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# WP2: Enhancing Entrepreneurship Education and Skills Development

D 2.1 Report on status quo on entrepreneurship education, labour  
market requirements and knowledge/skills mismatches




Kulob State University named after Abuabdullohi Rudaki, Tajikistan



Triggering innovative approaches and entrepreneurial skills for students through creating conditions  
for graduate's employability in Central Asia

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## 1. Introduction

The present report provides an overview of the status quo of entrepreneurship education at Kulob State University named after Abuabdullohi Rudaki [KuLSU] in Tajikistan and aims to identify related labour market requirements and possible knowledge/skills mismatches of university graduates. The report was developed as part of Work Package 2 on “Enhancing Entrepreneurship Education and Skills Development” (WP2) of the Erasmus+ Capacity Building in Higher Education Project “Triggering innovative approaches and entrepreneurial skills for students through creating conditions for graduate’s employability in Central Asia” (TRIGGER).

Kulob State University named after Abuabdullohi Rudaki [KuLSU] was established in 1945 as a Kulob Pedagogical Institute and was reformed as Kulob State University in 1992. KuLSU is a public/state organization. Now there are 10 faculties in the University: 1. Faculty of Pedagogy and Culture. 2. Faculty of Tajik Philology. 3. Faculty of Russian Philology. 4. Faculty of Foreign Philology. 5. Faculty of Economy and management. 6. Faculty of Finance & Economy. 7. Faculty of Physical culture and Military preparation. 8. Faculty of Chemistry and Biology. 9. Faculty of Physics, Math and Informatics. 10. Faculty of History, Law and International Relations. In the University are employed 803 teaching and non academic staff. In Kulob State university studies 12546 students on Bachelor, Ma and Phd degrees and 3399 of them are going to graduate the University on 53 specialties in 2022. 572 of 803 employed people are academic and 231 non academic staff. From the total number of students 12111 are studying on BA degree, 371 on MA degree, 64 on PhD degree and 15 on post-doc degree. Since 2016 is opened the Distance Learning Centre in KuLSU where are involved only the students on BA degree. Their number is more then 3400 students of total number of students. The main companies who are interested for KuLSU gradutors are the Secondary Schools of Kulob group of regions, Banks, public service organizations and others. KuLSU has participated in realization of 5 Tempus projects: EDUCA, ProTRAINING, QUADRIGA, CANQA, and TuCAHEA, 1 ERASMUS MUNDUS project: CANEM and 3 ERASMUS+ projects: PAWER, EXTEND and TRIGGER.

The report first provides an overview of the current offer in entrepreneurship education at the university. Second, relevant results of an HEI self-assessment are provided which was conducted based on the HEInnovate<sup>1</sup> tool in WP1.<sup>2</sup> For the requirements of WP2 the present report specifically looks at the self-

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<sup>1</sup> For further details see: <https://heinnovate.eu/en>

<sup>2</sup>For further detail see Deliverable 1.1 on “The Methodology for the Analyses of HEI preparedness for future challenges” of Work Package 1.

assessment findings of the university for the HEInnovate dimensions “Entrepreneurial Teaching and Learning” and “Preparing and Supporting Entrepreneurs”.<sup>3</sup> Third, results of a survey among employers and graduates are provided to identify labour market qualification requirements and possible skills mismatches for graduates in the field of entrepreneurial skills. The survey was implemented by the university in spring 2021 as part of WP2. Fourth, a summarizing discussion of the identified gaps and skills mismatches is provided. In sum, the mentioned aspects allow for comprehensive audit of the state of entrepreneurship education at the university. Finally, conclusions for the further development of entrepreneurship education at the university are derived.

Before digging deeper into the status of entrepreneurship education at the university, this section closes with a summary on the notion of entrepreneurship education as adopted in the TRIGGER project:

- **Entrepreneurship Education (EE)** seeks to provide students with knowledge, skills and motivation to create ideas in entrepreneurial action in different environments, both as self-employed entrepreneur and as employee in established organisations (EC 2015, Lackéus et al. 2020).
- **Entrepreneurship** is a key competence for all learners, supporting personal development, active citizenship, social inclusion and employability (see European Commission et al. 2016: 21).
- **Organizational change** of HEIs is needed, since „the capacity to implement the entrepreneurship and innovation agenda depends on the governance arrangements, organisational capacity and the institutional culture of HEIs as well as characteristics of the surrounding economy“ (OECD 2019: 12).

## 2. Overview of current offer in entrepreneurship education at the HEI

This section provides an overview of the status quo of entrepreneurship education at the university, looking at BA, MA, and PhD levels.

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<sup>3</sup>For further results of the self-assessment along all 8 HEInnovate dimensions see Deliverable 1.2 “The Report on HEI preparedness for future challenges in CA countries” of Work Package 1.

## 2.1. Existing entrepreneurship education offer at BA level

Kulob State University named after Abuabduholi Rudaki trains 56 specialties 15 of what are the Business, Management, Marketing and Banking system specialties.

