

*Development of successful
entrepreneurial education initiatives
enabled by EU funded projects –
The case of FH JOANNEUM* _____

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Abstract

This paper presents the lessons learned from different formal and non-formal entrepreneurial education initiatives at the University of Applied Sciences FH JOANNEUM in Graz, Austria conducted in the period 2016-2019. Four projects funded through the European Commission provided the opportunity to explore a variety

of teaching and learning methods to develop the “sense of initiative and entrepreneurship” as one of the key competences for life-long learning set by the European Union. While the target groups were different and the objectives were manifold, all of these projects aimed at fostering this key competence for students to effectively develop and implement creative and market-oriented ideas. Different entrepreneurial education methodologies have been developed, customised for the requirements of the target group and setting. This paper analyses them using the “Learning by sharing model” by Thijssen & Gijssels. The analysed teaching methods and approaches have different efficiency for alternative target groups or objectives. The Business Case Challenge allows to involve intercultural student groups in intensive case work, with real live cases. A blended approach which combines a MOOC, face-to-face teaching, presentations and mentoring by a role model has proven to successfully provide entrepreneurial competences to athletes. A moderated MOOC for intrapreneurship including interactive teamwork and professional moderation to keep participants to be consciously active, resulted in high completion rate on an offline level. Finally, action learning sets and development of business models for case studies through e-communication are presented as an alternative learning model for international teams. Based on the in-depth analysis of these cases, the authors have proposed four factors which may serve as a frame for development of successful entrepreneurial education initiatives in various education and training environments. The frame offers additional fifth factor, student career development, specifically significant for formal education institutions.

Key words: *Entrepreneurial learning, Entrepreneurial attitudes development, Teaching methods, Erasmus+ for development, Learning by sharing, EntreComp.*

Introduction

The study of entrepreneurial formal and non-formal education offered by higher education institutions (HEI) is a very challenging research area both in the field of development of entrepreneurial skills and behaviour, as well in the field of education development. Many sources indicate significant intensifying of the general offer of entrepreneurial education especially for non-business students in the last two decades (Polenakovik, Jovanovski, Velkovski, 2013; Kabongo, Okpara, 2010; Ulvenblad P., Berggren E., Winborg J., 2013; Bridge, 2017). One of the strategic goals of the EU policies, the policies of its member states, as well as the policies of the countries in the pre-accession phase is the development of the high quality, widely available entrepreneurial education. This chapter presents a literature review on relevant lessons learned from entrepreneurial education.

Entrepreneurial education initiatives

The existence of entrepreneurial education has been put even higher in the political and educational agendas after the European Parliament and the Council of the European Union (2006) set the “Sense of initiative and entrepreneurship” among the 8, equally important key competences for lifelong learning. Nevertheless, a recent research (OECD/European Union, 2017) shows that two thirds of youth in the European Union identifies lack of entrepreneurial skill as barrier for business creation.

A vast variety of entrepreneurial education approaches, methods and techniques is available. Some of these are presented as robust one-size-fits-all, while some are targeting specific, clearly defined target groups. In this paper we are presenting selection approaches, target groups and goals that will provide a notion of the different experiences gained in the implemented initiatives.

Siivonen, P., Brunila, K. (2014) argues that the adult education is limiting the participants, shaping their activities into a frame constructed by entrepreneurial discourse. In that regard Kiendl D., Kirschner E., Wenzel R., Niederl A., Frey P. (2019, pp.96-97) conclude that the main focus needs to be introduction of entrepreneurial education as soon as possible, proposing gamification and other learning through practice methods.

Ozdemir, Dabic & Daim (2019) conclude that medical students are motivated to develop entrepreneurial learning skills. They prefer a flexible way, such as internet resources combined with networking activities and learning from experienced entrepreneurs. González-Serrano (2019) analyses the progress of sports persons achieved through entrepreneurial training. The results are clearly stating that even in an apparently homogenous target group the personal characteristics and the background of the participants have to be taken into consideration in the phase of designing of the courses. Cummins (2016) identifies a gap between the offer of entrepreneurial education and the role it needs to play in the university curricula. Furthermore, this gap is significantly higher for non-business students. According to Friedl & Zur (2018) there is significant need of networking and entrepreneurial skills training also for employees with entrepreneurial mind-set, creative ideas and a proactive attitude.

