orientation.

Field trial

PARTICIPATION

7 464

2 251
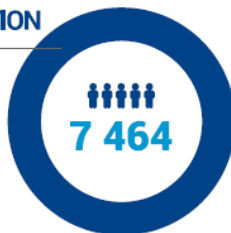
FINAL SAMPLE

The Youth Start learning program was evaluated with a randomized controlled trial that incorporated data from pre and post-tests. Although 7,464 students participated in the program at this level, the final sample represents those that were properly randomized and whose pre and post-tests responses were matched.

Financial responsibility

.115 ✪

The largest overall effect for students was on their financial responsibility. The measure of financial responsibility is defined as understanding that a person needs to work in order to be able to get what they want. It encompasses concepts of purchasing, effort, money and performing tasks.

Country highlights

AT
Entrepreneurial behaviour
.187 ✪

Entrepreneurial teachers
.281 ✪✪

Empathy: Pro-social
.215 ✪

LU
Planning
.280 ✪✪

PT
Financial responsibility
.200 ✪

SL
Entrepreneurial teachers
.122

STATISTICAL SIGNIFICANCE
0.001 (highest level) ✪✪✪
0.01 ✪✪
0.05 ✪

EFFECT SIZE
Measures the magnitude of impact of each competence/attitude

In association with **QiPP**

Looking at the Future

Looking at the Future of Youth Start

Prof. Johannes Lindner
Entrepreneurship Education Expert

Don't say "Start!", say "Join in!" if you want something done. In seven Conclusions (see the illustration 1) we would like to invite you to use the "Youth Start Entrepreneurial Challenges" program.
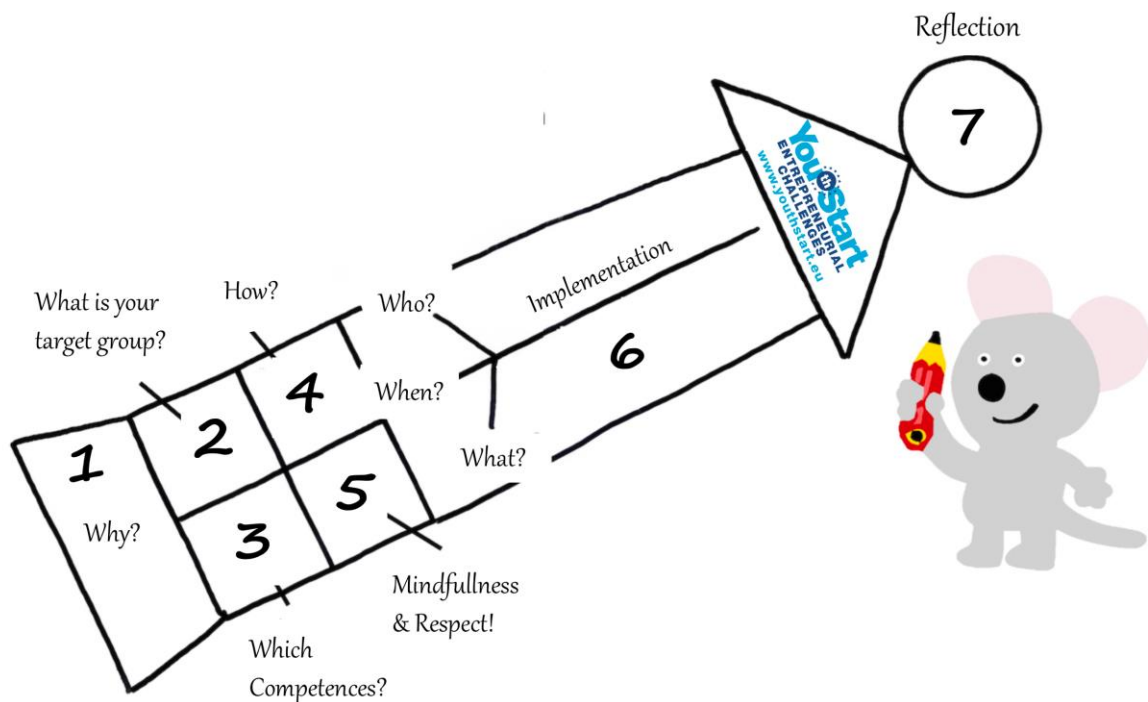

Illustration 1: 7 Conclusions to the Youth Start Program

TOP 1: Why use Entrepreneurship Education?

A socially responsible market economy needs confident and responsible citizens, who take an active role in shaping their own future and that of society they live in through entrepreneurial and social initiatives. Without people who are willing to become active and implement their dreams, we would now be living in a very different reality. There would be no art and no schools, no cars and no medicines, no rule of law and no consumer protection

if people did not stand up again and again for ideas and change the rules of society with civil courage (cf. Lindner 2018).

Participation must be learned anew by every generation. Each generation is challenged to develop their competencies, ideas and values that are important for their lives and society. All employees and entrepreneurs of the future are in school today, the type of their education will shape their social image and economic understanding. Entrepreneurship Education offers an emancipatory approach that promotes creativity, willingness to take responsibility, commitment and risk, as well as an understanding of the importance of entrepreneurs for the dynamics of the society and for social balance.