The educational programs in business, management, marketing and banking system include such disciplines as Fundamentals of Economy, Macro economy, Microeconomics, Production management, Economics and management in the enterprise, Math in economy, Statistics, Accounting, Management, Marketing, Communication in Marketing, Finance and debt, Public administration, Management of foreign economic activity, Accounting, analysis and audit, World Economy, Fundamentals of Entrepreneurship, Business of small and medium enterprises, Econometrics, Business Planning, "Entrepreneurial Law", Project management, Anti-crisis management of organization, Tax, Invest Management of projects, Finance Management, Innovation management, Strategic management and etc. We don't know what level of entrepreneurship will cover the stated curricula. Because it is new understanding for us.

KulSU in cooperation with the Ministry of Education and Science of the Republic of Tajikistan within the framework of the implementation of the state task in order to stimulate entrepreneurial activity of the younger generation within the framework of the Roadmap for the Year of Youth, from 2017, Help of young people policy every year the youth of Tajikistan are trained and re-trained on development of any kinds of specialties. The teachers of HEIs also are re-trained under these programs because of better preparation of young specialties on Economy/Entrepreneurship. The total number of credits for BA degree of each specialty consists of 240 ECTS. 48 ECTS of this number are allocated for the Fundamental disciplines, 108 ECTS specialty disciplines, 60 ECTS for elective disciplines, 15 ECTS for practice and 9 ECTS for State Examination.

The discipline provides for the study of the basics of doing business, marketing, business projects in demand today, the definition of taxation regimes and other topical business topics. For teaching the named disciplines nowadays in Republic of Tajikistan are developing a lot of new modern methodology around the different local and international projects cooperating with the developed HEIs all around the world. Unfortunately for the specialties of Natural Sciences, Mathematics and Statistics, Information and Communication Technologies, Engineering, Services and etc. except the economy specialties there is only a discipline of Fundamentals of Economy in some of specialties' curriculums, which consists of 2 or 3 ECTS. At all in the University is organized the Carrier building Centre, where is the course for start-up projects and a few number of students go this Centre to obtain this course. Because, obtained hours of start-up course will not be accepted to the students' total number of ECTS.

There is stated a regulatory framework by Ministry of Education and Science of the Republic of Tajikistan on making and preparing the curricula for the HEIs. It consists of 5 main parts. These five parts of curricula structure and their number of ECTS have cannot change HEI (1. Fundamental disciplines - 48 ECTS, 2. specialty disciplines - 108 ECTS, 3. elective disciplines - 60 ECTS, 4. practice - 15 ECTS and 5. State Examination - 9 ECTS). About the disciplines and the number of ECTS for each discipline will be appointed by the HEI and will be agreed with the Ministry once a year before beginning of academic year.

## 2.2. Existing entrepreneurship education offer at MA level

At KulSU in total there are 18 programs on Master degree 6 of which are on economy direction. These specialties are Accounting, Marketing, Social management, Finance & Credit, Economy & management and Banking. For these programs there are developed the full courses of entrepreneurship and for its research. The such kind of disciplines are planned for preparation of master degree specialties in KulSU: fundamentals of economy, production management, economics and management in the enterprise, math in economy, accounting, management, marketing, communication in marketing, finance and debt, public administration, management of foreign economic activity, analysis and audit, World economy, fundamentals of entrepreneurship, business of small and medium enterprises, econometrics, business planning, entrepreneurial law, project management, Anti-crisis management of organization, Tax, Invest Management of projects, Finance management, innovation management, strategic management finance planning, management planning, realization of analyses on the modern economy period, economic and math modeling on business system, IT accounting systems, the methods of economy process research, innovative management, information management, production management, cooperation and business conflicts, management of different types of organization, possibilities and invest power of Tajikistan and etc.

Following the regulatory framework by the Ministry of Education and Science of the Republic of Tajikistan, on making and preparing the curricula for the HEIs the structure of curricula and the number of ECTS for each part of the structure have not to be changed for this level also. About the disciplines in each part and the number of ECTS for them will be appointed by the HEI and will be agreed with Ministry once a year before beginning of academic year.



### **2.3. Existing entrepreneurship education offer at PhD level**

In KUISU in total there 11 programs on Phd degree and 1 of what are on economy direction. This program consists of such kinds of programs as: State finance management, International currency cooperation and finance credit, electronic payment system in banks, electronic innovations in banking system, organization development strategy, innovation management in organization, concurrency policy of organization and etc.

Following the regulatory framework by the Ministry of Education and Science of the Republic of Tajikistan, on making and preparing the curricula for the HEIs the structure of curricula and the number of ECTS for each part of the structure have not to be changed for this level also. About the disciplines in each part and the number of ECTS for them will be appointed by the HEI and will be agreed with Ministry once a year before beginning of academic year.

