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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

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| Deliverable | D 2.1 Report on status quo on entrepreneurship education at each partner university and gaps between labour market future skills requirement and entrepreneurship education provision, potential knowledge and skills mismatches |
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Triggering innovative approaches and entrepreneurial skills for students through creating conditions
for graduate's employability in Central Asia

TRIGGER partners

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1. Introduction

Termez State University is situated in the City of Termez, in the far south of the Republic of Uzbekistan. The administrative center of the southern region Surkhandarya of the Republic - ancient Termez City with 2500 year history has been considered one of the cradles of civilization acknowledged by the world since ancient times.

Today one of the biggest universities of the Republic - Termez State University was reorganized on February 28, 1992 by the decree of the President of the Republic of Uzbekistan on the basis of Termez State Pedagogical Institute has been functioning since 1954.

TerSU is the biggest higher educational institution in the region and it consists of 17 faculties (Faculty of Uzbek philology, Faculty of Russian philology, Faculty of Foreign philology, Faculty of Chemistry, Faculty of Natural sciences, Faculty of economics and tourism, Faculty of Information technology, Faculty of Physics and mathematics, Faculty of History, Faculty of Architecture, Faculty of Technics, Pedagogical Institute and others) and Graduate study department (Master) and over 40 chairs. There functions Center of Information Technologies and Information Resources. More information about Termez State University could be found at the official website: www.tersu.uz.

There are more than 20000 students, including master's degree students and doctoral studies. Number of employees – 1317, including 717 academic staff and researchers, 600 administrative staff. The academic process is undertaken in Uzbek, Russian, English, French, German and Tadjik languages.

The present report provides an overview of the status quo of entrepreneurship education at Termez State University in Uzbekistan 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).

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 HEInnovate¹ tool in WP1.² For the requirements of WP2 the present report specifically looks at the self-

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

² 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”.³ 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.

³ 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

According to the normative documents of higher education, up to 15% of the subjects in the working curriculum can be amended on the basis of the standard curriculum.

In order to develop students' entrepreneurial skills in the fields of Finance, Economics (by industries and sectors), Personnel Management, Tourism, Organization and Management of the Faculty of Economics and Tourism, the following standard and entrepreneurial skills are taught.

Standard subjects

Business finance - the science of decision-making in the field of finance and investment on the example of the private sector of the economy of foreign countries. Theories related to each stage of financial decision-making are stated and then compared with actual practice. Business finance is the basis of financial decision making in business, investment valuation methods, portfolio theory and its relationship to real investment decisions, sources of funds for long-term business financing, secondary capital market (stock market) and its efficiency, capital value in business and issues such as discount rate calculation, leverage, capital value and wealth of shareholders, dividend decisions, corporate restructuring, financing of startups, international aspects of business finance, small business finance are interpreted.

Fundamentals of Entrepreneurship and Business - to teach students the essence of enterprise and small business, the content of entrepreneurship and its importance for society, aspects of entrepreneurial potential and character, ways to become an entrepreneur, business idea, ways to create and manage your own business, business plan preparation and business development further directions, the order of taxation of business entities will be taught in detail theoretically and methodologically.

Small business and entrepreneurship - the essence of small business and entrepreneurship, economic, social and legal bases of small business and entrepreneurship, types of entrepreneurship, forms of entrepreneurship, the order of organization and state registration of small business and entrepreneurship, business in the development of small business and entrepreneurship - Teaches the importance of the plan, the goals and objectives of economic analysis of small business and entrepreneurship, operational and strategic analysis of small business and entrepreneurship, analysis of financial performance of small business and entrepreneurship, the current state and analysis of exports in small business and entrepreneurship.

Restaurant business - the application of theoretical and practical knowledge of students in the restaurant business, service techniques and technology in future work and the development of students' skills in this field, as well as the theoretical foundations of restaurant business, state and international modern standards of restaurant service and service staff. Demonstration consists of teaching techniques and technology.

Subjects that develop entrepreneurial skills

Business Planning - Business planning and forecasting answers the questions of what, how much, when, and for whom to produce. In particular, many businesses start with the creation and planning of activities. Planning allows you to maximize the existing production capacity, competitive advantages, prevent various errors and shortcomings, monitor and use new trends in the economy, identify and eliminate weaknesses in the enterprise and prevent unwarranted risks, and reform the economy based on market principles. equips students with the knowledge they need to understand the essence of making processes.

In the field of **business intelligence**, students gain an understanding of practical business intelligence systems, the use of decision support systems to manage the business processes of large companies, the use of modern information and communication technologies that combine methods and tools to increase business efficiency, effective processing of information to compete in the market. learns in depth and comprehensively how to create software and hardware for performance and decision-making, the collection, storage and analytical processing of data from the company's activities or the external environment.