The focus is on the promotion of an Entrepreneurial Mindset, which promotes a way of thinking and attitude for the development and implementation of new ideas, an attitude that can shape behaviour in many work activities and in everyday life. The TRIO model of Entrepreneurship Education (cf. Aff/Lindner 2005) shows the reach:

1. Level / Entrepreneurial Core Education: Development and implementation of own ideas for entrepreneurial and professional independence, but also for private challenges

2. Level / Entrepreneurial Culture: Strengthening a culture of independence and openness in daily dealings

3. Level / Entrepreneurial Civic Education: Promoting participation in civil society with commitment and capacity for discourse as a critical citizen.

TOP 2: What is your target group?

The "Youth Start Entrepreneurial Challenge Programme" offers the possibility of experience-oriented learning paths from primary school to high school through smaller and larger entrepreneurial challenges (see www.youthstart.eu). Entrepreneurship competences develop over time, in a process that starts long before individuals embark on their professional careers, which is why the framework of reference for entrepreneurship competences includes several competence levels. These levels correspond to the conventional division into primary, secondary and tertiary levels:

- competence level A (primary level, beginners) refers to elementary entrepreneurship applications,

- competence level B (secondary level) to independent and

- competence level C (tertiary level) to fully competent entrepreneurship applications.

The individual competence levels are subdivided into a higher and lower level each, creating a total of six competence levels.

TOP 3: Which competences?

There are a great variety of different competences. To provide a structured overview we have developed the Youth Start-reference framework (cf. Lindner 2014) with three main categories: "Developing Ideas", "Implementing Ideas" and "Thinking Sustainability". Competence descriptions for instance include "I can develop creative ideas", "I can evaluate business risks using case studies" and "I can see ethical problems and solve them". This multi-dimensional diversification makes it possible to set very precise goals for learning success. The Youth Start-framework has been used as a reference for the creation of the EntreComp framework (cf. Bacigalupo 2016).

TOP 4: How?

Challenge-based learning is a practically oriented approach to entrepreneurship education and is based on the learning cycle "challenge – feedback – reflection". This learning method combines an action-oriented (especially project-oriented) pedagogical approach with a reflection-oriented pedagogical approach. A challenge is defined as a demanding and complex task that is tailored to the target group and reflects their daily reality. Learners are challenged to develop and implement ideas (often in collaboration with others) for the specific situation in question. Our "daily reality" follows its own dynamics and in order to cope with it we need to adopt a process of inquisitive learning in a close correlation between theory and practice. Children and adolescents should learn early on that they can develop their own ideas and confront challenges on their own. Feedback on one's own learning offers should be undertaken. Adequate feedback uses the "backwards design model". The competences that are to be achieved are made transparent at the beginning of the learning cycle. Following a phase of independent and creative work, feedback is provided in the form of "teacher assessments", "peer assessments" (students) or "self-assessments".

The program offers the possibility to integrate modules in different subjects or as standalone subject Entrepreneurship or Shaping the future up to an Entrepreneurship School. The aim is to regularly implement a learning offer from elementary school to high school.

TOP 5: Mindfulness and Respect

The "Youth Start Entrepreneurial Challenges" program regards learning as a holistic process: Physical activities that combine rhythmic exercises, kinaesthetic learning and tuina can help us activate our brain and improve our concentration because these movements challenge our brain and thereby enhance our coordination, our ability to think and our mental fitness.

We are using as a fundament mindfulness exercises to focus our perception and concentrate our attention on the present moment. This state of mind enables us to stay centred despite the sensory overload to which we are often exposed and to confront challenges in a more relaxed manner. It also helps us (re)act in a self-efficacious manner – without being influenced by prejudices. In short, mindfulness exercises teach us to observe ourselves and others without judging. Treating ourselves and others in a mindful manner enhances our emotional intelligence and is an essential factor in social cohesion. Studies have also shown that regular mindfulness exercises benefit our physical and mental health.

TOP 6 & 7: Pedagogic Implementation & Reflection

Understanding the value and the need of Youth Entrepreneurship Education is just the beginning. As with any educational reform movement, the challenge is bringing it to the classroom. The followings are recommendations, based on my experience. There are several indicators which you can check in the Self-Assessment of Implementing Entrepreneurship Education (see the illustration 2).

Self Assessment of Implementing Entrepreneurship Education

	Learning Tools & Environment	Standards	Curriculum	Assessment	Professional Development of the teachers	Leading & Management	Stakeholder Involvement	Policy Maker
Early Stage								
Transitional Stage								
21st Century								

Illustration 2: Self-Assessment of Implementing Entrepreneurship Education

A first step is to strengthen teachers with a pioneer group and to develop learning methods and documents, as we have done. The Youth Start Program is a bottom-up approach of dedicated teachers, involving students and young entrepreneurs. Teachers and a working group as pioneer teachers are a central component for the implementation. The Youth Start Program and the adaptation for the own target group and school needs committed teachers. The next step is to link up with the school development so that further teachers can be integrated, and entrepreneurship education becomes part of the school program (cf. P21).

These steps are the bottom up way. Another important step is the exchange of experiences up to the development of Entrepreneurship School approaches (eesi-Entrepreneurship School www.eesi-impulszentrum.at).

After a successful implementation, a reflection on the successes must be carried out. We conducted a three-year field trial with thousands of young people and many teachers (thanks for the cooperation). A program that has been scientifically tested and shows that it is successful should have a good chance of becoming part of the regular system, i.e. part of the curriculum and regular Professional Development of the teachers. At this point in time at the latest, education policy-makers should support your work. In the EU area, decisions by the EU are certainly a supporting factor (cf. European Commission 2013, European Council 2014).

All entrepreneurs of the future are in school today, the nature of their value-oriented education and their willingness to participate is shaped by today's learning. Be a part of the entrepreneurship community!

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