Youth Start – Entrepreneurial Challenges project and its implementation in Portugal : Evidence from field trials

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Abstract

This paper analyses the implementation of the Youth Start – Entrepreneurial Challenges project[1] on the learning outcomes of the students regarding their entrepreneurial skills and measures the influence of the project in teaching practice. This project promotes experiential learning programmes at the compulsory school level by developing an innovative, transferable and scalable programme through the collaboration of the high-level educational public authorities of Austria, Luxembourg, Portugal and Slovenia. The Youth Start learning programme's modules promote the development of cognitive and non-cognitive entrepreneurial skills and abilities as well as foster a culture of responsibility and enterprise. The learning programme is hypothesised to increase desirability and feasibility of students to be entrepreneurial. In addition, it is also believed that student participants will find schoolwork more enjoyable and meaningful and that the programme will increase their motivation to learn and engage in school activities. To test whether or not the hypotheses are

[1] The Youth Start – Entrepreneurial Challenges project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

supported we will analyse to which extent the participants develop entrepreneurial self-efficacy, entrepreneurial intentions, entrepreneurial attitudes and entrepreneurial mindsets. The primary target group in this three-year project are teenagers aged 14 to 17, who are reached through three large-scale interventions. Through the leadership of the ministries of education from the participating countries, the programme was extended to primary schools (students aged 8 to 11). A quasi-experimental design utilising an ex-ante and ex-post approach as well as randomised experimental groups are used to evaluate the effects on students from the secondary education level and from the second cycle of basic education (ages 10 to 11), but the focus of this paper is analysing qualitative data through in-depth interviews with Portuguese educators from different teaching education levels. This qualitative research is intended to better understand the effects of the quantitative data that the project involves and observe the impact of Youth Start programme in Portugal.

Keywords: entrepreneurship education, policy experimentation, Challenges, Youth Start project.

1. Literature review

In the context of entrepreneurship education in Europe, the majority of countries are in a process of educational reform and are embedding this type of educational offering (European Comission, 2016). One of their objectives is to strengthen entrepreneurship education from the perspective of lifelong learning across all educational levels.

For almost three decades there has been a strong focus on developing entrepreneurial skills among students at all levels of education. During this time, the field has experienced much development (Katz, 2003). This has naturally increased the demand for programme evaluations of the 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 programme (Fayolle, 2013). Additionally, most of these studies also suffer from severe methodological flaws. It has thus been difficult to draw conclusions about whether it is the programme or the characteristics of the participants that generate the effects (Rideout & Gray, 2013).

Naturally, it is challenging to assign educational treatment through a randomised process. However, considering the costs educational programmes entail, it is equally surprising that there are so few examples of educational programme evaluations that used the randomised controlled trial method (Bouguen & Gurgand, 2012).

Many studies demonstrate contradictory results, but it is difficult to assess whether this has to do with the different contexts or whether it is a product of flawed methodological design. Even the quantitative meta-analyses in the field disagree in regard to the effects of these types of educational interventions. Martin, McNally, & Kay (2013) concluded that education on this topic has a small but positive influence on entrepreneurship-related human capital and outcomes, and Bae, Qian, Miao, & Fiet (2014) did find, however, that the difference in entrepreneurial intentions between “normal” students and entrepreneurship students disappeared when they controlled for previous levels of intentions. This suggests that there is a significant amount of self-selection that needs to be controlled for when assessing the impact of the programmes.

Oosterbeek, Van Praag, & Ijsselstein (2009) performed a rigorous experimental study of the well-established entrepreneurship “Company Program”. Like most evaluation programmes within the field, they focused on assessing the effect that the programme had on the students’ entrepreneurial intentions. They reached the somewhat unexpected finding that this programme led to a decrease in entrepreneurial intentions. Elert, Andersson, & Wennberg (2012), who used propensity score matching in their longitudinal analysis, did, however, find that the “Company Programme” had positive effects on the participants’ long-term entrepreneurial behaviour. A third study at primary level that applied a rigorous experimental design was found that the programme had no significant

effects on the pupils' entrepreneurial intentions or their entrepreneurial cognitive skills, but did have a very positive impact on their noncognitive skills (e.g. pro-activeness, risk-taking, creativity) (Rosendahl-Huber, Sloof, & Van Praag, 2014).