Introduction to Business is a science that allows students to develop an understanding of business and develop critical and analytical thinking in solving business problems. Business includes first the study of local and global factors influencing its development, and then the study of its structural structure. Students will analyze key issues related to marketing, strategy, finance, accounting, human resources, information systems, and operations management functions. In addition, this course provides students with the opportunity to discuss ethical issues of entrepreneurship, as well as explore opportunities and challenges of starting a new business.

We recommend the introduction of special subject "Financial Literacy", which includes business management, capital management, banking and credit relations and tax procedures, as well as

accounting, within a joint undergraduate program in coordination with the Ministry of Higher Education, the Ministry of Finance, the Tax Committee and the Central Bank.

2.2. Existing entrepreneurship education offer at MA level

Small business and entrepreneurship - the essence of small business and entrepreneurship, economic, social and legal bases of small business and entrepreneurship, types of entrepreneurship, forms of entrepreneurship, the order of organization and state registration of small business and entrepreneurship, business in the development of small business and entrepreneurship - Teaches the importance of the plan, the goals and objectives of economic analysis of small business and entrepreneurship, operational and strategic analysis of small business and entrepreneurship, analysis of financial performance of small business and entrepreneurship, the current state and analysis of exports in small business and entrepreneurship.

2.3. Existing entrepreneurship education offer at PhD level

The purpose of the subject "Business Modeling" is to teach researchers to analyze various competitive processes, conjunctural changes, as well as the organization of the business environment, modeling consumer behavior, product quality, ensuring its competitiveness, market strategies of the firm through complex methods of business analysis. is the formation of knowledge, skills and qualifications for the right choice.

The purpose of the subject is to teach researchers how to analyze and predict healthy competition between manufacturers using a variety of economic mathematical models, and to analyze various situations that may arise in the consumer and producer market through logical heuristic and economic mathematical models. It analyzes the current situation in the selection of the firm's market strategy and teaches to draw scientific conclusions on decision-making, as well as to apply them in practice.

2.4. Other activities in entrepreneurship education

The Faculty of Economics and Tourism of the University has organized the training of unorganized youth in the circle of basics of entrepreneurship in urban areas. It tells young people about the essence of enterprise and small business, the content of entrepreneurship and its importance for society,

aspects of entrepreneurial potential and character, ways to become an entrepreneur, business idea, ways to create and manage their own business, business plan preparation and further development of their business, entrepreneurship the order of taxation of subjects is taught in detail theoretically and methodologically.

Meetings and roundtables on financial literacy and entrepreneurship with students are held regularly between the Chamber of Commerce and Industry, Central and Commercial Banks, which are important in shaping the financial literacy of young people and the basic concepts of entrepreneurship. The purpose of these activities is to teach students the basics of financial security. At the end of the event, students were awarded certificates at the end of the course.

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

According to State Education Standard for Higher Education of the Republic of Uzbekistan, the Ministry of Higher and Secondary Special Education controls all issues related to to implement changes at the course level and to initiate new extra-curricular activities in public Universities.

As most universities in Uzbekistan are public (all universities in the project are public), they are under control of the Ministry of Higher and Secondary Special Education to design their curricula. This system has been continuing for many decades. The Ministry itself does not design the curricula, but controls that courses offered should fit the state standards and appoints certain specialized universities to design curricula for other universities. This means that one curricula designed by one university has been used by another one, sometimes, just by copying all aspects, not regarding regional diversity.

Universities may offer selective courses accounting for only 10 percent of all courses. This means that, universities can make a change for only 1/10 part of the curricula and can add some courses themselves.

But from January 2022, only 35 universities in the Republic of Uzbekistan have been given financial autonomy. This will contribute to great changes in choosing courses/subjects coming out from the needs of the employers. Because, seats were identified by the Ministry according to the reports of the Ministry of Finance and other related organizations, but now universities should think of how to accommodate needs of graduates and employers, how to offer adequate, practical courses.

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”.⁴

3.1. Dimension “Entrepreneurial Teaching and Learning”

Teaching students entrepreneurship is important for developing entrepreneurial skills and competencies. The university holds various events in this direction. The university has an institute that promotes additional non-formal education. The University, in collaboration with external stakeholders, develops and implements curricula that can be used to teach entrepreneurship. The University communicates regularly with stakeholders to understand the need for future skills.

Measures to be taken by the University:

1. Development and improvement of a new curriculum that will direct students to innovative entrepreneurship, as well as support the process of practical training.
2. Encourage students to participate in various business activities, promote their participation in business clubs, courses and competitions.
3. Increase training courses on informal entrepreneurship.
4. The university's curriculum includes opportunities to acquire entrepreneurial skills and competencies for an academic degree.
5. Establish various partnerships with local communities and organizations, local and regional governments, chambers of commerce, industry and alumni.

⁴ 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.