### **2.4. Other activities in entrepreneurship education**

Beginning from 2017 KUISU is providing all its courses under Credit Educational System and now here are just developing the different Centres for development of modern types of education. In parallel with this, we are developing the different Centers and bodies for increasing the youth abilities. Now it is announced the 4<sup>th</sup> strategic plan of Republic of Tajikistan, the quick industrialization. For industrialization of the whole country we need for specialists for any direction. Following this strategic plan, all the HEIs in Tajikistan are working on development of the modern courses which are able for preparation of needed specialists.

### **2.5. National/institutional regulations to implement changes at the course level and to initiate new extra-curricular activities**

#### At the national level

There is stated a regulatory framework by Ministry of Education and Science of the Republic of Tajikistan on making and preparing the curricula for the HEIs. The Curricula for any kinds of specialties in all the HEIs of the Republic of Tajikistan consists of 5 main parts and appointed number of ECTS: 1. Fundamental disciplines - 48 ECTS, 2. specialty disciplines - 108 ECTS, 3. elective disciplines - 60

ECTS, 4. practice - 15 ECTS and 5. State Examination - 9 ECTS. These five parts of curricula structure and their number of ECTS cannot change HEI. But the disciplines and the number of ECTS for each discipline will be appointed by the HEI and will be agreed with the Ministry once a year before beginning of academic year.

### At the institutional level

For development of courses and curricula in HEI are responsible the Deaneries, Chairs, Departments and their work will control the Training Department of the University. If the department has decided to make changes in training courses and / or initiate on addition of new courses in educational programs, then all the work done will be agreed in the Ministry of Education and Science of the Republic of Tajikistan. If one department initiates the inclusion of a new curriculum in other educational programs not related to it, then at first it is consistent between departments, and then the initiating department brings this issue to the meeting of the educational and methodological council of the university

The implementation of changes in the curriculum is discussed at a meeting of the department.

## **3. Results of the HEInnovate self-assessment for the dimension “Entrepreneurial Teaching and Learning” and “Preparing and Supporting Entrepreneurs”**

As part of WP1 a HEI self-assessment was conducted based on the HEInnovate tool. For the requirements of WP2 this section specifically looks at the self-assessment results of the university for the HEInnovate dimensions “Entrepreneurial Teaching and Learning” and “Preparing and Supporting Entrepreneurs”.<sup>4</sup>

### **3.1. Dimension “Entrepreneurial Teaching and Learning”**

The knowledge on entrepreneurship is the most interesting direction for the students of Tajikistan, which is developing now. Every day we see the new models of entrepreneurship. However, we know rather little about the outcomes of entrepreneurship education, in particular with respect to which type of course content produces the best results and how this affects different types of students.

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<sup>4</sup>For further results of the self-assessment along all 8 HEInnovate dimensions see Deliverable 1.2 “The Report on HEI preparedness for future challenges in CA countries” of Work Package 1.

There is a great variety of different views in the field of research concerning the content and structure of entrepreneurship courses, but no comprehensive study has yet been done in which these competing views are clearly articulated as rivals and tested against each other. Still there are a few books and materials on this discipline in KulSU and a not all the staff have god knowledge in this direction. Therefore, the staff assessment regarding evaluation of Entrepreneurial Teaching and Learning processes is highly marked to my mind.

The following measures should be taken by KulSU:

1. To support the teaching plans/curriculum change to stimulate and develop entrepreneurial mindsets and skills through new pedagogical approaches.
2. To develop the special master classes and special courses for staff in creating new curriculum related to entrepreneurship
3. Introduce new mechanisms for supporting students, including experiencing starting new ventures within the students' formal education or delivering entrepreneurship education with practicing entrepreneurs
4. To organize the students' business incubators.
5. Organize networking events between students and entrepreneurs / businesses

### 3.2. Dimension “Preparing and Supporting Entrepreneurs”

Following the results of survey on this dimension we can see the whole situation in Kulob State University about the performance of the higher education system in the HE Innovate dimension “preparing and supporting entrepreneurs”. The results of survey show the students and faculty that engage with entrepreneurship could receive more recognition in the higher education system. The diagram shows the Preparing and Supporting Entrepreneurs marked highly. University is able to promote the incubator widely, provide opportunities for monitoring, implementation the mechanisms to increase rates and to provide conditions for that activity.

The following measures should be taken by KulSU:

1. Provide conducive framework conditions for start-up, such as enabling staff to own shares, work part-time, take sabbaticals, and the possibility for students to extend the duration of their study programmes to support starting a new venture whilst studying
2. Offer funds to support market feasibility studies

3. Make effective use of communication channels to raise awareness of opportunities and showcase entrepreneurship among staff and students across all parts of the institution
4. Host their own incubators or facilitate easy access to external incubators
5. Provide opportunities for students to be involved in research projects leading to entrepreneurial opportunities and to take up internships with entrepreneurs

## 4. In-depth survey (employers, alumni)

As part of WP2 the university conducted a survey among employers and graduates to identify labour market qualification requirements and possible skills mismatches for graduates in the field of entrepreneurial skills.