The main findings of the literature analysis suggest that entrepreneurial education should start as early as possible and need to be tailored to meet the requirements of the target group and even of the specific participants.

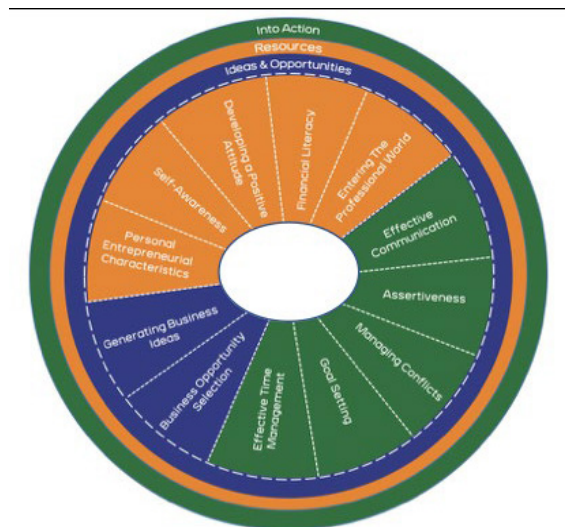
Entrepreneurial competence framework

In the beginning of this chapter, the role of the European Commission in promotion and development of the entrepreneurship and entrepreneurial skills and competences, is highlighted. As one of their main contributions is currently

the most influential tool for development of entrepreneurial education, the Entrepreneurship Competence Framework (EntreComp) (Bacigalupo, M., Kampylis, P., Punie, Y., Van den Brande, G., 2016). It has been developed through a mixed-methods approach, based on review of both academic and grey literature, analysis of case studies, desk research and stakeholder consultations. Developing the “sense of initiative and entrepreneurship” as a key competence, Entre Comp has the aim to raise consensus among all stakeholders and to establish a bridge between the worlds of education and work. It consists of three competence areas: ‘Ideas and opportunities’, ‘Resources’ and ‘Into action’. Each of the areas is made up of 5 competences. It develops these 15 competences along an 8-level progression model resulting in a comprehensive list of 442 learning outcomes. The framework can be used to design curricula and learning activities or for the definition of parameters to assess these competences.

Although EntreComp was presented three years ago, it is already in the main focus of many researches, EU funding schemes and it is the most used conceptual base for development of concepts, programmes and teaching materials in formal and non-formal entrepreneurial education.

FIGURE 1. Areas and competences of the EntreComp conceptual model

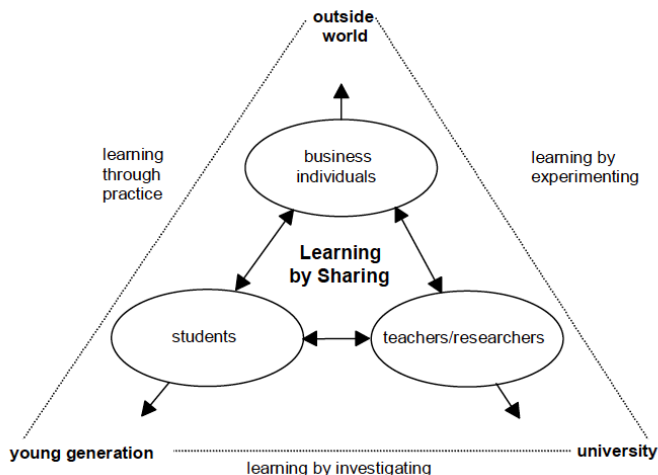


Learning by sharing model

As it was presented, different authors have analysed different learning models and approaches. In order to structure and benchmark the learning approaches in the analysed entrepreneurial education initiative the available theoretical models were analysed. Connecting teachers/researchers with students and practitioners the

Learning by Sharing model presented by Thijssen & Gijsselaers (2006) has been selected as a most suitable (figure 2). The model includes three learning styles: learning through practice, learning by experimenting and learning by investigating.