3.2. Dimension “Preparing and Supporting Entrepreneurs”

Universities can help students, graduates start their own businesses. It is important to provide students with initial theoretical understanding of the nature of entrepreneurship and the implementation of their plans. It can help to explain the business idea of starting a business or entrepreneurship in terms of substantiation, evaluation and implementation of its results, as well as the possibility of financing projects.

The university encourages students to keep abreast of the latest developments in the field of entrepreneurship and the implementation of business ideas in this area. The university helps students to develop a business idea, work in a team, prepare for a startup to implement the project.

Measures to be taken by the University:

1. Improving science and curricula in order to increase the ability of students to start a business during their studies, to teach them the legal basis for the establishment of new business entities.
2. Explain business financing opportunities to students
3. It is necessary to form the features and environment of entrepreneurship, business communication on the basis of regular holding of various business events, active participation in them.
4. Creating opportunities for students to fund business ideas.
5. Establishment of mutually beneficial cooperation with universities and business entities.

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 Framework⁵ and other studies on entrepreneurship.⁶

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.

4.1. Dimension “Ideas”

| Table 1: Dimension "IDEAS" | Employer | | | | | | Alumni | | | | | |
|--|----------|--------------------|-----|------------------------|-----|--------|--------|--------------------|-----|------------------------|-----|--------|
| | N | Importance Mean | SD | Graduate level Mean | SD | I ± GL | N | Importance Mean | SD | Graduate level Mean | SD | I ± GL |
| Items | | | | | | | | | | | | |
| Identifying, creating and seizing opportunities. | 20 | 3,8 | 1,0 | 3,3 | 0,8 | -0,5 | 35 | 3,7 | 0,9 | 3,4 | 0,9 | -0,3 |
| Uncovering the needs of customers and other stakeholders. | 20 | 3,9 | 0,8 | 3,3 | 0,7 | -0,6 | 35 | 3,5 | 0,7 | 3,7 | 1,0 | 0,2 |
| Analysing the contexts where value can be created. | 20 | 3,7 | 0,8 | 3,3 | 0,8 | -0,4 | 35 | 3,8 | 0,8 | 3,5 | 1,0 | -0,3 |
| Developing ideas and opportunities to create value. | 20 | 3,4 | 0,9 | 3,3 | 0,9 | -0,2 | 35 | 3,8 | 0,9 | 3,5 | 1,0 | -0,3 |
| Developing better solutions to existing and new challenges. | 20 | 3,8 | 0,9 | 3,4 | 0,9 | -0,4 | 35 | 3,8 | 1,0 | 3,7 | 1,0 | -0,1 |
| Exploring and experiment with innovative approaches. | 20 | 3,8 | 0,8 | 3,5 | 0,8 | -0,4 | 35 | 4,1 | 0,9 | 3,7 | 0,9 | -0,5 |
| Developing a vision to turn ideas into action. | 20 | 3,5 | 1,0 | 2,9 | 0,7 | -0,6 | 35 | 3,5 | 1,0 | 3,6 | 0,8 | 0,1 |
| Judging what value is in social, cultural and economic terms. | 20 | 3,7 | 0,7 | 3,5 | 0,8 | -0,2 | 35 | 3,9 | 0,9 | 3,7 | 1,0 | -0,2 |
| Recognising the potential an idea has for creating value. | 20 | 3,8 | 0,9 | 3,3 | 0,9 | -0,5 | 35 | 3,7 | 1,1 | 3,6 | 1,0 | -0,1 |
| Identifying suitable ways of making the most out new ideas. | 20 | 3,6 | 0,7 | 3,4 | 0,9 | -0,2 | 35 | 3,8 | 0,8 | 3,7 | 1,0 | 0,0 |
| Assessing the consequences of ideas that bring value on the target community, the market, society and the environment. | 20 | 3,8 | 0,9 | 3,5 | 0,9 | -0,3 | 35 | 3,7 | 0,9 | 3,7 | 1,0 | -0,1 |
| Reflecting on how sustainable long-term social, cultural and economic goals are. | 20 | 3,8 | 0,9 | 3,4 | 0,8 | -0,4 | 35 | 3,8 | 1,0 | 3,7 | 0,9 | -0,1 |
| Acting responsible. | 20 | 4,0 | 1,0 | 3,5 | 1,0 | -0,5 | 35 | 4,1 | 0,9 | 3,9 | 0,9 | -0,2 |

At a glance, the chart reveals that, for employers, two items – “Uncovering the needs of customers and other stakeholders” and “Developing a vision to turn ideas into action” has significant high deviations, both having -0,6. Employers expectations in those two items are quite high but graduate level students

⁵ 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).

⁶ 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.

have not met those needs. This means that graduates are supposed to consider customer/stakeholder needs and work practically with new ideas.

Regarding similarities within Employer part, students are seen to have enough skills in developing ideas and opportunities to create value, judging what value is in social, cultural and economic terms, and in identifying suitable ways of making the most out new ideas accounting for merely -0,2.