Thus, it seems necessary to use comparative analysis to understand what are the mechanisms that are causing effects. To increase our understanding of these mechanisms it is also recommended that qualitative data collection is performed (Mohr, 1999). Comparative program evaluation is, however, not just effective when it comes to investigating dimensions and mechanisms, it also makes it possible to assess the effectiveness and efficiency of different types of programmes. Since this information is typically what policymakers value most, many experts within the field have requested an increased use of this methodology. It is therefore necessary to move from theoretical single-case evaluations and to start focusing on theory-driven evaluations of multiple educational initiatives (Fayolle, 2013).

Interviews are particularly useful for getting the story behind a participant's experiences. The interviewer can pursue in-depth information around a topic (Harvey, 2017). This paper presents a descriptive study where we used in-depth interviews to design a case study.

According to with Boyce & Neale (2006), in-depth interviewing is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives and experiences on a particular idea, programme, or situation. The primary advantage of the in-depth interview is that they provide much more detailed information than other methods Another advantage is the fact that the interview is realised in a more relaxed environment. However, some disadvantages of this methodology could be the need of having well-prepared interviewers and the fact that the results are not generalizable because of the small samples.

In-depth interviews vary from informal conversations to more formal interviews, which may be unstructured, semi-structured or structured (McNamara, 2009). We will use semi-structured interview where any group member can answer the questions and/or elaborate their answers based on responses from other group members.

2. Teacher Training and Youth Start Challenge Model

Teacher training is one of the core aspects of the Youth Start – Entrepreneurial Challenges project and is required for the main project implementation as well as scaling to other geographies not included in the original four countries involved in the project which include Austria, Luxembourg, Portugal and Slovenia.

Following training in these countries, the trainers, in turn, trained teachers that implemented the Challenges with students in classrooms. The project ended the Implementation Phase I during the 2015/2016 school year and is ending Implementation Phase II that corresponds 2016/2017 school year. The implementation in classrooms will continue for one more academic year.

For the first phase of implementation, the national researchers collected the feedback from the teacher trainers in the participating countries. This feedback was used in discussing revision of the original learning programme for further improvements. The collecting of the teacher feedback ended in June 2016. The feedback from the teachers and trainers was summarised in a report and the findings contained in this report were used by the Austrian author's team in revising the challenges for Implementation Phase II that took place during the academic year 2016/2017.

Trainers work on the Youth Start Challenge Model that encompasses: 1) Entrepreneurial Core Competency Challenges (i.e. Idea, Hero, Lemonade Stand, My Personal, Real Market and Start Your Project) that will build student ability to turn ideas into action; 2) Entrepreneurial Culture Challenges (i.e. Empathy, Storytelling, Buddy, Perspective, Trash Value, Open Door, Extreme, Be a Yes and Expert) to build entrepreneurial attitudes including initiative, pro-activity,

independence and innovation in personal and social life as well as in the motivation and determination of meeting objectives; and, 3) Entrepreneurial Civic Education Challenges (i.e. My Community, Volunteer and Debate) which includes awareness of ethical values and the promotion of good governance.

The project uses a Trio Model (Figure 1) that is a holistic teaching system encompassing three segments: 1."Core Entrepreneurial Education", which comprises basic qualifications for entrepreneurial thinking and acting, or more precisely, the competence to develop and implement ideas; 2."Entrepreneurial Culture", which refers to the promotion of personal skills in a social context as a culture of open-mindedness, empathy, teamwork and creativity as well as risk-taking and awareness of risks; 3."Entrepreneurial Civic Education", which aims at enhancing social skills and empowering students in their role as citizens. This model is predicated on democratic thinking and self-reflection to help young people express their opinions and assume responsibility for themselves, others as well as their environment.

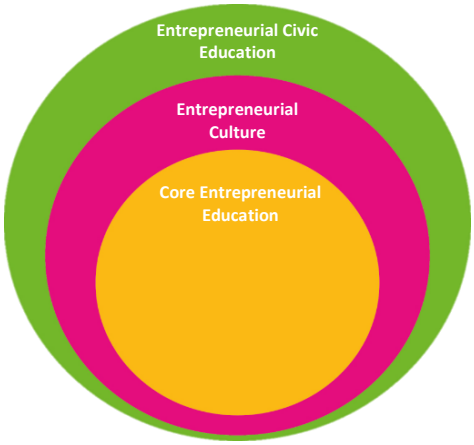

Figure 1 – Trio Model.