In this chapter, results from the online survey of employers and alumni are presented. The rationale of the survey was to identify the skills gaps in terms of skills needed and the actual skills state of university graduates as perceived by companies and alumni.

The survey was conducted in May and June 2021. Each TRIGGER partner in Kazakhstan, Uzbekistan and Tajikistan distributed the same questionnaire independently in order to gain comparable data. The questionnaire was developed based on the Entrepreneurship Competence Framework<sup>5</sup> and other studies on entrepreneurship.<sup>6</sup>

In total, the questionnaire comprised 130 items on three EntreComp dimensions „Ideas“, „Resources“ and „Actions“ and in four dimensions on „Digital Skills“, „Financial Skills“, „Marketing Skills“ and „Skills in Innovation Management“, plus 8 questions on demographic variables, such as position of the survey participant in the company, company size, and sector of company/professional activity. All items were presented with a five-point Likert scale anchored with 1 = not at all important to 5 = very important.

At KulSu, in the provided survey have participated 21 alumni and 22 employers.

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<sup>5</sup> Bacigalupo M., Kampylis P., Punie Y. and Van Den Brande L. (2016) EntreComp: The Entrepreneurship Competence Framework. Luxembourg (Luxembourg): Publications Office of the European Union; Online: <https://publications.jrc.ec.europa.eu/repository/handle/JRC101581> (accessed 2021-02-02).

<sup>6</sup> The dimension on „Digital Skills“ was developed from Carretero, S. / Vuorikari, R. / Punie, Y. (2017). DigComp 2.1: The Digital Competence Framework for Citizens with eight proficiency levels and examples of use, doi:10.2760/38842; the further dimensions were built on Loué, C. & Baronet, J. (2012) Toward a new entrepreneurial skills and competencies framework: a qualitative and quantitative study. In: International Journal of Entrepreneurship and Small Business, Vol. 17, No. 4, pp. 455-477.

## 4.1. Dimension “Ideas”

**Table 1: Dimension “IDEAS”**

Items	Employer						Alumni					
	N	Importance		Graduate level		I ± GL	N	Importance		Graduate level		I ± GL
		Mean	SD	Mean	SD			Mean	SD	Mean	SD	
Identifying, creating and seizing opportunities.	22	4,7	0,7	3,0	0,6	-1,6	21	4,7	0,7	3,3	0,8	-1,4
Uncovering the needs of customers and other stakeholders.	22	4,5	0,7	3,0	0,8	-1,5	21	4,9	0,4	3,4	0,9	-1,5
Analysing the contexts where value can be created.	22	4,6	0,6	3,1	0,8	-1,5	21	4,6	0,7	3,3	0,9	-1,3
Developing ideas and opportunities to create value.	22	4,5	0,7	3,2	0,9	-1,3	21	4,5	0,6	3,5	0,8	-1,0
Developing better solutions to existing and new challenges.	22	4,5	0,7	3,2	0,9	-1,3	21	4,2	0,6	3,4	1,0	-0,9
Exploring and experiment with innovative approaches.	22	4,4	0,6	2,9	0,9	-1,5	21	4,5	0,6	3,4	0,8	-1,1
Developing a vision to turn ideas into action.	22	4,4	0,6	3,1	0,9	-1,3	21	4,5	0,6	3,6	0,6	-1,0
Judging what value is in social, cultural and economic terms.	22	4,4	0,5	2,9	1,0	-1,5	21	4,5	0,5	3,5	0,8	-1,0
Recognising the potential an idea has for creating value.	22	4,4	0,7	3,0	0,7	-1,3	21	4,3	0,7	3,5	0,8	-0,8
Identifying suitable ways of making the most out new ideas.	22	4,4	0,6	3,0	0,8	-1,3	21	4,4	0,7	3,4	0,9	-1,0
Assessing the consequences of ideas that bring value on the target community, the market, society and the environment.	22	4,4	0,7	3,2	0,7	-1,2	21	4,4	0,6	3,5	0,8	-0,9
Reflecting on how sustainable long-term	22	4,5	0,5	3,2	0,9	-1,3	21	4,3	0,7	3,4	0,8	-0,9

social, cultural and economic goals are.													
Acting responsible.	22	4,4	0,7	3,2	0,9	-1,1	21	4,6	0,6	3,6	0,8	-1,0	

**According to employers in the Idea part, the most important skills are**

Identifying, creating and seizing opportunities.	4,7
Uncovering the needs of customers and other stakeholders	4,5
Analysing the contexts where value can be created.	4,6
Developing ideas and opportunities to create value	4,5
Developing better solutions to existing and new challenges	4,5
Exploring and experiment with innovative approaches	4,4
Developing a vision to turn ideas into action	4,4
Judging what value is in social, cultural and economic terms.	4,4
Recognising the potential an idea has for creating value.	4,4
Identifying suitable ways of making the most out new ideas	4,4
Assessing the consequences of ideas that bring value on the target community, the market, society and the environment.	4,4
Reflecting on how sustainable long-term social, cultural and economic goals are.	4,5
Acting responsible	4,4