The striking highest deviation within Alumni is -0,5 in “Exploring and experiment with innovative approaches”. This data highlights that students should be taught/motivated by new innovative approaches/methods rather than traditional/conservative methods of teaching. Consequently, they will probably lack innovative/creative thinking in their workplaces.

When it comes to resemblances within Alumni, identifying suitable ways of making the most out new ideas corresponds totally, by having 0,0 point. If we identify differences between employer ratings and alumni ratings, employers consider developing a vision to turn ideas into action as important (-0,6), whereas Alumni rated this point quite low (-0,1). There is a noticeable affinity between employer ratings and alumni ratings in judging what value is in social, cultural and economic terms, both having -0,2.

4.2. Dimension “Resources”

| Table 2: Dimension "RESOURCES" | Employer | | | | | | Alumni | | | | | |
|--|----------|-----------------|-----|---------------------|-----|--------|--------|-----------------|-----|---------------------|-----|--------|
| | N | Importance Mean | SD | Graduate level Mean | SD | I ± GL | N | Importance Mean | SD | Graduate level Mean | SD | I ± GL |
| Items | | | | | | | | | | | | |
| Reflecting on your needs, aspirations and wants in the short, medium and long term. | 20 | 3,5 | 0,8 | 3,3 | 0,7 | -0,2 | 35 | 3,3 | 0,9 | 3,1 | 0,9 | -0,1 |
| Identifying and assess one's own individual and group strengths and weaknesses. | 20 | 3,7 | 0,9 | 3,5 | 0,8 | -0,2 | 35 | 3,8 | 0,8 | 3,8 | 0,9 | -0,1 |
| Believing in one's own ability to influence the course of events, despite uncertainty, setbacks and temporary | 20 | 3,8 | 0,9 | 3,5 | 0,8 | -0,3 | 35 | 3,6 | 1,0 | 3,6 | 0,9 | 0,0 |
| Being determined to turn ideas into action and satisfy one's own need to achieve. | 20 | 3,8 | 0,8 | 3,7 | 0,9 | -0,1 | 35 | 3,5 | 1,0 | 3,9 | 1,0 | 0,4 |
| Being prepared to be patient and keep trying to achieve long-term individual or group aims. | 20 | 3,8 | 1,0 | 3,5 | 0,8 | -0,3 | 35 | 3,7 | 0,7 | 3,6 | 1,0 | 0,0 |
| Being resilient under pressure, adversity, and | 20 | 3,9 | 1,0 | 3,5 | 0,8 | -0,4 | 35 | 3,9 | 1,1 | 3,9 | 0,9 | 0,1 |
| Getting and managing the material, non-material and digital resources needed to turn ideas into action. | 20 | 3,7 | 1,1 | 3,4 | 0,6 | -0,4 | 35 | 3,7 | 1,0 | 3,7 | 0,9 | 0,0 |
| Making the most of limited resources. | 20 | 3,9 | 1,1 | 3,4 | 0,8 | -0,5 | 35 | 3,6 | 0,9 | 3,7 | 1,0 | 0,0 |
| Getting and managing the competences needed at any stage, including technical, legal, tax and digital competences through suitable partnerships, | 20 | 3,6 | 0,9 | 3,3 | 0,9 | -0,4 | 35 | 3,4 | 1,0 | 3,7 | 0,8 | 0,3 |
| Estimating the cost of turning an idea into a value- | 20 | 3,4 | 0,9 | 3,2 | 0,8 | -0,2 | 35 | 3,7 | 0,9 | 3,8 | 0,9 | 0,1 |
| Planning, putting in place and evaluating financial decisions over time. | 20 | 3,7 | 1,0 | 3,2 | 0,8 | -0,5 | 35 | 3,9 | 0,9 | 3,7 | 1,0 | -0,3 |
| Managing financing to make sure my value-creating activity can last over the long term. | 20 | 3,7 | 1,0 | 3,4 | 0,8 | -0,3 | 35 | 3,7 | 1,0 | 3,9 | 1,0 | 0,2 |
| Inspiring and enthusing relevant stakeholders. | 20 | 3,5 | 0,9 | 3,3 | 0,6 | -0,3 | 35 | 3,5 | 1,0 | 3,9 | 0,9 | 0,4 |
| Getting the support needed to achieve valuable | 20 | 3,8 | 0,9 | 3,4 | 0,7 | -0,5 | 35 | 3,6 | 1,0 | 3,9 | 0,9 | 0,3 |
| Demonstrating effective communication, persuasion and negotiation. | 20 | 3,7 | 1,0 | 3,4 | 0,8 | -0,3 | 35 | 3,8 | 1,2 | 3,7 | 0,8 | 0,0 |
| Demonstrating effective leadership. | 20 | 3,6 | 0,9 | 3,4 | 0,8 | -0,2 | 35 | 3,9 | 1,0 | 3,9 | 0,8 | 0,0 |

The chart shows that there are average differences within Employer ratings. Overall, for employers, making the most of limited resources, planning, putting in place and evaluating financial decisions over time and getting the support needed to achieve valuable outcomes are important (-0,5) while most graduate level students may not have these skills.

