Reinforcing Entrepreneurial and Digital Skills of Higher Education in Moldova

Prof. Elena Fleaca, PhD
Department of Industrial management
Polytechnic University of Bucharest, Romania
E-mail: elenafleaka@yahoo.com

Sen. Assist. Prof. Bozhana Stoycheva, PhD
Faculty "Business and Management"
University of Ruse "Angel Kanchev", Bulgaria
E-mail: bstoycheva@uni-ruse.bg

Abstract: The goal of the paper is to present the main characteristics of the project „ReSTART" - „Reinforcing entrepreneurial and digital skills of students and teachers to enhance the modernization of higher education in MOLDOVA". It is an international project financed through the program ERASMUS+ Programme 2014 - 2020, Key Action2 (KA2): Cooperation for innovation and the exchange of good practices, which aimed to ensure modernization of curricula of 5 higher educational institutions from Moldova through developing, testing, and adaptation of improved and upgraded Entrepreneurial Curriculum (master level) that stimulates innovation skills of students and teachers toward a stronger local business capacity. The paper presents best practices which were transferred for European to Moldavian partners.

Key words: entrepreneurial skills, digital skills, higher education.

JEL classification: M14, I23

I. Introduction

Nowadays entrepreneurial and digital skills are playing a key role in increasing economic prosperity, wealth and sustainability. These skills aim to boost productivity and economic growth, to fight increasing social inequalities and to improve citizens' standards of living and job opportunities.

Entrepreneurship contributes greatly to a country's economic development by improving economic structures, promoting innovation, advancing technology, and creating new jobs (Aykan, et al, 2019). As an educational concept entrepreneurship is characterized by lots of imbalances. One of them is related to the course topics offered. Efforts are focused on answering questions like who is an entrepreneur, how his or her social and psychological profile looks like, what entrepreneurs do and the like (Papazov, Mihaylova, 2012).

In a fast-changing knowledge economy, 21st-century digital skills drive organizations' competitiveness and innovation capacity (Estervan, et al, 2017). Highlights that digital skills and competences and the ability to make use of digital media in an autonomous and strategic way are of increasing importance when it comes to ensuring users' full societal participation (Iordache, et al, 2017). The inconceivable spread of digital technology and Industry 4.0 represent the Fourth Industrial Revolution (Prisecaru 2016). Digital skills are rapidly changing the structure, character and dynamics of communication, employment, production and learning all over the world (Tsekeris, 2019).

They are leading not only to novel types of jobs and novel types of education, i.e. Education 4.0 (Benešová & Tupa, 2017), but also to the vital and urgent need for every citizen to have at least basic and transversal digital literacy skills in order to live, share, communicate, work, learn and actively participate in the contemporary speedy, complex, hyper-connected and increasingly knowledge-based society (Tsekeris, 2019).

The knowledge economy has deeply implications for the role of education as a key driver of economic growth and for increased capacity to compete in the global economy and to respond to existing and emerging challenges (Fleaca, October. 2017). ICT revolution with direct impact on digital economy and society involves new knowledge, skills and competences for students striving to compete and succeed in a technologically rich marketplace. The higher education providers are accountable for inspiring and helping students to acquire relevant and updated skills i.e. entrepreneurial and digital skills needed to innovate in the world of work (Fleaca, August 2017).

The need for improving entrepreneurial and digital skills in higher education in the less developed areas is a priority for EU countries.

This is the main objective of international project – ReSTART "Reinforce entrepreneurial and digital skills of students and teachers to enhance the modernization of higher education in MOLDOVA", funded under the Erasmus+ programme of European Union, Contract No. 585353-EPP-1-20171-RO-EPPKA2-CBHE-JP.

ReSTART project aims at development of curricula with subject area Business & Administration, based on strategic partnerships and exchange of experience between partners. The priority targets of the project are to improve the quality of education and training: learning and teaching tools, methodologies and pedagogical approaches based on innovative cooperation through digital learning (ReSTART, 2020).

The project consortium includes four European partners and five Moldovian universities situated in different area of Moldova, as follows:

- University Politehnica of Bucharest – UPB (Bucharest, Romania) - the applicant;

- University of Ruse "Angel Kanchev" – URAK (Ruse, Bulgaria);

- Technical University of Kosice - TUKE (Kosice, Slovak Republic);

- The Agence Universitaire de la Francophonie - AUF (Bucharest, Romania);

- "Alecu Russo" State University of Bălți – USARB (Balti, Moldova);

- Moldova State University – USM (Chisinau, Moldova);

- Academy of Economic Studies of Moldova – ASEM (Chisinau, Moldova);

- State Agrarian University of Moldova – SAUM (Chisinau, Moldova);

- State University of Cahul "Bogdan Petriceicu Hasdeu" – USCH (Cahul, Moldova).

