Developing the Entrepreneurial and Digital Skills by Capitalising Blended Teaching ICT-Methods in Higher Education

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Abstract: The aim of this paper is to find ways of improving the entrepreneurial curriculum through an analysis of the master students' satisfaction level related to entrepreneurship and digital skills. In this context, the following objectives were formulated: carrying out a content research on digital environment; conducting satisfaction surveys for target group; performing critical analysis of surveys' results; identifying the strengths and weakness of Cahul State University in entrepreneurial education. The different types of questions were applied: demographic, rating scale and multiple-choice questions. The Likert-type scales were used for rating scale questions. The surveys' results reveal that the major part of students' skills is still underdeveloped. In this context, the authors recommend adjusting the curriculum design by including the formation of attitudes related to job in forming skills and competences and by diversifying teaching strategies (more interactive and collaborative) and learning methods. Students have to be frequently trained how to work efficiently in groups, how to behave in crisis situation, to think and solve problems creatively. Furthermore, digital skills have to be developed deeply by using in teaching and learning process during all courses by creating and using different digital resources and formats.

Keywords: entrepreneurship competence; students survey; curriculum adjusting

JEL Classification: I23; L26

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Erasmus+ Programme 2014-2020

KA2 – Cooperation for innovation and the exchange of good practices

Capacity Building in the field of Higher Education

Project title: *"Reinforce entrepreneurial and digital skills of students and teachers to enhance the modernization of higher education in MOLDOVA* "

Project acronym: "ReSTART"

Introduction

This research is conducted within the ReSTART project "Reinforce entrepreneurial and digital skills of students and teachers to enhance the modernization of higher education in MOLDOVA", Project No. 585353-EPP-1-2017-1-RO-EPPKA2-CBHE-JP, as a part of Erasmus+ Programme 2014-2020, KA2 – Cooperation for innovation and the exchange of good practices, Capacity Building in the field of Higher Education. The main aim of the project is to integrate and improve the digital and entrepreneurial learning needs of students, teachers and local businesses on the basis of internationalization, strategic partnerships and innovative co-operation at Cahul State University "B.P.Hasdeu".

The overall objective of the ReSTART project is to extend the benefits and enhance the impact of the modernized entrepreneurial curriculum on cycle II Master students and scientific and didactic staff by capitalizing on the advanced experience in the field in the higher education institutions within the consortium.

This goal will be achieved by attaining the following objectives:

- Evaluating the needs of entrepreneurship and digital learning for students, teachers and local businesses in education, business, research and civil society.
- Upgrading the entrepreneurial education in five Moldovan universities, in line with EU best practices, by meeting local market expectations and capitalizing on ICT methods, combining innovative teaching and learning activities.
- Extending the innovative and upgraded education potential based on the institutionalization of the entrepreneurial curriculum in partner universities.

The purpose of this research paper is to identify opportunities for improving

entrepreneurial curriculum by conducting an analyse of the satisfaction level of local target group – master students -related to entrepreneurship and digital skills. Within this main goal, the research has a number of specific objectives:

- To conduct satisfaction surveys for target group – master students;
- To perform critical analysis of surveys' results;
- To outline the ways to improve the curriculum of B&A master programme in order to enhance the formation of entrepreneurial and digital competences of students.

Methods For Data Collection

Other surveys were performed using google forms. The different types of questions were used: demographic, rating scale and multiple-choice questions. The Likert-type scales were used for rating scale questions.

Master students were asked to respond to: ***demographic questions*** (e-mail, faculty, field of study, master programme), ***multiple choice questions*** (gender, the most important qualities needed for being a successful entrepreneur, the most important reasons for becoming an entrepreneur, the perception of business failure in your country, top three barriers for starting a new business, the most useful solutions needed for developing your entrepreneurial skills and knowledge, the preference for learning channels for learning entrepreneurship) and ***rating scale questions*** (preferred learning resources, the assessment of 15 skills grouped in four categories - Social, Personal, Methodological, and Digital). Other target groups, students and companies were asked to complete the survey by the means of on-line survey developed through google forms. The respondents were contacted by the members of research team and were asked to answer the questions sincerely. Any needed assistance was provided by team's members.