Regarding similarities within Employer part, graduate students are meeting employers' needs in the following items, having only

- Being determined to turn ideas into action and satisfy one's own need to achieve (-0,1)
- Reflecting on your needs, aspirations and wants in the short, medium and long term (-0,2)
- Identifying and assess one's own individual and group strengths and weaknesses (-0,2)
- Estimating the cost of turning an idea into a value-creating activity (-0,2)
- Demonstrating effective leadership. (-0,2)

The most striking dissimilarity within Alumni is being determined to turn ideas into action and satisfy one's own need to achieve (-0,4), whereas employer rating is only -0,1.

When it comes to resemblances within Alumni, the following items accounts for 0,0 points:

- Believing in one's own ability to influence the course of events, despite uncertainty, setbacks and temporary failures;
- Being prepared to be patient and keep trying to achieve long-term individual or group aims;
- Getting and managing the material, non-material and digital resources needed to turn ideas into action;
- Making the most of limited resources;
- Demonstrating effective communication, persuasion and negotiation;
- Demonstrating effective leadership.

There is a noticeable affinity between employer ratings and alumni ratings almost in all skills, however, Alumni believe that graduate students are good enough at getting the support needed to achieve valuable outcomes (0,3) as well as in inspiring and enthusing relevant stakeholders (0,4) while employers' ratings are very low (-0,5 and -0,3 respectively) in this regard.

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 | |
| Items | | | | | | | | | | | | |
| Initiating processes that create value. | 20 | 3,2 | 0,8 | 3,0 | 0,9 | -0,2 | 35 | 3,6 | 0,8 | 3,6 | 0,9 | -0,1 |
| Taking up challenges. | 20 | 3,6 | 0,9 | 3,2 | 0,8 | -0,5 | 35 | 3,7 | 1,0 | 3,7 | 0,9 | 0,0 |
| Acting and working independently to achieve goals, stick to intentions and carry out planned tasks. | 20 | 3,4 | 0,9 | 3,3 | 0,8 | -0,1 | 35 | 3,5 | 1,0 | 3,8 | 0,9 | 0,3 |
| Setting long-, medium- and short-term goals. | 20 | 3,9 | 1,0 | 3,3 | 0,9 | -0,6 | 35 | 3,9 | 0,9 | 4,0 | 0,9 | 0,1 |
| Defining priorities and action plans. | 20 | 3,9 | 1,0 | 3,4 | 0,8 | -0,5 | 35 | 3,8 | 0,9 | 4,0 | 0,8 | 0,2 |
| Adapting to unforeseen changes. | 20 | 3,7 | 1,1 | 3,5 | 0,7 | -0,2 | 35 | 3,9 | 0,9 | 3,9 | 0,8 | 0,1 |
| 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. | 20 | 3,6 | 0,9 | 3,4 | 0,8 | -0,2 | 35 | 3,6 | 1,0 | 3,5 | 1,0 | -0,1 |
| Testing ideas and prototypes from the early stages to reduce risks of failing. | 20 | 3,7 | 1,1 | 3,2 | 0,9 | -0,5 | 35 | 4,0 | 1,0 | 3,9 | 0,9 | -0,1 |
| Handling fast-moving situations promptly and flexibly. | 20 | 3,7 | 1,2 | 3,4 | 0,7 | -0,3 | 35 | 3,9 | 0,9 | 4,1 | 0,9 | 0,1 |
| Working together and cooperate with others to develop ideas and turn them into action. | 20 | 3,6 | 1,0 | 3,4 | 0,8 | -0,2 | 35 | 3,7 | 1,0 | 3,8 | 1,1 | 0,2 |
| Networking with others to organise skills and expertise needed for goal attainment. | 20 | 3,6 | 1,0 | 3,5 | 0,8 | -0,2 | 35 | 3,8 | 0,8 | 3,9 | 1,0 | 0,1 |
| Solving conflicts and facing up to competition positively when necessary. | 20 | 3,9 | 1,0 | 3,5 | 0,8 | -0,4 | 35 | 3,8 | 0,9 | 3,9 | 0,8 | 0,1 |
| Using any initiative for value creation as a learning opportunity. | 20 | 3,7 | 1,0 | 3,4 | 0,9 | -0,4 | 35 | 4,1 | 0,8 | 3,9 | 1,0 | -0,2 |
| Learning with others, including peers and mentors. | 20 | 3,6 | 1,1 | 3,3 | 0,9 | -0,3 | 35 | 3,9 | 1,0 | 3,9 | 1,1 | 0,0 |
| Reflecting and learning from both success and failure (your own and other people's). | 20 | 3,6 | 1,1 | 3,3 | 0,9 | -0,3 | 35 | 3,8 | 1,0 | 3,7 | 1,1 | -0,1 |

At a glance, the chart reveals that, for employers, setting long-, medium- and short-term goals (-0,6) is important while graduate students are lacking it.