**Graduates, on the other hand, consider almost all the skills offered in the Idea part to be important:**

Identifying, creating and seizing opportunities.	4,7
Uncovering the needs of customers and other stakeholders	4,9
Analysing the contexts where value can be created.	4,6
Developing ideas and opportunities to create value	4,5
Developing better solutions to existing and new challenges	4,2
Exploring and experiment with innovative approaches	4,5
Developing a vision to turn ideas into action	4,5
Judging what value is in social, cultural and economic terms.	4,5
Recognising the potential an idea has for creating value.	4,3
Identifying suitable ways of making the most out new ideas	4,4
Assessing the consequences of ideas that bring value on the target community, the market, society and the environment.	4,4
Reflecting on how sustainable long-term social, cultural and economic goals are.	4,3
Acting responsible	4,6

Following the results of questionnaire, by the opinion of Employers the level of graduates' abilities and knowledge is lower than it is important. If we look at the average rating of employers, then we see the employers totally rated the importance of shown abilities for 4.45. But the real level of graduates they



marked as 3.08 what is too low then it is important. The difference of importance and Graduate level is -1.37 point.

Also by opinion of Alumni their level of obtained skills is lower then they need in their organization. They marked their important level for 4.5 point averagely and the real level of their obtained skills for 3.44 point. The difference between the importance and obtained skills is lower for -1.05 point.

## 4.2. Dimension “Resources”

Table 2: Dimension "Resources"	employer						Alumni					
	N	Importance		Graduate level		I ± GL	N	Importance		Graduate level		I ± GL
		Mean	SD	Mean	SD			Mean	SD	Mean	SD	
<b>Items</b>												
Reflecting on your needs, aspirations and wants in the short, medium and long term.	22	4,6	0,7	3,0	0,7	-1,6	0	4,6	0,7	3,4	0,8	-1,2
Identifying and assess one’s own individual and group strengths and weaknesses.	22	4,5	0,6	3,0	0,8	-1,5	21	4,4	0,5	3,5	0,9	-0,9
Believing in one’s own ability to influence the course of events, despite uncertainty, setbacks and temporary failures.	22	4,5	0,7	3,0	0,7	-1,5	21	4,4	0,7	3,4	0,9	-1,0
Being determined to turn ideas into action and satisfy one’s own need to achieve.	22	4,3	0,8	3,0	0,9	-1,3	21	4,2	0,6	3,3	0,8	-0,9
Being prepared to be patient and keep trying to achieve long-term individual or group aims.	22	4,2	1,0	3,0	0,9	-1,2	21	4,2	0,6	3,4	1,0	-0,8
Being resilient under pressure, adversity, and temporary failure.	22	4,4	0,8	3,1	0,8	-1,3	21	4,2	0,6	3,5	0,8	-0,7
Getting and managing the material, non-material and digital resources needed to turn ideas into action.	22	4,3	0,6	3,1	0,9	-1,2	21	4,4	0,6	3,6	0,6	-0,8

Making the most of limited resources.	22	4,6	0,5	3,2	0,9	-1,4	21	4,4	0,5	3,7	0,8	-0,7
Getting and managing the competences needed at any stage, including technical, legal, tax and digital competences through suitable partnerships, networking, outsourcing and crowd-sourcing.	22	4,3	0,6	3,0	1,0	-1,3	21	4,4	0,7	3,5	0,8	-0,9
Estimating the cost of turning an idea into a value-creating activity.	22	4,5	0,5	3,3	0,8	-1,2	21	4,4	0,7	3,5	0,9	-0,9
Planning, putting in place and evaluating financial decisions over time.	22	4,3	0,6	3,0	0,8	-1,3	21	4,4	0,6	3,6	0,8	-0,8
Managing financing to make sure my value-creating activity can last over the long term.	22	4,3	0,8	3,1	0,9	-1,2	21	4,5	0,7	3,5	0,8	-1,0
Inspiring and enthusing relevant stakeholders.	22	4,0	1,0	3,0	0,9	-1,0	21	4,3	0,6	3,4	0,8	-0,9
Getting the support needed to achieve valuable outcomes.	22	4,1	0,8	3,1	0,7	-1,0	21	4,3	0,6	3,4	0,8	-0,9
Demonstrating effective communication, persuasion and negotiation.	22	4,3	0,8	3,2	0,9	-1,1	21	4,4	0,6	3,6	0,8	-0,8
Demonstrating effective leadership.	22	4,5	0,5	3,2	0,7	-1,3	21	4,5	0,6	3,6	0,8	-0,9
NOTE	<b>Differences between Importance and Graduate level higher than 1,1 are highlighted in red color</b>											

Following the results of questionnaire on the theme resources, by the opinion of Employers the level of resources is not enough higher for self developing of the students, and the alumni also showed the level of resources is not enough. It means by the opinion of the employers and alumni there is not enough resources for students to develop their knowledge and abilities and skills. The main picture of this situation looks like this: The total average rating point by employers on Importance of resources is 4.4 point and graduate level is 3.1. The total average rating point by alumni on this dimension is Importance of resources is 4.4 point and graduate level is 3.5. Here the alumni showed the graduate level for 0.4 point higher in total.