Results of the Research

The respondents of Satisfaction Survey: target group - students are 20 master students of Cahul State University "B. P. Hasdeu". Due to the fact that the major part of students enrolled in economic master studies is represented by female gender, 80 % of respondents are femal.

The respondents were asked to answer to a wide range of questions that will help to understand the students' attitudes and perceptions, and to collect relevant learning needs with respect to entrepreneurship and digital skills.

The survey results reveal that creativity and innovation is considered the most important qualities needed for being a successful entrepreneur (70 %). Also, decisiveness, ambition (60 %) and risk taking (55%) are seen as important. Less than a half of respondents chose communicativeness, continuous learning (45 %) and initiative (40 %) as the most important qualities.

Finally, less important are considered the following: curiosity, passion for their own ideas (30% each), confidence and desire to win (each 15% each). Tenacity, in the respondents' view, is only 5%, that is, it has no value.

The respondents were asked about the most important reasons for becoming an entrepreneur. As a result, "the practice my own ideas" (55%), "to be an independent person" and "earning money" (45%) are considered the most important reasons for becoming an entrepreneur. On the other hand, having a work - life balance, personal employment (25% each) social recognition (20%) are seen as less important reasons.

The respondents were then asked to express their opinion about how business failure is perceived in their country. To this question, respondents gave equal priority to three answers (25% of respondents for each option): "is only a learning experience", "denote the lack of entrepreneurial skills" and "is a barrier for future businesses ideas". Moreover, only 15% of respondents believe that business failure has no effect on future business ideas, and 10% of respondents think that it is a career failure. Thus, we observe that students are optimistic and recognize that the failure and success of a business depends on their personal knowledge and work.

The results of the survey reveal that excessive bureaucracy (70%), corruption in society (65%) and the lack of advice and information (35%) are considered to be "the top three barriers for starting a new business". In contrast, lack of business idea, lack of successful examples (5 %) and lack on entrepreneurial knowledge almost do not prevent the launch of a business.

At the top of the most useful solutions needed for the development of the students' entrepreneurial skills and knowledge are: Business simulations during the learning period (65%), Internships in companies (65%), Business Incubators (40%) and Practical study cases on entrepreneurship (40%). On the other hand, Career orientation sessions for self-assessment and professional development (30%), Entrepreneurship courses and dedicated learning materials (25%) and Business

entrepreneurs to find out their experiences (20%) are considered less useful. In the end, Business plans competitions (10%) is seen as the least practical solution.

If students are already accustomed to face-to-face method from school, then learning methods involving modern technologies have recently begun to be implemented. As a result, students prefer more blended learning (60%) than classical face-to-face learning (30 %) and modern e-learning (10 %).

Master students were asked to rank the learning resources. Teachers' courses is considered the most important, 16 of 20 students or 80 % of respondents appreciate this resources as very important and important. Also, libraries are considered an important resource of information, 75 % of respondents considers them important and very important. A difference is observed between classical library and the on-line one: classical library is considered very important by 7 of 20 students, while e-books are seen very important resource of learning by 9 of 20 students. Project-based work (70 %), quizzes (60 %) and video lessons (60 %) are considered important as well. And yet more students consider project-based work as very important source of learning (7 of 20 students). Finally, Wikipedia is seen less appropriate learning resource, only 40 % of respondents consider it important or very important (figure1).

The respondents were asked to assess diverse skills. The results reveal that the most important skills are: creativity and innovation, digital skills, analytical skill, adaptability and flexibility (all respondents consider these skills as "very important" and "important". Despite of the fact that few respondents rank few skills as "not so important" or "not important", the following skills are considered important for entrepreneurship education as well: communication, teamwork and negotiation (60 % of students consider them as "very important"), problem solving and conflict management (55 % - "very important").