Regarding similarities within Employer part, graduate students have mastered acting and working independently to achieve goals, stick to intentions and carry out planned tasks as employers have expected. There is no any striking difference within Alumni as all graduates acquire all skills in this dimension.

If we highlight differences between employer ratings and alumni ratings, employers think that graduates lack in defining priorities and action plans (-0,5), however, Alumni consider graduate students accommodate employers' need in this regards satisfactorily (0,2)

In all items the chart shows distinct ratings, so there is not close similarity between employer ratings and alumni ratings.

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 | | | |
| Items | | | | | | | | | | | | |
| Using data and information from digital environments to assess the potential of ideas. | 20 | 3,4 | 0,9 | 3,2 | 0,9 | -0,2 | 35 | 3,3 | 0,9 | 3,4 | 1,0 | 0,1 |
| Deploying digital media, apps or web-based tools for marketing. | 20 | 3,4 | 0,9 | 3,6 | 0,8 | 0,2 | 35 | 3,8 | 0,9 | 3,8 | 1,1 | 0,0 |
| Using knowledge on automation and artificial intelligence for improving products, processes and services. | 20 | 3,4 | 1,0 | 3,1 | 1,0 | -0,3 | 35 | 3,8 | 0,8 | 3,8 | 0,9 | 0,0 |
| Understanding and using information from the web and other digital sources to identify customer needs. | 20 | 3,7 | 0,8 | 3,5 | 0,9 | -0,2 | 35 | 3,9 | 1,0 | 3,7 | 1,0 | -0,2 |
| Using software apps and digital tools for managing collaboration with teams and partners. | 20 | 3,6 | 0,9 | 3,3 | 0,9 | -0,3 | 35 | 3,7 | 1,1 | 3,7 | 1,0 | 0,0 |

The table shows correspondence within Employer ratings, as graduate students show reasonable skills in Digital skills, having only -0,2/-0,3.

Regarding similarities within Alumni ratings, students are believed to have mastered deploying digital media, apps or web-based tools for marketing, using knowledge on automation and artificial intelligence for improving products, processes and services, Using software apps and digital tools for managing collaboration with teams and partners.

4.5. Dimension “Financial Skills”

| Table 5: Dimension "FINANCIAL SKILLS" | Employer | | | | | | Alumni | | | | | |
|---|----------|------------|-----|----------------|-----|--------|--------|------------|-----|----------------|-----|--------|
| | N | Importance | | Graduate level | | I ± GL | N | Importance | | Graduate level | | I ± GL |
| | | Mean | SD | Mean | SD | | | Mean | SD | | | |
| Items | | | | | | | | | | | | |
| Knowing how to read and analyse a balance sheet. | 20 | 3,8 | 0,9 | 3,2 | 0,8 | -0,6 | 35 | 3,3 | 1,1 | 3,5 | 1,2 | 0,2 |
| Drawing conclusions and deriving potential courses of action from balance sheets. | 20 | 3,5 | 1,1 | 3,5 | 0,8 | 0,0 | 35 | 3,9 | 1,0 | 3,9 | 1,0 | 0,0 |
| Managing cash flow. | 20 | 3,8 | 1,1 | 3,3 | 0,8 | -0,6 | 35 | 4,0 | 1,0 | 4,0 | 1,0 | 0,0 |
| Identifying and meeting the organization's financial needs in the short and long term | 20 | 4,0 | 0,9 | 3,4 | 0,8 | -0,6 | 35 | 3,7 | 1,0 | 3,8 | 1,0 | 0,0 |
| Calculating costs, cost prices, and margins. | 20 | 3,9 | 0,9 | 3,5 | 0,8 | -0,5 | 35 | 4,0 | 0,9 | 3,9 | 0,9 | -0,1 |

As it is noticeable from the chart that graduate students lack financial skills except from in drawing conclusions and deriving potential courses of action from balance sheets. In all other items there is more than -0,5 deviation within Employer ratings, while Alumni suppose that graduate students have all skills in this dimension, ranging from only -0,2 to 0,1.