FIGURE. 2 The adapted Learning by Sharing model (Thijssen & Gijsselaers, 2006)



The Learning by Sharing Model (Thijssen, Maes, Verwooy, 2002) has been developed by the University of Amsterdam. It is modelling collaborative learning activities. “Teachers, researchers, students and practitioners join forces to establish learning communities. Its main improvements on existing learning models are the systematic introduction of the external world into the learning process and the reciprocal nature of the interactions involved.” Thijssen & Gijsselaers (2006) The main principle is that all actors learn through the shared experience.

Implemented entrepreneurial learning initiatives

This chapter presents the entrepreneurial learning initiatives developed and implemented in the scope of various funding schemes in the frame of the Erasmus+ programme.

REBUS – Ready for Business

“REady for BUSIness - Integrating and validating practical entrepreneurship skills in engineering and ICT studies” is Erasmus+ Joint project supported through the action Capacity Building in Higher Education.

The project aims at developing, testing, validating and mainstreaming holistic and needs driven open learning modules to promote entrepreneurship competences of ICT and engineering graduates at the interface of academic education and learning in practice business contexts. (REBUS, 2019)

The competences related to initiative and entrepreneurship play a paramount role in EU neighbouring countries simultaneously tackling two key challenges: unemployment and competitiveness, simultaneously converging with EU economic and social standards. Despite the significant improvement in the social acceptance and recognition of entrepreneurial activities, in the Western Balkan countries and Russia the employment in public institutions and enterprises is still considered as most preferred career choice. The project is based on that notion, focusing on improvement of the sense of initiative and entrepreneurial attitude particularly of ICT and engineering students. This target group has been identified as a result of the gap between the importance of these competences for their career development and the lack of its development during the formal university education.

The main approach developed in the project was the study visit organised at the European universities, hosting students from the non-EU universities. The University of Applied Sciences FH JOANNEUM hosted 40 students from Kosovo, Albania and Russia. The hosting team used the flexibility of the study visit methodology to extend it to a student challenge, aiming to develop an Intercultural and Entrepreneurial Mindset. It was organised in September 2018, including undergraduate students in the third semester from the degree programme International management at the host university, including 109 students in total. The foreign students are IT students. Used cases involve questions, which concern both technical and business competences, which can be best solved in an interdisciplinary team.

As proposed by the learning by sharing model from Thijssen & Gijsselaers (2006) entrepreneurs from partner enterprises were directly involved. They have provided real live cases, for which they needed solutions. Teaching staff at FH JOANNEUM acted as coaches and moderators for the whole event providing the third side of the learning by sharing model - teachers/researchers. The cases provided were screened by the involved teaching staff and adapted to the level of competence the students had already acquired, in order to provide a challenge but no unsolvable problems. The challenge was organised in the frame of intensive two weeks' programme. The first week was mainly aiming at briefing from the case providers, team building and business trainings for the incoming (mainly engineering students). The second week was focused on teamwork with at least one consultancy session with the teaching staff. At the last day, a grandiose final was organised.

Each team presented their elevator pitches – a summary of their findings and suggestions, which could be presented in no more than two minutes. A jury consisting of experts from the case-providers and the university selected the best two pitches for every provided case, the selected groups presented their 15 minutes' presentations and for each of the cases a winner was selected. All finished presentations were completed with detailed comments, uploaded to the platform and of course provided to the case providers.

AtLETyC

“AtLETyC – Athletes Learning Entrepreneurship – a new Type of Dual Career Approach” is an Erasmus+ project in the program line ERASMUS+: SPORT/ COLLABORATIVE PARTNERSHIPS.