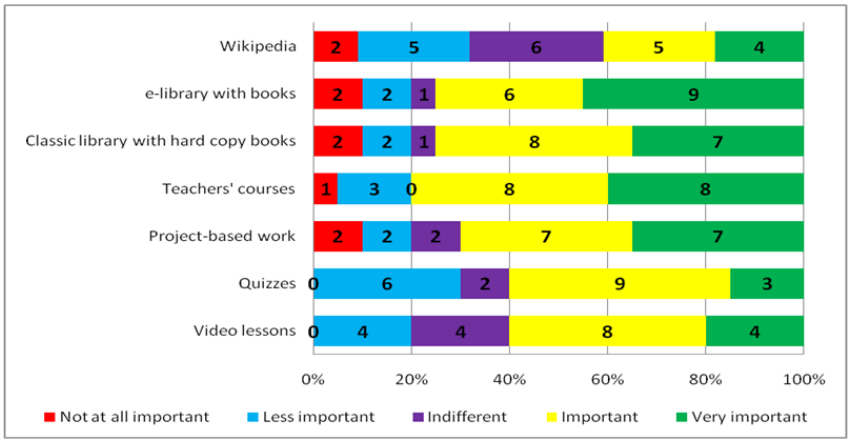

Figure 1. Student's Preference of Learning Resources

In addition, students were asked to respond to some statements related to the assessed skills by choosing one of options: *I strongly disagree*, *I somewhat disagree*, *I somewhat disagree* and *I strongly disagree*.

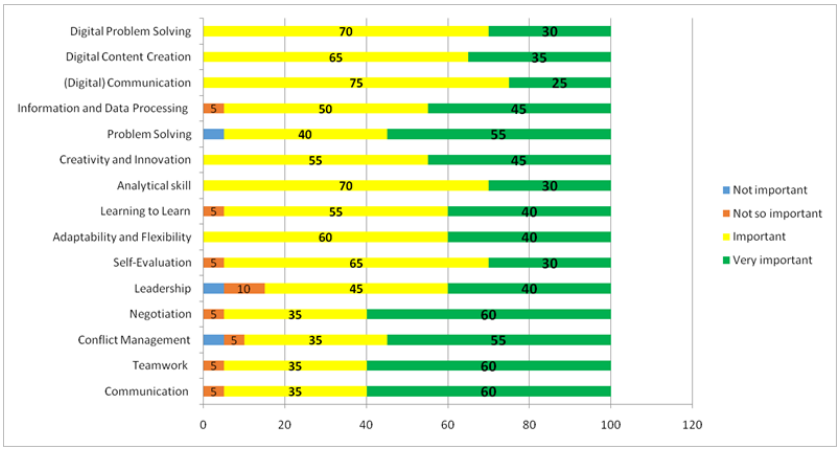

Figure 2. The Importance of Skills from Students' Perspective

The analysis of responses reveals that most of students communicate transparently (55 % strongly agree), also they think carefully about the message they want to send through their presentation (60 % strongly agree). Less positive responses were received for the following questions: *Before I communicate, I think about what the person needs to know, and how best to convey it* (45 % strongly agree), *When talking to people, I pay attention to their body language* (40 % strongly agree), *I find it easy to listen to what other people have to say without interrupting* (30 % strongly agree)

and *I consider cultural barriers when planning my communications* (10 % strongly agree) (figure 3).

The respondents were more agree with the following statements: *I listen carefully to what the other team members have to say* (55 % strongly agree) and *I encourage quiet group members to contribute* (50 % strongly agree). Less agreement was shown for the following statements about teamwork skill: *I introduce new ideas to groups in which I work* (40 % strongly agree), *I can use a wide range of team processes* (35 % strongly agree) and *In meetings, I take on the role of moderator/facilitator when necessary* (30 % strongly agree).