4.6. Dimension “Marketing”

| | Employer | | | | | | Alumni | | | | | |
|--|----------|------------|-----|----------------|-----|--------|--------|------------|-----|----------------|-----|--------|
| | N | Importance | | Graduate level | | I ± GL | N | Importance | | Graduate level | | I ± GL |
| | | Mean | SD | Mean | SD | | | Mean | SD | Mean | SD | |
| Items | | | | | | | | | | | | |
| Deploying sales arguments with a view to persuading clients to buy. | 20 | 3,7 | 1,1 | 3,1 | 0,7 | -0,6 | 35 | 3,6 | 0,9 | 3,5 | 1,0 | 0,0 |
| Negotiating while using specific techniques | 20 | 3,8 | 0,8 | 3,5 | 0,7 | -0,3 | 35 | 3,7 | 1,0 | 3,7 | 0,9 | 0,0 |
| Developing commercial strategies and means whereby to attract new clients | 20 | 4,4 | 0,9 | 3,5 | 1,0 | -0,9 | 35 | 3,8 | 0,9 | 3,6 | 0,9 | -0,2 |
| Using specific techniques to encourage client loyalty. | 20 | 4,1 | 0,9 | 3,5 | 1,0 | -0,6 | 35 | 3,6 | 0,8 | 3,7 | 0,8 | 0,1 |
| Creating a positive image of the firm, promoting an ethical image of the firm. | 20 | 4,1 | 0,9 | 3,7 | 0,9 | -0,4 | 35 | 3,5 | 0,9 | 3,7 | 0,9 | 0,1 |
| Building relationships of trust with clients and partners. | 20 | 4,1 | 1,0 | 3,6 | 0,8 | -0,5 | 35 | 3,7 | 1,0 | 3,8 | 0,8 | 0,1 |

As it is noticeable from the chart that graduate students lack Marketing skills. The highest difference within Employer ratings is -0,9 which reveals that students should be taught on how to develop commercial strategies and means whereby to attract new clients, whereas, Alumni rating is very low, showing only -0,2.

In all other items there is more than -0,3 deviation within Employer ratings, while Alumni suppose that graduate students have all skills in this dimension, ranging from only -0,2 to 0,1.

4.7. Dimension “Innovation management”

| | Employer | | | | | | Alumni | | | | | |
|---|----------|------------|-----|----------------|-----|--------|--------|------------|-----|----------------|-----|--------|
| | N | Importance | | Graduate level | | I ± GL | N | Importance | | Graduate level | | I ± GL |
| | | Mean | SD | Mean | SD | | | Mean | SD | Mean | SD | |
| Items | | | | | | | | | | | | |
| Developing innovation strategies. | 20 | 3,5 | 0,9 | 3,0 | 0,8 | -0,5 | 35 | 3,4 | 1,1 | 3,5 | 1,1 | 0,1 |
| Analysing the market potentials of ideas and concepts for new products, processes and services. | 20 | 3,8 | 0,9 | 3,3 | 0,7 | -0,5 | 35 | 3,9 | 0,9 | 3,8 | 1,0 | -0,1 |
| Planning, implementing and controlling innovation processes with project management methods. | 20 | 3,5 | 0,9 | 3,2 | 0,8 | -0,3 | 35 | 3,8 | 0,8 | 4,0 | 0,9 | 0,2 |
| Selecting and applying methods for exchange of ideas and knowledge in the innovation process. | 20 | 3,5 | 0,8 | 3,0 | 0,8 | -0,5 | 35 | 3,7 | 1,1 | 3,7 | 1,0 | 0,1 |
| Managing collaboration between customers, suppliers and development partners in the innovation process. | 20 | 3,8 | 1,0 | 2,9 | 0,8 | -0,9 | 35 | 3,6 | 1,1 | 3,8 | 1,2 | 0,2 |

According to the table, there is a huge difference -0,9 in managing collaboration between customers, suppliers and development partners in the innovation process within Employer ratings meaning that is much more important than the graduates' real level in this item. Within the Employer ratings, it is significant to mention that students are not meeting the needs of employers in developing innovation strategies, analysing the market potentials of ideas and concepts for new products, processes and services, selecting and applying methods for exchange of ideas and knowledge in the innovation process (-0,3 to -0,5), whereas, Alumni ratings highlight totally contrasting data on all items, ranging only from -0,1 to 0,2.

5. Identified gaps and skills mismatches

Dimension Ideas

Employers and graduates rate the following skills significantly lower than the importance:

- Identifying, creating and seizing opportunities;
- Exploring and experiment with innovative approaches;
- Developing a vision to turn ideas into action.

Strikingly, graduates have almost similar/identical ratings when they are compared within Employer and Alumni ratings.

Dimension Resources

Employers and graduates rate the following skill significantly lower than the importance:

- Planning, putting in place and evaluating financial decisions over time.
- There are some similar/identical ratings of employers and graduates below:
- Reflecting on your needs, aspirations and wants in the short, medium and long term;
- Identifying and assess one's own individual and group strengths and weaknesses;
- Planning, putting in place and evaluating financial decisions over time;
- Demonstrating effective leadership.

There are huge differences for alumni in their determination to move ideas and meet their needs, inspire and interest stakeholders, and empower them at all stages, including technical, legal, tax, and digital, through appropriate partnerships, networking, outsourcing, and crowdfunding. Indicators such as acquisition and management are underestimated by employers.