The Programme's Challenges focus on fostering certain skills in the areas of cognitive and personal development, economic education and ethical and social contexts. These are based on the Framework of References for Entrepreneurship Competences, Version 15[2].

The 18 Challenges families (Figure 2) of the Trio Model segments covers 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.

[2] http://www.slideshare.net/associacaopeep/framework-for-entrepreneurship-competences, retrieved on July 3, 2017.

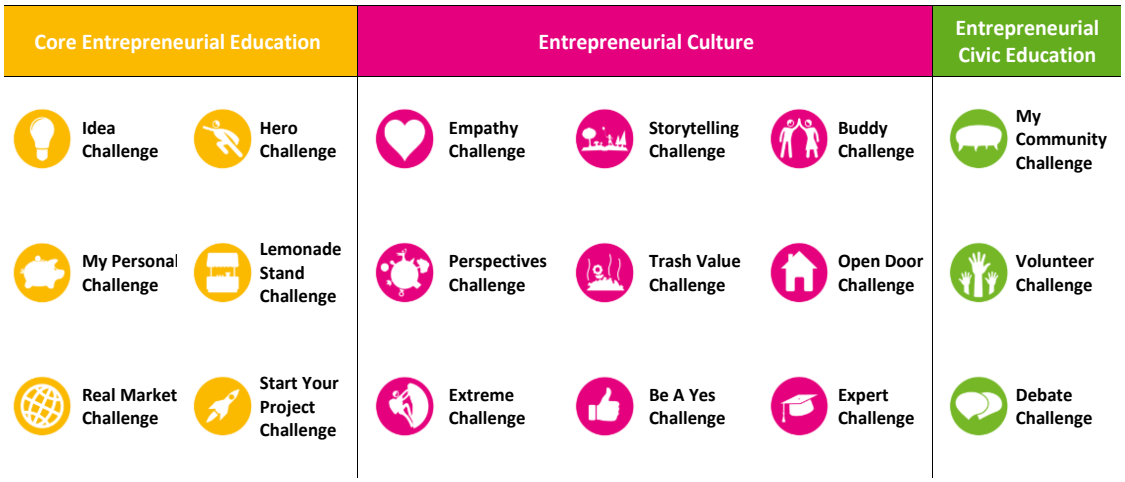

Figure 2 – 18 You[th] Start – Entrepreneurial Challenges families.

The Youth Start programme is designed to be flexible in its application and has intensive and extensive programmes making it possible for teachers from all school types and from various disciplines to use Youth Start modules in their teaching. The project fosters self-directed learning through its transversal interdisciplinary method, allowing schools to change the prevailing isolated subject application approach.

3. Methodology

The Youth Start – Entrepreneurial Challenges use the random control trials (RCT) methodology as the experimentation design as we develop full control over the educational "treatment" and are able to randomise which students will experience it. The experimentation protocol uses in-step randomization and meaning that all participating schools use the learning modules at some point except in cases where the schools are part of the "pure control group". Here we use Primus group for the classes that will implement the learning programme and Secundus group for the classes that will make part of the control group.

The project evaluation assesses students entrepreneurship competences development that is based on a quantitative tool, developed by European Commission funded, ASTEE – Assessment Tool for Entrepreneurship Education project[3]. An important component which was needed to also be analyse is the perspective of the teachers in order to understand the usuablity of the methodology in the classorm, the difficulties of implementation and adaptation to programme's content as well as the overall motivation and satisfaction of the teachers. Thus, researchers in each country performed in-depth interviews with teachers from the various educational levels. This paper uses the qualitative data obtained through those interviews with teachers in Portugal. The interview guides were developed by the project's Denmark-based evaluation body. This qualitative investigation helps to better understand the effects observed via the quasi-experimental quantitative research that the project involves.

The interviews were conducted during May and June, 2016. Based on the information gathered through the teacher answers, the evaluation body chose two schools from A1 level (1st cycle of basic education), two schools from A2 level (2nd cycle of basic education) and two schools from B1 level (secondary education). The choice was made in accordance with quantitative results obtained in pre- and mid-test questionnaires. A school was chosen for each education level that

[3] http://asteeproject.eu/, retrieved on July 3, 2017.

presented the worst and best results respectively.All interviews used audio recording for analysis and transcription were made.

To collect the case study data, the researchers have followed the next guidelines (Table 1 and Table 2).