The most of respondents treat their team members with respect (60 % strongly agree), welcoming suggestions for improvements from the team (60 % strongly agree). Also, 60 % of students affirm that during a conflict they try to find some compromise. On other site, only 45 % confidently states that when a conflict arises, they are usually willing to adjust their priorities to reach a resolution. In addition, fewer students respond that *I act calmly in pressured situations* and *Resolving interpersonal conflict is an activity that I enjoy* (35 % strongly agree).

The analysis of responses about negotiation skill (figure 4) show that less than half of students can strongly agree with the proposed statements: *I come up with a plan so that I can steer the negotiation to go my way* (45 % strongly agree), *If something needs to be negotiated, I'll immediately step forward to do it* (40 % strongly agree), *I do things expressly to make sure that the negotiation stays friendly and comfortable* (40 % strongly agree), and *I'll try to see things from the other person's viewpoint and be considerate of their needs* (40 % strongly agree).

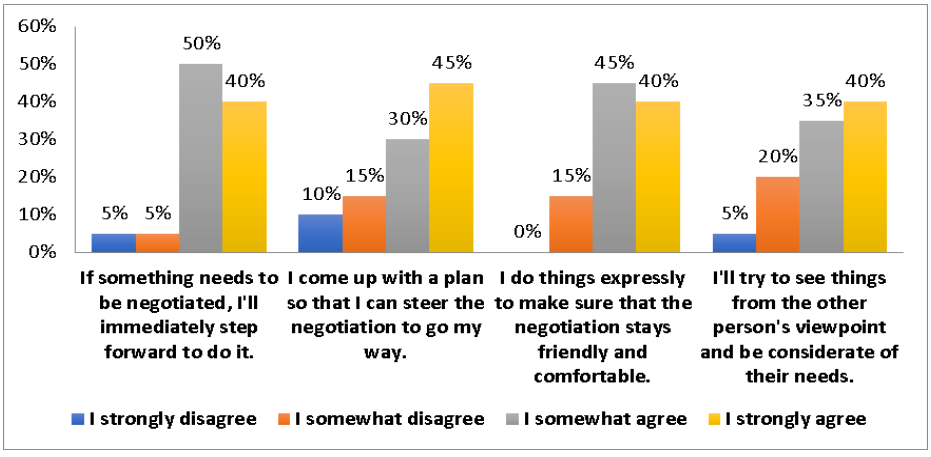

Figure 4. Student's Perception of Negotiation Skill

In case of leadership skill, the following situation is shown:

- More than half of students (55 %) strongly agree with that they have a vision for where they are headed;

- Half of respondents can describe important qualities and behaviours of effective leaders and know that different situations require different leadership styles.

Less than half of students can identify their strengths and development needs and can explain how leadership works and is understood in organizations (45 %).

The respondents answered about self-evaluation skill in the following way:

- More than half of students (60 %) strongly agree with that they can measure the results of improvement against the expected performance indicators;

- Half of respondents focus on the results of my efforts to accomplish goals and evaluate different means for achieving them and can identify the causes of variations between results and expected performance indicators;

- Less than half of master students strongly agree with that they set goals, indicators and objectives (45 % strongly agree) and can determine the time frames, tasks, responsibilities and resources required to achieve the improvement goals identified (40 % strongly agree).

The respondents were asked to assess the statements related to Adaptability and Flexibility Skill. As a result, 50 % of respondents are strongly agree with that they can identify the nature of change. On the other hand, less than half of students are strongly agree with the statements: *I look for opportunities to encourage others to learn new ways of doing things* (40 % strongly agree), *I am willing to question old habits and innovate in managing life's demands* (30 % strongly agree) and *I challenge traditional assumptions about how things are done, experimenting to make things better whenever possible* (30 % strongly agree). In the same time, 15-20 % of respondents a strongly disagree of partially disagree with the proposed statements related to Adaptability and Flexibility Skill (figure 5).