In total they rated each point of our questionnaire nearly on the same level. Difference between Importance and Graduate level is higher for 1.1 point in total.

### 4.3. Dimension “Actions”

Table 3: Dimension “Actions”	Employer						Alumni					
	N	Importance		Graduate level		I ± GL	N	Importance		Graduate level		I ± GL
		Mean	SD	Mean	SD			Mean	SD	Mean	SD	
<b>Items</b>												
Initiating processes that create value.	22	4,4	0,8	3,1	0,6	-1,3	0	4,3	1,0	3,2	0,8	-1,1
Taking up challenges.	22	4,7	0,6	3,0	0,8	-1,7	21	4,3	1,0	3,2	0,7	-1,1
Acting and working independently to achieve goals, stick to intentions and carry out planned tasks.	22	4,5	0,6	2,9	0,8	-1,6	21	4,2	0,9	3,2	0,6	-1,0
Setting long-, medium- and short-term goals.	22	4,4	0,7	3,0	0,9	-1,4	21	4,2	1,0	3,2	0,7	-1,0
Defining priorities and action plans.	22	4,2	0,7	3,1	0,9	-1,1	21	4,2	0,8	3,1	0,7	-1,1
Adapting to unforeseen changes.	22	4,3	0,7	3,1	0,9	-1,2	21	4,1	0,8	3,2	0,8	-0,9
Making decisions when the result of that decision is uncertain, when the information available is partial or ambiguous, or when there is a risk of unintended outcomes.	22	4,3	0,7	2,8	0,9	-1,5	21	4,2	0,8	3,2	0,9	-1,0
Testing ideas and prototypes from the early stages to reduce risks of failing.	22	4,2	0,5	3,0	1,0	-1,2	21	4,2	0,9	3,3	0,8	-0,9
Handling fast-moving situations promptly and flexibly.	22	4,2	0,7	3,0	0,7	-1,2	21	4,2	0,7	3,3	0,7	-0,9
Working together and cooperate with others to develop ideas and turn them into action.	22	4,5	0,6	3,2	0,8	-1,3	21	4,4	0,6	3,4	0,8	-1,0

Networking with others to organise skills and expertise needed for goal attainment.	22	4,3	0,7	3,2	0,7	-1,1	21	4,4	0,7	3,3	0,6	-1,1
Solving conflicts and facing up to competition positively when necessary.	22	4,4	0,6	3,0	0,9	-1,4	21	4,4	0,7	3,2	0,8	-1,2
Using any initiative for value creation as a learning opportunity.	22	4,2	0,7	3,1	0,9	-1,1	21	4,3	0,8	3,3	0,8	-1,0
Learning with others, including peers and mentors.	22	4,3	0,6	3,0	0,9	-1,3	21	4,2	0,6	3,4	0,9	-0,8
Reflecting and learning from both success and failure (your own and other people's).	22	4,5	0,7	3,1	0,9	-1,4	21	4,4	0,7	3,4	0,9	-1,0
<b>Note:</b>	<b>Differences between Importance and Graduate level higher than 1,2 are highlighted in red color</b>											

For this dimension the employers rated the importance higher than graduate level -1.4 point. The total average point for importance is 4.4 point and for graduate level is 3.0 point. It means the employers think that KuLSU alumni are not enough skilled for working in their companies and they want more skilled specialists. In this case graduate also rated the importance of high skill but their level is lower. The average of alumni questionnaire for importance is 4.3 and for the real level of graduate skills 3.3. Difference of the average on questionnaire results is 1.0 point. In this part the employers and alumni think that importance of asking skills is higher than the real situation.

#### 4.4. Dimension “Digital Skills”

Table 4: Dimension "Digital Skills"	Employer						Alumni					
	N	Importance		Graduate level		I ± GL	N	Importance		Graduate level		I ± GL
		Mean	SD	Mean	SD			Mean	SD	Mean	SD	
<b>Items</b>												
Using data and information from digital environments to assess the potential of ideas.	22	4,5	0,9	3,1	0,7	-1,4	0	4,7	0,6	3,4	0,7	-1,3
Deploying digital media, apps or web-based tools for marketing.	22	4,5	0,7	3,2	0,9	-1,3	21	4,7	0,5	3,5	0,7	-1,2
Using knowledge on automation and artificial intelligence for improving products, processes and services.	22	4,5	0,8	3,3	1,0	-1,2	21	4,6	0,7	3,3	0,7	-1,3
Understanding and using information from the web and other digital sources to identify customer needs.	22	4,5	0,6	3,3	0,8	-1,2	21	4,4	0,8	3,7	0,6	-0,7
Using software apps and digital tools for managing collaboration with teams and partners.	22	4,3	0,7	3,5	0,8	-0,8	21	4,4	0,7	3,6	0,6	-0,8
		4,5		3,3		-1,2		4,6		3,5		-1,1
<b>Note:</b>	<b>Differences between Importance and Graduate level higher than 1,2 are highlighted in red color</b>											