	Information comes from
Selecting the schools. How was this done? How was the randomization performed? Any schools changing between experimentation and control groups, etc.	DGE and national researcher.
The teacher training (dates and procedure). Any issues/problems? What went well and what will be changed in the next round?	Trainers and group interviews.
Implementation of the programme (dates and procedure). Any issues/problems? What went well and what will be changed in the next round?	National researcher, trainers and group interviews.
Data collection (dates and procedure). Any issues/problems? What went well and what will be changed in the next round?	National researcher, trainers and group interviews.

Table 1 - Guidelines used for short summaries about implementation and data collection.

How were the interviews performed (dates and procedure)?
Results from the "high performing" teachers and the "low performing" teachers on our four dimensions below.
Each dimension should be analysed separately o Experience/what happened? o Feedback/improvements. o Did the programme influence different types of students/pupils in different ways (boys/girls, High performers/low performers)? o Did the programme influence your other teaching?

Table 2 - Four dimensions analysed within group interviews with teachers.

The researchers used a qualitative methodology to select and analyse information collected by the interviewers and other secondary information sources (Yin, 2004).

4. Results

The qualitative results discussed were obtained in Portugal after the Implementation Phase I (2015/2016 school year).

These results provided feedback to the team that created the learning programme, and used in their revision of the programme for future implementations. The second goal was to have answers of how to improve the data collection, analysing it and using it to improve the Youth Start – Entrepreneurial Challenges programme.

4.1.Portugal results in Implementation Phase I (2015/2016)

Selecting schools

The 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 kept the follow up with the schools involved.

A total of 45 school clusters (total of 65 schools), including all targeted levels (A1, A2, B1), joined the Project (Table 3). A1 was integrated into case of 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 schools and schools included in the Programme for Territorialisation of the Priority Intervention Educational Policies.

	Schools	Classes	Students	Teachers
A1 level	17	35	746	40
A2 level	16	31	648	53
B1 level	32	78	1678	137
Total	65	144	3072	230

Table 3 – Number of schools, classes, students and teachers involved in Implementation Phase I.

The A1 level did not have randomization and all schools participated in the project implementing the Challenges in the classroom.

In the beginning of the project, A2 level randomization was not planned. However, it was possible to randomise schools in Portugal, although it was necessary to consider certain adjustments in regard to the needs of the schools involved in the project. Thus, five schools that were initially included in the Secundus group were moved to the Primus group and received the educational treatment during the Implementation Phase I.

In B1 level, 10 of the participating schools had been promised that their students would get the educational treatment during the Implementation Phase I. These 10 schools were included in the randomization process the same way as any other schools, however, five of these schools that ended up in the Secundus group was moved to the Primus group. This interference in the randomization process was not planned, but since most of the schools that participate have been divided into two groups at randomization, it will be possible to control this aspect (evaluation team explanation).

Teacher training

Teacher training started at the beginning of December 2015 and ended in the beginning of June 2016. There were 17 training classes distributed in three Portuguese regions (North, Centre and Lisbon & Tagus Valley). Teachers had 25 hours of training during the school year: 18 hours were face-to-face (6 sessions, 3 hours each) and 7 hours of online training (divided into 3 sessions).

Overall, the teacher training was quite successful and was evaluated very positively by the teachers. They were motivated and most of them ended the training and implemented all the Challenges with their students. Most of the teachers were pleased with the entrepreneurial Challenges presented. They thought it represents 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

subjects.

Some would prefer more time to plan the activities, particularly because they found it difficult to adapt the content within the subject they were required to teach. 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.

In general, teachers at the A1 level seemed to have more able and willingness to implement the Challenges and found them more easily adjusted to their programme/*curriculum*. Teachers of A2 and B1 levels revealed that there were greater difficulties in their implementation. A lack of time issue was most often mentioned in B1.

Programme implementation

Most of the teachers are motivated and already have an entrepreneurial profile themselves. They believe the project helps students developing skills that the *curriculum* may overlook because Challenges have a practical aspect that allows them to try out new methodologies, to evaluate them and to improve them. One of the most common opinions is that the soft skills are hard to evaluate and that the project helps teachers and most importantly, helps the students, "measuring" and evaluating their own personal development and skills.

Some teachers found it easier to implement the Challenges in VET courses rather than in regular *curriculum* due to their flexibility.