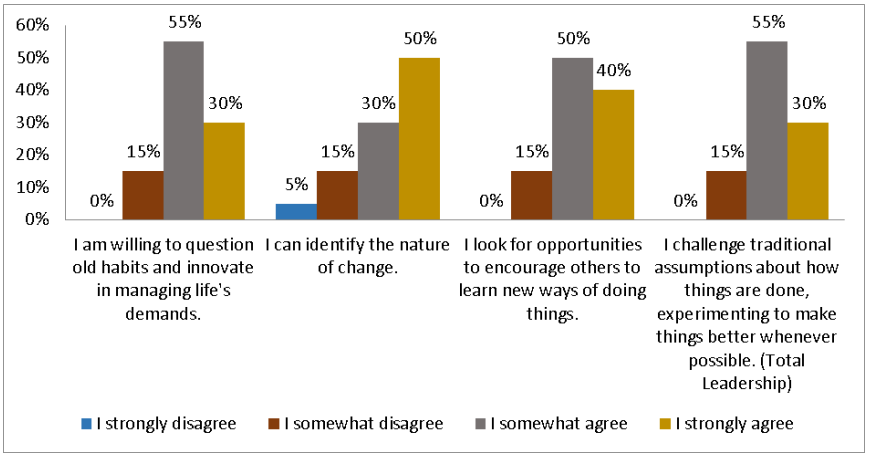

Figure 5. Student's Perception of Adaptability and Flexibility Skill

The answers related Learning to Learn Skill show that 75 % of respondents are strongly agree with that they identify their learning needs and plan actions to fulfil them. On the contrary, less than half of respondents knows what to do to fill the gaps between what they know and what they need to know in order to have a good performance, balances studying with other parts of my life and understands their preferred learning strategies (45 % strongly agree). Finally, only 15 % of students strongly agree with that they can evaluate possible efforts related to a change process.

The survey results reveal that almost half of respondents strongly agrees with the statements related to Analytical Skills: 55 % can effectively define the scope of the research question, select sources directly related to key concepts or to the research question and can analyse, synthesise and evaluate the quality of information; 45 % can choose a variety of information sources appropriate to the scope and discipline of the research question and state a conclusion that is a logical extrapolation from the analysis and inquiry findings. On the other hand, 20 % of respondents less agree with the statement *I can choose a variety of information sources appropriate to the scope and discipline of the research question*.

The statements, related to Creativity and Innovation Skill (figure 6), were rated as follows:

- 50 % of respondents can transform ideas or solutions into entirely new forms;

- 40 % of students can extend a novel or unique idea, question, format, or product to create new knowledge, can evaluate creative process and product using domain-

appropriate criteria or use framework and strategies for enabling a supportive environment for creativity and innovation.

- 35 % of respondents can respond creatively to problems and opportunities.

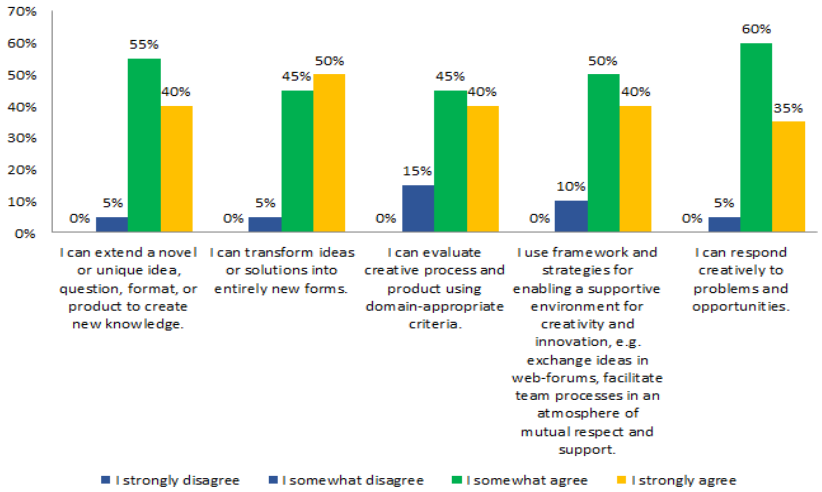

Figure 6. Student's Perception of Creativity and Innovation Skill

Students' responses reveal that they partially agree than strongly agree with the statements related to Problem Solving Skill: I always look for the causes of problems, so that I can understand what's really going on (45 % strongly agree and 50 % somewhat agree), *When solving a problem, I try to rethink my current understanding of an issue to develop a deeper insight into it* (40 % strongly agree and 45 % somewhat agree), *I can identify and analyse problems in difficult situations and make a justifiable evaluation* (25 % strongly agree and 65 % somewhat agree) and *I see problems, complaints, and bottlenecks as opportunities rather than as issues* (25 % strongly agree and 60 % somewhat agree).