Really, digital skills are very important for any kinds of specialties today but in this case also employers rated the importance higher than the real obtained skills of the alumni of KuLSU. By the results of survey

the situation looks like that the alumni could not obtain the knowledge and skills needed for work in companies. The average on importance is 4.5 point and real level of graduate is 3.3 what means -1.2 point following the employers' opinion. Alumni think that Importance for digital skills is higher. They have rated the importance for 4.6 point and the real situation as 3.5. Difference between importance and real situation by opinion of alumni is -1.1 point. The total difference between the employers and alumni opinion for importance is 0.1is and for real skills obtained by graduate 0.2 point.

#### 4.5. Dimension “Financial Skills”

Table 5: "Financial Skills"	Employer						Alumni					
	N	Importance		Graduate level		I ± GL	N	Importance		Graduate level		I ± GL
		Mean	SD	Mean	SD			Mean	SD	Mean	SD	
Knowing how to read and analyse a balance sheet.	22	4,5	0,9	3,2	0,7	-1,3	0	4,8	0,6	3,4	0,7	-1,4
Drawing conclusions and deriving potential courses of action from balance sheets.	22	4,6	0,7	3,2	0,9	-1,4	21	4,8	0,5	3,5	0,7	-1,3
Managing cash flow.	22	4,5	0,8	3,1	1,0	-1,4	21	4,8	0,7	3,4	0,7	-1,4
Identifying and meeting the organization's financial needs in the short and long term	22	4,4	0,6	3,3	0,8	-1,1	21	4,6	0,8	3,5	0,6	-1,1
Calculating costs, cost prices, and margins.	22	4,4	0,7	3,1	0,8	-1,3	21	4,5	0,7	3,4	0,6	-1,1
		4,5		3,2		-1,3		4,7		3,4		-1,3
<b>Note:</b>	<b>Differences between Importance and Graduate level higher than 1,3 are highlighted in red color</b>											

Financial skills are more important dimension by the opinion of graduates. The alumni have rated the importance of this dimension for 0.1, 0.2 or 0.3 points for this dimension. Average of this dimension the employers and alumni have rated as follow: Employer : Importance of financial skills 4.5 and real situation 3.2 where the difference is 1.3 point. Graduate/alumni: importance 4.7 and real situation 3.4

point. In this dimension also we see that the employers and alumni rated the importance of financial skills higher than the real situation for lower for 1.3 point.

#### 4.6. Dimension “Marketing”

Table 6: "Importance for employers"	Employer						Alumni					
	N	Importance		Graduate level		I ± GL	N	Importance		Graduate level		I ± GL
		Mean	SD	Mean	SD			Mean	SD	Mean	SD	
Deploying sales arguments with a view to persuading clients to buy.	22	4,5	0,8	3,5	0,8	-1,0	0	4,4	0,9	3,3	0,7	-1,1
Negotiating while using specific techniques	22	4,5	0,7	3,4	0,6	-1,1	21	4,3	0,8	3,2	0,7	-1,1
Developing commercial strategies and means whereby to attract new clients	22	4,7	0,5	3,5	0,9	-1,2	21	4,6	0,6	3,4	0,7	-1,2
Using specific techniques to encourage client loyalty.	22	4,2	0,8	3,1	0,8	-1,1	21	4,3	0,6	3,2	0,6	-1,1
Creating a positive image of the firm, promoting an ethical image of the firm.	22	4,6	0,6	3,3	1,0	-1,3	21	4,5	0,6	3,3	0,6	-1,2
Building relationships of trust with clients and partners.	22	4,5	0,5	3,2	0,9	-1,3	21	4,3	0,6	3,4		-0,9
		4,5		3,3		-1,2		4,4		3,3		-1,1
<b>Note:</b>	<b>Differences between Importance and Graduate level higher than 1,2 are highlighted in red color</b>											

In this dimension we see that the results of survey is identical by opinion of employers and alumni as well. In this case also the employers and alumni rated the importance higher 1.2 point then real graduate level. Employers rated importance for 4.5 point and alumni for 4.4 point. But both employers and alumni rated the real situation for 3.3 point.