Some Challenges are easier to adapt to the *curriculum* than others. If the teacher does not teach a subject related with economic or business and a given learning Challenge addresses the topic of a business or economic perspective, they tend to have more difficulty in adapting it to the *curriculum*. Thus, some of them choose to implement the Challenges in sequence, or through a school project that they already had planned to implement.

The programme was implemented during the school year simulatousnly while the teacher training was taking place. There were several reasons for this, namely to: (i) contribute to the improvement of learning programme; (ii) ensure the usefulness of the Challenges for the transformation of teaching practices; (iii) reflect on the process of implementation; and (iv) have greater rigor in the process of answering quantitative research questionnaires.

Teachers reported difficulties in convincing other colleagues to participate in the implementation process. They were typically collaborating with teachers whose students do not have national exams in that school year. This is the reason why, in Portugal, school directors were involved to help encourage teachers not originally working in the program to participate. The Project developed Leadership Forums for the school directors where they were encouraged and assisted in developing a communication plan, and directors were asked to be more active in the data collection process to assist their teachers.

Data collection

Group interviews

The group interviews were performed by a research team consisting of four researchers, and each group of teachers was interviewed at their school in a quiet room. Each interview took around one hour to perform, but the interviewees can have all the time they need to answer all questions. The interview were as interactive as possible and was not limited to the researcher asking questions and teachers answering those without discussing them if they wanted to. All interviews were recorded with permission of the teachers.

In Table 4 it is possible to find the group interviews' characterization and codification.

School code	Group interviewee code	Level of performing	Teaching level	Interview date
AE 1	lA1	Low	A1	May 2016
AE 2	hA1	High	A1	May 2016
AE 3	lA2	Low	A2	May 2016
AE 4	hA2	High	A2	June 2016
AE 5	lB1	Low	B1	May 2016
AE 6	hB1	High	B1	May 2016

Table 4 - Group interviews characterisation and codification.

In section 4.2 below reflections from the "high performing" teachers and the "low performing" teachers in four dimensions, namely, "experience/what happened", "feedback/improvements", "if the programme influenced different types of students in different ways", and "if the programme influenced your other teaching".

4.2. Reflections from teachers by educational level

A1

We didn't find many differences between both groups in three of the four dimensions, except in hA1 group that assumed that they were in a school where effective collaboration between teachers existed.

Teachers find the methodology interesting but lA1 assume that there are too many Challenges and some difficulties to integrate the Challenges in the *curriculum*.

From the interviews, we can say that revising the Challenges is crucial (reducing the extent of information and revising the Challenges to better fit in the *curriculum* of each country and age level; also, the language needs to be simplified).

What teachers like is the methodology of implementing Challenges in the classroom and the fact that this methodology motivates students.

A2

hA2 have more collaboration between teachers and a better support by the school director. The fact of having a teacher that coordinates the project in school was essential to the progress of the project.

Only lA2 teachers referred that the experience using the questionnaires by students was simple and hA2 have found difficulties in the process because they need to give support individually and the language was difficult for this age level. Both referred that the questionnaires were simple to apply by the teachers.

Another difference between lA2 and hA2 teachers was the fact the hA2 didn't find any differences at any particular group of students but lA2 have referred that students with behaviour problems have improved more than others.

B1

Most of the answers between both groups are not very different. Only in the dimension "Did the programme influence you other teaching" there are differences, for example, both groups say that intend to implement these Challenges or part of the Challenges, but lB1 referred that teachers "lost some classes" but have gained new methods and hB1 answered that teachers affected the

teaching practice because they are "rethinking how to give classes."

Also, hB1, contrary to what the lB1 teachers have referred, assume that are not fully prepared to implement the Challenges ideally.

5. Conclusion

The programme recieved much positive feedback regarding the results. Most of the teachers were pleased with the entrepreneurial Challenges presented. They think that it represents an important change from the traditional perspective of teaching entrepreneurship through more business oriented programmes. Most of the teachers are well organised and together they seek the best opportunity in which to implementing the Challenges in their classroom. However, we would like to emphasize that these results can give insight into how and what the teachers think and do in regard to implementing this type of programme.

An important interconnection between all Challenges was pointed out and that within every Challenge there is a need for students to take action. Regarding the interviews, we also saw that the programme was easier to implement at the A1 level in primary school, because the curriculum is easier to adapt. For example, in lower primary schools, there is just one teacher per class. And these teacher can create the flexibility within their lessons plan and more easily integrate many of the Challenges. When it comes to secondary education, the fact that there are several teachers per class makes it more difficult to the implementation because the teachers must work together (or at least divide the different Challenges between them).