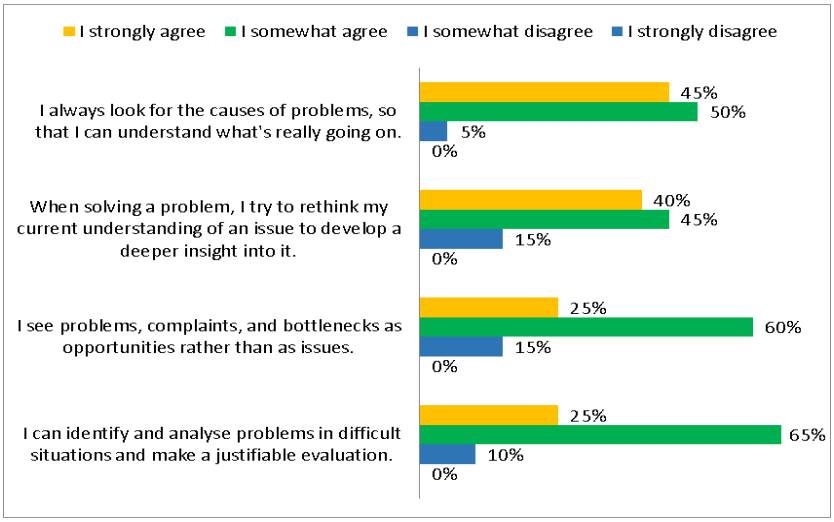

Figure 7. Student's Perception of Problem-Solving Skill

The analysis of responses about Information and Data Processing Skill show that less than half of respondents have a strong agreement with the proposed statements: *I select the information on the basis of my searching aims* and *I compare, contrast, and integrate information from different sources* (45 % strongly agree), *I distinguish reliable information from unreliable sources* (35 % strongly agree), *I follow information presented in hyper-linked and non-linear form* and *I recognise the usefulness, timeliness, accuracy and integrity of the information* (30 % strongly agree). Finally, only 25 % of respondents strongly agree with that they *adapt search strategies to a specific search engine, application or device.*

The analysis of responses related to digital skills reveals the following situation:

- 55 % of respondents strongly agree with that they select the information to share according to my needs or targets and 50 % is able to create visual representations of knowledge;

- 45 % of respondents strongly agree with that they construct different e-profiles according to my needs or targets and they edit information to communicate it through email, presentation in slides, post in social networks, blog;

- 35 % of respondents strongly agree with that they share contents and information using social networks and collaborative platforms (e.g. Google Drive, Dropbox etc.) to collect feedbacks, use the collaborative features of software packages and web-based collaborative services; try to always explore new ways and original formats

for content creation; are able to combine different media to express myself creatively (text, images, audio, and video) and try to always explore new ways and original formats for content creation; know there are different copyright and license rules for intellectual property products or are able to build meaningful knowledge through interaction with digitally available resources;

- The following statements received less agreement: I am able to stay informed about the latest available digital tools (30 % strongly agree); I am capable of exploiting technological potentials in order to represent and solve problems (25 % strongly agree) and I am aware of the latest digital technologies used by others and of their potential (15 %).

Findings and Further Recommendations

Findings

The survey's results on target group (students) reveal important aspects related to entrepreneurship curricula.