The project objective is to promote and support good governance in sport and dual careers of athletes:

The overall objectives of AtLETyC are:

- To promote and support Dual Career of Athletes to accomplish the EU Guidelines on Dual Careers for Athletes.
- To combine Athletes top-level sporting achievement with a new career possibility to strengthen their transition from sport into the labour market.
- To support the creation of flexible learning pathways with the Athletes needs and objectives.
- To strengthen cooperation and create networks between institutions and organisations active in the field of sport.
- The specific objectives of AtLETyC are:
- To develop, implement and transfer an innovative MOOC-based e-learning modular education program in different European countries, involving Universities and sport organizations and to enhance digital learning.
- To develop a vocational and/or higher education course on Entrepreneurship Athletes which will be offered in modules?
- To develop tailor-made arrangements as the best solution (EU Guidelines of Dual Careers of Athletes). (AtLETyC, 2019)

Promotion of healthy and active lifestyle is imperative for all countries across Europe. The professional athletes are the main ambassadors of sport having most significant role in its promotion in a social cult and motivator for practicing sport as recreation. Unfortunately, the devotion to the career in sports comes with price for most of the professional athletes, leaving them with no sufficient finances and lack of applicable skills for activity at the labour market after the retirement from professional sport (Wylleman et al., 2004).

Many elite athletes want to use their skills, networks and profile to start their own business during or after their sporting career. Elite athletes have an outstanding potential to become successful business men and women. In their sport career, they acquire extraordinary skills that are also crucial to entrepreneurial success (Williams & Reints, 2010):

- Leadership and team spirit
- Goal-orientation and determination (Strategic thinking and drive)
- High Motivation and commitment (strive continuously for achievement and success)
- Never-give-up attitude and performance under pressure
- International mind-set and cross-cultural competences
- Desire for competitiveness and resilience

However, due to their busy schedule, they often miss out on specific education. In this regard, AtLETyC developed a programme specialised for elite athletes giving them the opportunity to combine top-class sport and top-level entrepreneurship training. The innovative aspect is that we developed a MOOC, where elite athletes have the possibility to learn location and time independently. This didactic concept proved as very useful for professional athletes as it facilitates them to find easier time for learning in their busy schedule.

In the form of a partnership between European higher education institutes and sport governing bodies, AtLETyC (see www.atletyc.eu) provided an entrepreneurship training specifically tailored to the needs of athletes. The blended-learning concept represented a combination of a face-to-face training and a 6-week-MOOC (massive open online course, see www.atletycmooc.eu) within a compact 3 ECTS qualification. To further inspire the participants for the topic of entrepreneurship, former European athletes and now entrepreneurs contributed to the content of the course by sharing their own experience. The project was run successfully in 6 European countries, with 127 athletes with both academic and non-academic backgrounds completing the programme. After the project, the demand for a follow-up project was both evident and expressed by the athletes.

BizMOOC

“BizMOOC – Knowledge Alliance to enable a European-wide exploitation of the potential of MOOCs for the world of business” is Erasmus+ project funded through the Knowledge Alliance action.

The European-wide Knowledge Alliance “BizMOOC” project started on 1st of January 2016 and run over a period of 3 years. The EU-funded project tackles

the European challenge of enabling businesses, labour force and universities to increase their activities and exploitation (economies of scale) of the MOOC potential. It focuses on work force & HEI-training and the acquisition of labour market key competences through applying new methodologies for online teaching & learning. This will be achieved by creating common standards & frameworks on MOOCs by integrating the experiences from Higher Education and the business world. (BizMOOC, 2019)

The intrapreneurship MOOC has been designed within a joint partnership of 11 full partners and 3 associate partners out of 11 countries, composed of both universities and industry partners. The Austrian University of Applied Sciences (FH JOANNEUM Graz) led the development team consisting of University of Economics Cracow from Poland, the Hasso-Plattner-Institute Potsdam from Germany and AVL List GmbH, Austria's most innovative company in terms of patents. The MOOC platform mooc.house has been provided by the Hasso-Plattner-Institute.