The goal of ReSTART is to upgrade entrepreneurship and digital learning needs of all stakeholders - enterprises, professional associations, civil society organizations, and public entities in Moldova (ReSTART, 2020).

The period of the project contract is from November 2017 to October 2020.

II. Conceptual framework

The wider objectives of the ReSTART project are to ensure modernization of curricula of 5 HEIs from MD through developing, testing, and adaptation of improved and upgraded Entrepreneurial Curriculum (master level) that stimulates the innovation skills of students and teachers towards a stronger local business capacity, during the project period (ReSTART, 2020).

The specific project goals include a complex of interconnected activities:

(1) Defining and measuring entrepreneurship learning requirements linked to MD universities partners, based on the engagement of relevant stakeholders from education, business, research and civil society;

(2) Ensuring the modernization of entrepreneurship education in MD universities in line with EU best practices, by capturing local market expectations and capitalizing on blended teaching ICT-methods;

(3) Harnessing the potential of innovative and updated education based on institutionalization of the entrepreneurial curriculum in all MD universities partners;

(4) Engaging in promoting the entrepreneurial knowledge co-creation tor driving innovation and stimulating local business markets.

The project framework includes seven work packages.

1. The first work package „Fine tuning analysis of local practices on entrepreneurship education"aims to refine the analysis of local target groups' satisfaction related to entrepreneurship and digital skills, by integrating the needs of all stakeholders (students, teachers, enterprises, professional associations, civil society organizations, and public entities) into the consolidated Critical to Satisfaction factors for Entrepreneurship competences.

This work package includes two main activities:

Research and analyzing of recent advancement in Entrepreneurial Education. Each Moldavian (MD) university prepared two best cases. These best cases were analyzed by European partners. The reviews aim to give requirements identified for creating modern teaching and learning practices for MD partners.

- Performing detailed analysis of local practices on entrepreneurship education in targeted Partner country higher educational institutions (HEIs). As a result, each MD partner carried out satisfaction survey on TGs. There were two project meetings during this activity. The report includes survey results for employers/companies, students and teachers and a narrow analysis of the data for these three target groups. The survey results have allowed the identification of the relevant needs with respect to HE graduates. There are recommendations formulated that follow from research results, for example the need to develop

soft skills in students: innovation, creativity, hard work, ect.

2. The second work package "Re-designing Entrepreneurial Curriculum" aims to transfer the knowledge and best practices from EU partners to MD partner universities through the modernization of entrepreneurship education and the best suitable design of the blended teaching and learning process. Six main activities have been put in place to achieve the objectives:

- Transforming critical to satisfaction factors into entrepreneurship learning needs. As a result, Entrepreneurship Framework Need Maps were made in the subject area "Business & Administration". One project meeting was held to carry out these tasks.

- Designing and elaboration of the process roadmaps to incorporate changes in each curriculum of HEIs targeted which aims to roadmap with improved educational processes. One project meeting was organized in Moldova to carry out these tasks.

- Designing the structure and architecture of Entrepreneurial Curriculum which aims to update architecture for Entrepreneurial Curriculum. Two project meeting were held in Moldova.

- Developing teaching and learning modules to stimulate the entrepreneurial mind-set which aims to develop Entrepreneurship Educational Package – tested version behavior of students.

- Developimng training modules for teachers from targeted Partner country HEIs. All European partners develop training material for teachers.

- Organizing and running the 1st "train the trainers" session. "Transforming teacher mindsets through digital and entrepreneurial skills development". It was hosted by coordinator – University of Polytechnic, Bucharest, Romania. Four days training sessions for Moldovan teachers and administrative staff were organized. EU partners developed teaching materials in areas as follow: Module 1 "ICT – practices in blended learning courses", Module 2 "Innovative teaching with ICT based practices", Module 3 "Innovative digital teaching and

learning MOODLE tool", Module 4 "New pedagogical approaches for student career guidance and coaching", Module 5 "Innovative methodology for assessing new business ideas" and Module 6 "Entrepreneurial education practices for students".