From students' point of view, creativity and innovation is considered the most important qualities needed for being a successful entrepreneur. In the same time, "the practice my own ideas", "to be an independent person" and "earning money" are seen the most important reasons for becoming an entrepreneur. Moreover, excessive bureaucracy, corruption in society and the lack of advice and information are considered to be "the top three barriers for starting a new business". In addition, at the top of the most useful solutions needed for the development of the students' entrepreneurial skills and knowledge are: business simulations during the learning period, internships in companies, business incubators and practical study cases on entrepreneurship. Finally, blended learning is the most preferred learning method for respondents.

The skills' assessment show that the most important skills, from master students' perspective, are: creativity and innovation, digital skills, analytical skill, adaptability and flexibility. Critical analysis of given responses on the proposed statements conduct to the following finding:

- **Social skills.** Most of the respondents do not find easy to listen to what other people have to say without interrupting and do not consider cultural barriers when planning their communications. In addition, most of the master students cannot use a wide range of team processes and in meetings, they rarely are ready to take on the

role of moderator/facilitator when necessary. Furthermore, only third of respondents claim that they can act calmly in pressured situations and that resolving interpersonal conflict is an activity that they enjoy. In the end, a part of master students does not come up with a plan in order to success in negotiation;

- **Personal skills.** One quarter of respondents cannot explain how leadership works and how it is understood in organizations, also 15 % of students cannot describe important qualities and behaviours of effective leaders and different leadership styles. Furthermore, almost 20 % of respondents do not look for opportunities to encourage others to learn new ways of doing things, are not willing to question old habits and innovate in managing life's demands and do not challenge traditional assumptions about how things are done, experimenting to make things better whenever possible;

- **Methodological skills.** 20 % of respondents cannot choose a variety of information sources appropriate to the scope and discipline of the research question. Also, 15 % of students are less able to organise autonomously their own learning and do not balance studying with other parts of their life or cannot evaluate creative process and product using domain-appropriate criteria. Moreover, 15 % of students do not try to rethink their current understanding of an issue to develop a deeper insight into it when solving a problem and do not try to see problems, complaints, and bottlenecks as opportunities rather than as issues;

- **Digital skills.** One third of respondents rarely share contents and information using social networks and collaborative platforms or construct different e-profiles according to my needs or target. In addition, 30 % of students affirm that they are able to adapt smoothly to new technology and to integrate it into my learning or working environment or to stay informed about the latest available digital tools.

Recommendations

The project team recommends adjusting the curriculum design by including the formation of attitudes related to job in the formation process of skills and competences.

The curriculum has to be redesign by diversifying teaching strategies (more interactive and collaborative) and learning methods. Students have to be frequently trained how to work efficiently in groups by developing specific skills as generation of ideas, argumentation of own ideas, listening and tolerating others' ideas, ability to debate intelligently and to conduct a dialogue. In addition, students should be trained how to behave in crisis situation, how to make decision quickly and based on ration arguments rather than on emotions. Moreover, the teaching and learning strategies have to enhance the students' ability to identify their strengths and weakness, how and where they can use their skills. In the same time, more attention has to be paid to creativity, students have to be trained to think and solve problems creatively, and students have to be able to change their perspective of view. Furthermore, digital skills have to be developed deeply by using in teaching and learning process during all courses by creating and using different digital sources and formats.

Conclusions

Entrepreneurial and digital skills have become the most important nowadays. Companies seek to employ creative young specialists with well-developed social, personal and digital skills. Students understand that receiving knowledge in their field is not enough to become competitive on labour market or successful entrepreneurs. They should develop a wide range of skills as teamwork, communication, problem solving, critical thinking and negotiation. In the same time, digital competences as digital communication and content creation are seen very important by the students as well as by the employers and entrepreneurs.

Finally, the best solution in enhancing the development of entrepreneurship education is offering to students a possibility to develop themselves not only as well-trained specialists, but also as strong personalities and competitive entrepreneurs by connecting teaching-learning process with real entrepreneurial environment. Students has to interact actively with companies and entrepreneurs, they should learn and develop their skills and attitudes also through informal channels.

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