#### 4.7. Dimension “Innovation management”

Table 7: "Innovation management"	Employer						Alumni					
	N	Importance		Graduate level		I ± GL	N	Importance		Graduate level		I ± GL
		Mean	SD	Mean	SD			Mean	SD	Mean	SD	
Developing innovation strategies.	22	4,7	0,8	3,1	0,8	-1,6	0	4,6	0,7	3,3	0,6	-1,3
Analysing the market potentials of ideas and concepts for new products, processes and services.	22	4,4	0,7	3,2	0,7	-1,2	21	4,6	0,6	3,4	0,7	-1,2
Planning, implementing and controlling innovation processes with project management methods.	22	4,4	0,9	3,1	0,8	-1,3	21	4,5	0,7	3,5	0,7	-1,0
Selecting and applying methods for exchange of ideas and knowledge in the innovation process.	22	4,4	0,7	3,3	0,8	-1,1	21	4,3	0,6	3,3	0,7	-1,0
Managing collaboration between customers, suppliers and development partners in the innovation process.	22	4,4	0,6	3,4	0,7	-1,0	21	4,5	0,6	3,5	0,5	-1,0
		4,5		3,2		-1,3	21	4,7		3,4		-1,3
<b>Note:</b>	<b>Differences between Importance and Graduate level higher than 1,3 are highlighted in red color</b>											

For dimension Innovation management by opinion of employers alumni participated in this survey the real situation of KulSU management is less innovative for 1.3 point then it is important. Employers rated the important level of innovation management for 4.5 point and rated the real situation in KulSU for 3.2 point. Alumni rated important for 4.7 point and the real situation for 3.4 point. In this case KulSU authority have to do more innovation in their management by opinion of the employers and alumni.

It should be highlighted that the ratings of employers and alumni are very similar and both groups systematically rate the graduate level much lower than the importance.

## 5. Identified gaps and skills mismatches

Following the results of survey provided around the TRIGGER project among the KulSU alumni and their employers we see that for each dimension, for every question the employers and alumni rated the importance of provided skills higher than the skills obtained by the alumni as graduate level. The total average for all questions and for all dimensions is 4.5 point for importance and 3.2 point for real situation of graduate level by the opinion of employers. By the opinion of alumni the total average of all questions of all dimensions is 4.5 point for importance and 3.4 point for real situation of graduate level. Totally, the survey shows that graduate level is lower than it is important for employers for -1.2 point by the 5 score scale. It means the real graduate level of KulSU is 3.8 point that is nearly high. The main skills the employers and alumni appointed lower than graduates need are financial planning, practical work, work with costumers, analysing where value can be created, developing ideas and opportunities to create value, planning and realisation of financial decisions, acting and working independently to achieve goals, creating a positive image of the firm and etc.

Table 1: Skills gaps as rated by employers and alumni

Main dimensions of competencies	rated as skills gap by employer and alumni	rated skills gap by employers	rated skills gap by alumni
1. Ideas	<ul style="list-style-type: none"> <li>Exploring and experiment with innovative approaches.</li> </ul>	<ul style="list-style-type: none"> <li>Judging what value is in social, cultural and economic terms.</li> <li>Recognising the potential an idea has for creating value.</li> </ul>	<ul style="list-style-type: none"> <li>Developing ideas and opportunities to create value.</li> <li>Identifying suitable ways of making the most out new ideas.</li> </ul>
2. Resources	•	•	•
3. Actions	•	•	•
4. Digital skills	<ul style="list-style-type: none"> <li>Deploying digital media, apps or web-based tools for marketing.</li> </ul>	•	•
5. Financial skills	•	•	•
6. Marketing	•	•	•
7. Innovation Management	•	•	•

## 6. Conclusions: Steps to further develop entrepreneurship education at the university

On the base of discussions the survey results our team came to the conclusion that in order to develop the students' competences on entrepreneurship, we have to cooperate closer with the companies/employers. The main problems in this direction are: not close cooperation with the companies, neglect of the interests of employers, outdated concepts of entrepreneurship while studying, lack of business incubators at the university, too little startups are funded, entrepreneurship is not trained for all specialties, outdated skills and knowledge study programs of an economic direction and etc. These are the main problems in this direction. As the results of these problems we can see in the results of survey the ratings of employers and alumni are very similar and both groups systematically rate the graduate level much lower than the importance. Also entrepreneurship has to be taught for each specialties, not only for economic directions.

### Which particular courses could be developed further in terms of integration entrepreneurship?

From the point of view of our teachers in the field of entrepreneurship these courses have to be developed:

1. Fundamentals of Entrepreneurship.
2. Organization of Entrepreneurship activities.
3. International trade.
4. International business.
5. Business plan.
6. Economics and management of small Entrepreneurship.
7. Planning development of Entrepreneurship.
8. Finance planning and realization.
9. Strategic planning.

### What must be done to integrate these skills in study programs and courses?

The chairs of economy direction of the university have to suggest the courses on entrepreneurship for all the specialties and the University training department has to do all his best to fit these courses in curricula. The University staff and authority have to place the basic disciplines in the curricula of all non-managerial and non-economic specialties. Also the disciplines on entrepreneurship consisted in

the curricula for management and economic specialties have to be improved on Or university have to organize free courses In the Centre of Carrier building and innovation for interested students.

### **Who is needed to realize these objectives?**

In order to realize the mentioned objectives needed the staff teachers in the field of entrepreneurship and also we have to invite the experienced specialists from business sector.

*Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.*