3. The next work package "Testing Entrepreneurial Curriculum" aims to expose students and teachers from Moldova partners to a modernized approach that boosts entrepreneurial thinking and capitalizes on the potential of blended teaching and learning methods. The work package includes three main activities:

- Performing teaching and learning activities to educate students to set up and operate businesses, which aims to create learning outcomes and to experience entrepreneurship. Students developed innovative assignments for the 1st and 2nd semester. One-week trainings were held by European partners at all MD universities.

- Organizing and running business competition events for students. Two business competitions were organized. Students from MD partners competed with each other with their business plans.

- Performing follow-up and analyzing lessons learnt with direct and indirect TGs. There was one meeting in Balti with all partners, students and local entrepreneurs.

4. The fourth work package "Adaptation of Entrepreneurial Curriculum" aims to expand the benefits of the Entrepreneurial Curriculum on the direct target groups (students, teachers) through capitalization of experience from the testing phase, in the institutionalization of the modernized curriculum. It includes five main activities:

- Improving, refining and adjusting Entrepreneurship. Most of the world's leading universities are modifying their study programs to adapt them to the new requirements. These universities have become aware of the importance of promoting professional and personal skills among their students, and trying to narrow the gap existing between university and business. (Iliev, Gunev, et al, 2018). Given the importance of curriculum modernization, each MD partner modernized six curricula. Each curriculum was peer reviewed by European partners.

- Organizing and running a 2nd "train the trainers" Session – "Transforming teachers' mindsets through digital and entrepreneurial skills development". This Retraining Session of Moldavian teachers and administrative staff was hosted by the Technical university of Kosice, Slovakia. There were four days of training sessions. EU partners developed teaching materials in areas as follows: Module 1 "Innovative teaching & learning approaches", Module 2 "Gaming in education: management and marketing", Module 3 "Entrepreneurship development for teachers and students - case studies", Module 4 "Technology transfer in universities, start-up incubators", Module 5 "Pedagogical aspects in counselling and mentoring students" and Module 6 "Gaming in education: management and marketing".

- Performing teaching and learning activities to educate students to set up and operate businesses, and to experience entrepreneurship. Students developed innovative assignments for the 3rd and 4th semester.

- Organizing and running business competition events for students. Two Business competition events for students were carried out. Organizations make a lot of efforts to develop new products. In order to introduce successful innovation, companies seek to develop their innovative skills, accumulate knowledge and build on what has been achieved so far (Antonova & Stoycheva, 2018). The subject of the innovation process is to give a specific form to the idea generated, which is then materialized in a new or improved product, (commodity or service), the main goal being the innovation to reach the market and find successful realisation there, after it has passed through various phases (Stoycheva & Antonova, 2018). In this regard, students develop business plans which have been appreciated by local entrepreneurs.

- Performing follow-up and analyzing lessons learnt with direct and indirect TGs. Focus group seminars on TGs satisfaction.

Aim: to analyze the fulfilment of the learning outcomes defined for the new/improved courses and to identify further improvements related to: the educational processes roadmap, the curricula content of the new/improved courses and the pedagogical approaches adopted for blended modules. It is well known that distance learning is an important part of lifelong learning and can increase the knowledge and awareness of a significant number of business representatives from different sectors of the industry (Antonova, et al, 2018). In this regard, MD partners present the results from the opinion of the target groups of students, teachers and business representatives on the benefits of the Moodle platform. There were discussions on improvement needs mentioned by teachers, students and local stakeholders during the lessons learnt. There were comments about the value added by using ICT – tools in teaching and learning blended courses in entrepreneurial education.

5. The next work package "Dissemination, exploitation and impact maximization" aims to ensure the widest visibility of "ReSTART" project at national and transnational levels by promoting the modernized Entrepreneurial Curriculum and innovative knowledge co-creation, and maximizing the potential of project results. Work package 5 includes seven main activities:

- Designing and running dissemination sessions to TGs raise awareness about entrepreneurship.

- Organizing and running career orientation sessions for students. During these sessions, students had the opportunity to meet with local entrepreneurs. Also EU partners presented good practices in career orientation activities such as career events from their universities (meetings with local entrepreneurs and start-up organizations) and presented the activities of their career centers.

- Designing, sustaining, and developing the e-learning platform to support the innovation and entrepreneurship education. As a result, the MOODLE platform has been used very actively and effectively at all stages of the learning and evaluation process. Students were very satisfied with the possibility to use the MOODLE platform during the different courses.