The first step was the definition of the target group. As intrapreneurship implies the identification and exploitation of business opportunities within established companies, the course was addressed to all business actors: managers of all levels, employees and trainees. The primary target group was identified as young employees, bottom and middle level managers who are the critical actors of intrapreneurship. External learners such as students, people between jobs, or just interested in the topic are targeted as well.

Next, the learning outcomes were defined so that learners after having completed the course will:

- understand the concept of intrapreneurship,
- familiarize with numerous examples of entrepreneurial organizations and intrapreneurship projects,
- identify opportunities at work and convert challenges into opportunities,
- identify stakeholders, target groups and sponsors of intrapreneurial projects,
- enhance their ability to form coalitions around new business ideas,
- develop and deliver a pitch to various audiences, including the board of directors.

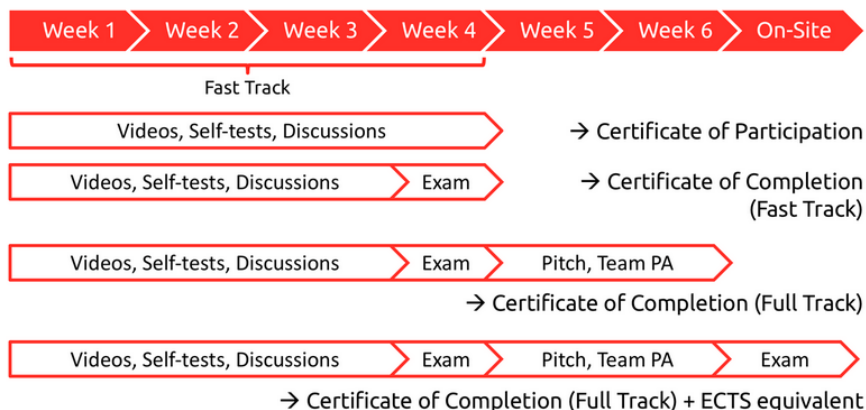
After defining the course objectives and envisaged learning outcomes, the partners began the Learning Design process coupled with regular online meetings. Two video recording sessions took place in Graz and Potsdam.

The course was delivered in weekly modules with approximately five hours' study time per week. It offered different course tracks with four certification options, including an on-site exam (Figure 3). Keeping in mind that the course

targets employees, many of whom working full time, schedule flexibility was a clearly important feature.

Depending on course track, the course lasted 4 to 7 weeks in total, including videos, readings, quizzes, tests and forum discussions. Additionally, seven e-tivities stimulated active user participation following the e-moderation concept by Salmon (2004). Extensive and multi-stream participant exchange in the discussion forum resulted in the creation by the learners of an exchange and cooperation platform, where people gave each other advice, suggestions and recommendations. The e-tivities cumulated in an online team work assignment where participants had the opportunity to bring in their own ideas, work on them in international teams and develop a pitch. The course was finalised with interesting pitching event whose number of participants and quality has exceeded the expectations.

FIGURE 3. Training process and certification options



The course was open and free for everyone and conducted completely online. After implementing the moderated version (26.2.18-23.4.18), the course is available in a self-paced mode without certification and team work option: <http://mooc.house/bizmooc2018/>

EmindS

EmindS aims to develop entrepreneurial mind-set of HE & VET students based on the EntreComp competence, through the application of a systematic methodology using student centered innovative approaches.

The methodology consists of several independent but interlinked stages.

The specific objectives of the project are:

- To validate EntreComp and use it as the framework
- To develop 2 assessment tools in 2 different EQF levels to assess the Entrepreneurship Competence of HE & VET students
- To identify and use innovative student centred learning approaches to be used for the education of HE Students and VET. Such approaches are the Action Learning Sets and the ENTRE-Challenges which are challenges to be resolved in an experiential way
- To develop materials to be used in non-traditional learning environments, using student centred approaches
- To develop a system guide to describe the systematic approach for the development of the entrepreneurship competence

EmindS aims to develop the competencies of EntreComp through the development and pilot testing of student centered approaches.