Teachers believe that the project helps students developing skills that the curriculum may overlook because the Challenges have a practical side to them that allows the students to try out new methodologies, evaluate them and improve them.

What teachers liked most is the methodology of implementing Challenges in the classroom and the fact this methodology motivates students. It seems that the fact of having a teacher that coordinates the project in the school is essential to the progress of the project. Another aspect that is worthwhile mentioning is that students with behavioural problems and with difficulties gained more with these Challenges methodology. Teachers also plan to continue teaching at least some activities of some Challenges.

As a general conclusion, it can be said that the philosophy of the Youth Start – Entrepreneurial Challenges programme found good acceptance with both the teachers and the students. It was positive to see that students that had lower school results also benefited from the programmes, due to the diversity of the Challenges. Entrepreneurial education is complementary to classical education. However, it further highlights each student's individual capacities, fosters group dynamics, and allows the students to develop the skills required to become successful entrepreneurs.

One of the main positive aspects is that the Youth Start – Entrepreneurial Challenges programme is it helps to encourage active teaching and to open the classroom to the real world. These interviews suggested that some of the Challenges are not suitable for the children's age and their level of knowledge in economics (especially the My Community Challenge), but are great for older students specialising in economics. In order to motivate the students for this programme, the programme must be presented and discussed in advance with the students in a meta-learning perspective.

The qualitative results from the semi-structured teacher interviews and the trainers' opinions have provided data for a deeper analysis of the programme and the Challenges. Listening to the people that are working in the field implementing and evaluating the Youth Start – Entrepreneurial Challenges drove the interview procedure. The revision that was already done as well as future revisions should focus on the issues that are discussed throughout the results and the

implementation experience of the teachers provide valuable insight on how to improve and to better define the project.

This paper focused on a specific teacher-training programme, discovering new insights on entrepreneurial education in schools. Teacher training is one of the core aspects of the Youth Start project along with scaling to other geographical regions. In fact, the results of this research are applicable not only to Portugal but also to the countries of the consortium. The research protocol and handbook for this type of research were created to be easily scaled for other educational assessment studies within the field of entrepreneurship education.

The development of evidence-based public policy, further evaluation design, supporting the development of schools and assessing and understand the impact are just some of the important outcomes that result from the policy experimentation under the Youth Start project and the qualitative data obtained from the interviews can serve as a diagnostic and as guidelines for improvement.

The project aims at improvements in the field at various levels which is represented in figure 3 below.

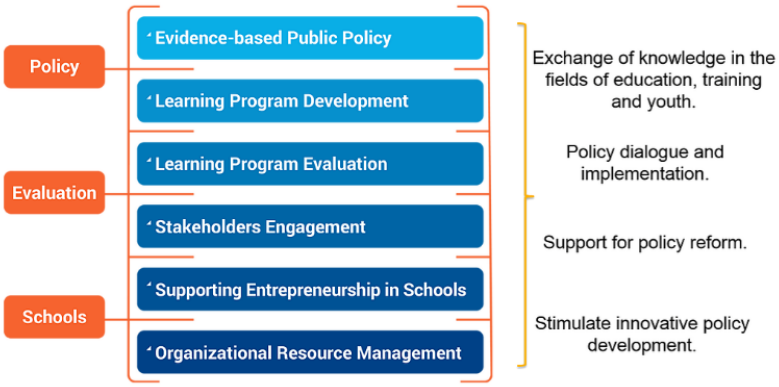

Figure 3 – Benefits of implementation of Youth Start – Entrepreneurial Challenges project.

Some of the long-term benefits include: (i) Developing new skills for students; (ii) Promoting transversal skills and methodologies in schools; (iii) Sharing of good practices; (iv) Helping prevent youth unemployment; (v) Training and supporting teacher development; (vi) Providing technical assistance to schools and their leaders; (vii) Developing monitoring system for entrepreneurship education.

Future goals for research and development include the desire to take a holistic approach and implement the concept of the entrepreneurial school. The entrepreneurial school concept turns schools into learning organisation (Kools & Stoll, 2016) and supports links with stakeholders in the wider community to further the relevance and effectiveness of education.

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