- Organizing and running dedicated events to promote the project results to the wider audience (key stakeholders) at national level. These meetings include the representatives from the external – local entrepreneurs and from the internal environment of the university – teachers and students.

- Measuring the impact of Entrepreneurial Curriculum on direct and indirect TGs during the project lifetime. A survey on TG satisfaction and impact was made.

- Disseminating the project results by ensuring open access to a wider audience - Project promotional package. It aims to create a Good Practices Guide.

6. The next Work package 6 is "Project management". It aims to coordinate project progress based on integrative communication flows between partners so as to accomplish specific and wider objectives while reducing project risks. There are three main activities:

- Preparing, designing and developing detailed project implementation work plans;

- Communication between partners for implementation of the project and coordination purposes;

- Integrated change control plans.

7. The last work package is "Quality assurance and monitoring project progress" It aims to ensure the umbrella for continuous process improvements and monitor the work in progress through assessment of quality for project processes, outputs and outcomes, so as to fulfill project aims and objectives. There are two main activities:

- Elaborating quality assurance procedures to enable implementation and evaluation of project progress and results. The main objectives of this Quality Assurance Manual is to establish procedures and templates which will assure the project quality standards and schedule for the project outputs, making sure the partners work productively together, requesting financial and activity progress information,

monitoring this information against the project work-plan and compiling reports for the financing Agency. This Plan has the purpose of providing guidelines and references for the ReSTART project partners to fulfil their administrative and technical obligations towards the project in the most efficient way. Four evaluation sheets have been developed – Quality Assurance individual evaluation sheet, lessons learnt sheet, self-evaluation sheet and team evaluation sheet.

- Monitoring progress and evaluating project processes and results. EU partners evaluate Moldova partners as agreed:

- University Politehnica of Bucharest - P1 UBP evaluates Moldova State University – USM P5 and Academy of Economic Studies of Moldova – ASEM P6;

- University of Ruse "Angel Kanchev" – P2 URAK evaluates Alecu Russo" State University of Bălți - P4 USARB;

- Technical University of Kosice - P3 TUKE evaluates State University of Cahul "Bogdan Petriceicu Hasdeu" – USCH (Cahul, Moldova);

- The Agence Universitaire de la Francophonie - AUF (Bucharest, Romania); P9 AUF evaluates State Agrarian University of Moldova - P7 SAUM.

European partners evaluate each activity, good practice and modernized curriculum of the Moldovan partners.

III. Conclusions

The role of the education system in sustainable development was revealed by the universal goal of providing inclusive and equitable education and lifelong learning opportunities for all people (SDG 4), with 2030 targets and indicators assigned such as participation rate in different education levels and forms, extent to which citizenship education and sustainable education are mainstreamed at all levels in curricula, teacher education, student assessment, and also a proportion of youth and adults with relevant skills in information technology and communication (ITC) and entrepreneurship, etc (Fleaca, E. et al. 2018).

Considering the fact that Moldova's economy is one of the poorest in Europe it will be good if in the future MD universities

create a "Knowledge Alliances". Knowledge Alliances are open to any discipline, sector and to cross-sectoral cooperation. They are transnational, structured and result-driven projects, notably between higher education and business. The partners share common goals and work together towards mutually beneficial results and outcomes (Dimitrov, et al, 2019).

We can conclude that ReSTART project aims for European partners to give their knowledge, skills, expertise and to exchange experience with Moldovan partners in the following areas:

- research and analysis of recent advancement in entrepreneurial education;

- performing detailed analysis of local practices on entrepreneurship education in targeted partner country HEIs;

- transforming critical to satisfaction factors into entrepreneurship learning needs;

- designing and elaboration of the processes roadmaps to incorporate changes in each curriculum of HEIs targeted;

- designing the structure and architecture of entrepreneurial curriculum;

- developing teaching and learning modules to stimulate the entrepreneurial mind-set and behavior of students, develop training modules for teachers from targeted partner country HEIs;

- performing teaching and learning activities to educate students to set up and operate business, and to experience;

- organizing and running business competition events for students, designing and running dissemination sessions to TGs raise awareness about entrepreneurship;

- organizing and running career orientation sessions for students, design, sustain;

developing the e-learning platform to support the innovation and entrepreneurship education.

Implementation of all these activities will lead to reinforcing entrepreneurial and digital skills of higher education in Moldova.

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