- A) EmindS will validate EntreComp through focus groups to ensure that:
- 1) All necessary competences are there (the framework has been published in 2016, so although it is based on robust methodology and long research, materials have not yet been developed based on it). Validation of the framework and adapting it where necessary will ensure the robustness of the current project results.
 - 2) The descriptors provided describe adequately the competences.
 - 3) Descriptors are provided for each of the competences that are sufficient for understanding the competence but may be more detailed descriptors are necessary for developing it.
 - 4) Translation of competence into learning outcomes.
- B) EmindS will continue to develop the 15 competences identified in EntreComp through 2 student centred approaches:
- 1) Action learning sets that will be implemented with groups of students from different disciplines but from the same university or VET.
 - 2) Challenges (EntreChallenges) that will be implemented with students from different disciplines and different countries.
 - 3) Materials will be developed for both approaches in two EQF levels (Level 6 for HE Students & Level 5 for VET Students)

At the 1st stage of the process, i.e. Action Learning Sets, support & facilitation will be provided by academics & VET trainers. At the 2nd stage of the process ie EntreChallenges mentoring will be provided both by Academics or Vet trainers & the Industry.

C) Assessment tools and System Guide

- 1) Two assessment tools will be developed in order to assess the entrepreneurship competence for HE Students (assessment tool EQF Level 6) and VET Students (assessment tool EQF Level 5). These assessment tools will be pilot tested in different stages (before action learning, after action learning, after EntreChallenges).
- 2) A system guide will be developed to guide other universities or vet providers to install it for the development of the entrepreneurial mind-set of their students.

Limitations

The analysed cases are representing selected recent examples from different funding programmes. Based on that the literature review is focused only on the relevant frameworks and models, not providing wide state of the art analysis.

This case analysis based methodology offers clear presentation of the selected cases, the activities implemented and the results achieved. However, it does not offer comprehensive overview of the entrepreneurial learning initiatives implemented with support of Erasmus+ projects nor from the initiatives implemented by the team of the Institute of International Management at the University of Applied Sciences FH JOANNEUM.

Discussion

Each of the analysed project cases have been developed under different Erasmus+ funding programmes, presenting experience in Capacity Building in Higher Education, Sport/ Collaborative Partnerships, Knowledge Alliances, and Strategic Partnerships. The analysed target groups vary between Vocational Education and Training (VET) and High Education students for mainly non-business faculties to adults working in different environments (company employees and professional athletes. Additional influencing factor in the development of the education initiatives' methods and approaches were their objectives: development of entrepreneurial mind-set, developing skills for starting and running an own business and develop skills and motivation for entrepreneurial behaviour in the workplace. Overview of the main features of the analysed cases is presented in table 1.

TABLE 1. Overview of the implemented EL initiatives

#	Project	Programme	Target group	Objective	Method
(1)	Rebus	Capacity building in Higher Education	High education non-business students as non-curricular and international management as curricular activity	To develop entrepreneurial mind-set	Business case challenge – based on real-life cases
(2)	AtLETyC	Sport/ Collaborative Partnerships	Adult education for professional athletes	To develop skills for starting and running an own business	MOOC and face-to-face teaching and presentation, mentoring by at least one role model per country - former athlete who is successful entrepreneur.
(3)	BizMOOC	Knowledge alliance	Adult education for managers of all levels, employees and trainees	To develop skills and motivation for entrepreneurial / intrapreneurial behaviour	Moderated MOOC for intrapreneurship. Interactive teamwork motivating participants to be consciously active, resulting with high completion rate, high number of submitted ideas and great pitching organised.
(4)	EmindS	Strategic partnership	Higher education Students and VET students	To development entrepreneurial mind-set	Action learning sets and development of business models for case studies in international teams, mainly through e-communication.

(1) The business case challenge was developed to cover all three learning styles defined in the learning by sharing model, developed by Thijssen & Gijsselaers (2006). Learning through practice was realized by providing real live case, which have been presented by real entrepreneurs. Direct interaction between students and entrepreneurs was additionally fostered through a questions and answers session in the second week and by involving the case-providers in the evaluation process. Learning by investigating was supported by providing the counselling sessions. The student – teacher interaction proved to be essential in this set-up. The students could develop solutions and explore them in the counselling sessions, without any need to follow a pre-defined path from the beginning. Learning by experimenting was supported by the connection between the teaching staff and the entrepreneurs, first by the common design of the cases for the students and the necessary interaction between the actors, secondly by providing the detailed results and discussing future possibilities of co-operation in realizing them.

(2) MOOC and face-to-face blended approach for starting a business has also covered all three learning styles. The professional athletes were focused on learning by investigating through both face-to-face interactive teaching and online (MOOC) teaching. Additionally, they were offered an insight in the entrepreneurial world through close cooperation and mentoring by former professional athletes who are currently successful entrepreneurs. The active participation of these entrepreneurs and the close cooperation with the teachers are closing the learning by sharing triangle.

(3) Moderated MOOC for intrapreneurship (corporate entrepreneurship) offered learning by investigating through moderated and independent online learning. This combines the benefits from both classical face-to-face teaching and MOOCs, motivating and creating a community through personal engagement of participants with very high flexibility. The learning through practice was fostered through the development of entrepreneurial ideas for which business models were generated and pitches prepared and conducted. The high quality vs ease ratio resulted with very high completion rate, high number of submitted ideas and great pitching event.

(4) Action learning sets and EntreChallenges. The mix of these two methods has been designed to provide participants with essential knowledge and skills in an interesting interactive way. The evaluation design aims to precisely track the progress of participants in each of the steps (before and after each stage).

In all of the presented cases, a fourth important interaction has been actively developed and fostered, participants work in teams, learning with and from each other. The benefit of this interaction does not arise only from the shared knowledge and experience between the participants, but primary from the exchange of ideas and peer pressuring into continuing their personal and professional progress. These collaborations are additionally contributing for development of community of practice which is often crucial for potential entrepreneurs which lack individual with entrepreneurial aspiration among their acquaintances. Such communities are also important for the other target groups since they foster further development of the entrepreneurial mind-set and skills.

As an addition to the entrepreneurial education, these initiatives impact much wider objectives. Each of these initiatives include international teams across Europe and fosters their close collaboration contributing to higher cohesion in the European Union and with its partner countries. Additionally, supporting the development of sense of initiative they are contributing to develop the involved participants into create active citizens.

Conclusions

Each of the analysed initiatives contributes to the improvement of the entrepreneurial mind-set and skills for the aimed target groups and is highly valued by the participants. As main factors for their success are:

1. Understanding of the target group
Each target group is driven (motivated and engaged) based on certain minimum requirement elements such as: topic of interest, ease of access (including flexibility), amusement of the programme, etc.
2. Adaptation of the programme
Tailor made methods and approaches supported by adapted teaching materials are often crucial for the success of the initiative. In a dynamic time of easy access to information, participants are expecting to receive well dosed information, covering their needs and interests, exactly.
3. Real-world experience
In each of the projects there is a connection to the business world and the real-world challenges, which are very important for both motivation and development of the target group. This also develops the implementing team, supporting development of innovative initiatives and continuous improvement.
4. Quality
Experienced interdisciplinary team for development and implementation of the initiatives is necessary to cope with all these requirements. The creation of the consortium for each initiative has always significant impact of the expected success of the project.

The **students' career development** has been identified as an additional factor, specific for the development of the curricular entrepreneurial education offered by formal education institutions. It is an obligation of each modern formal education institution which needs to have a special place in the development and the implementation of a new entrepreneurial education initiative. It is important to be noted that this does not apply only for entrepreneurial topic courses aiming to prepare students for establishment and managing of own businesses. On the contrary, it is crucial in embedding the entrepreneurial and intrapreneurial skills and attitudes in other disciplines, in both non-business and business study programmes. As a result, the institution will develop initiatives and entrepreneurial graduates prepared to make positive changes in their working environment, increasing the competitiveness of the companies and societies.

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