Dimension Actions

Strikingly, there is not any certain skill that employers and graduates together rate lower than the importance. There are some similar/identical ratings of employers and graduates regarding the skills below:

- Initiating processes that create value;
- 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;

- Using any initiative for value creation as a learning opportunity;
- Reflecting and learning from both success and failure (your own and other people's).

Dimension Digital skills

Strikingly, there is not any certain skill that employers and graduates together rate lower than the importance. There are some similar/identical ratings of employers and graduates regarding the skills below:

- Understanding and using information from the web and other digital sources to identify customer needs;
- Deploying digital media, apps or web-based tools for marketing.

Dimension Financial skills

Strikingly, there is not any certain skill that employers and graduates together rate lower than the importance. There are some similar/identical ratings of employers and graduates regarding the skill below:

- Drawing conclusions and deriving potential courses of action from balance sheets.

Dimension Marketing

Strikingly, there is not any certain skill that employers and graduates together rate lower than the importance. Likely, graduates have almost similar/identical ratings when they are compared within Employer and Alumni ratings.

In order to develop the knowledge and skills of graduates in the field of marketing, it is necessary to organize various events (competitions, seminars, contests) on a regular basis with well-known entrepreneurs and business people. Involvement of graduates in the process of negotiations between buyers and sellers, as well as surveys on marketing research is very effective.

Dimension Innovation Management

There is not any certain skill that employers and graduates together rate lower than the importance. Likely, graduates have almost similar/identical ratings when they are compared within Employer and Alumni ratings.

It can be concluded that the low ratings given by employers are due to the lack of courses on innovative ideas in higher education, as well as the lack of attention among students to competitions on innovative ideas.

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"> - Identifying, creating and seizing opportunities; - Exploring and experiment with innovative approaches; - Developing a vision to turn ideas into action. | <ul style="list-style-type: none"> - Uncovering the needs of customers and other stakeholders; - Developing a vision to turn ideas into action; | <ul style="list-style-type: none"> - Exploring and experiment with innovative approaches. |
| 2. Resources | <ul style="list-style-type: none"> - Planning, putting in place and evaluating financial decisions over time. | <ul style="list-style-type: none"> - Making the most of limited resources; - Planning, putting in place and evaluating financial decisions over time; - Getting the support needed to achieve valuable outcomes. | |
| 3. Actions | | <ul style="list-style-type: none"> - Setting long-, medium- and short-term goals | |
| 4. Digital skills | | | |
| 5. Financial skills | | <ul style="list-style-type: none"> - Knowing how to read and analyse a balance sheet; - Managing cash flow; - Identifying and meeting the organization's financial needs in the short and long term. | |
| 6. Marketing | | <ul style="list-style-type: none"> - Deploying sales arguments with a view to persuading clients to buy; - Developing commercial strategies and means whereby to attract new clients; - Using specific techniques to encourage client loyalty. | |
| 7. Innovation Management | | <ul style="list-style-type: none"> - Managing collaboration between customers, suppliers and development partners in the innovation process. | |

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

It should be noted that high-quality and practice-oriented courses included in undergraduate, graduate and doctoral programs greatly contribute to the employment of graduates. It should be noted that the university may offer additional programs in entrepreneurship and business for students.

It should also be borne in mind that courses in entrepreneurship skills training, production of scientific ideas and its commercialization for graduates will be very necessary and useful.

According to the results of the survey, Finance, Economics (by sectors and industries), Personnel Management, Tourism, Organization and management of the hotel industry, the need to develop students' entrepreneurial skills in other areas of undergraduate education and the importance of focusing on entrepreneurship have been confirmed.

According to the results of a survey of graduates and employers, there were different views on dimensions: similarity, disproportion, compatibility.

In particular, employers have identified a lack of skills and competencies among graduates, and in the future it is advisable to make changes to the curriculum subjects at the request of the employer.

There are significant differences in the implementation of ideas, meeting the needs of alumni, encouraging and expressing interest to stakeholders, as well as empowerment in the technical, legal, tax and digital areas. In order to overcome the existing problems, it is necessary to establish dual education (cooperation with the practical process) in order to integrate theory and practice.

Although there are different approaches to setting long, medium and short term goals, defining priorities and action plans, and positively addressing challenges and competition when needed, they have been positively evaluated by employers.

The importance of digital skills in the development of human thinking was high, and there was a positive trend in the assessment of graduates' skills and competencies on most indicators in this area. In order to further develop the skills of graduates in this field, it is recommended to use in the educational process applications based on digital technologies used in business (UzASBO, 1C, 1Uz, Financial Analysis).

Employers have stated that graduates should have financial skills such as reading balance, analyzing, drawing conclusions, and managing cash flows. To further develop these skills, to teach the skills of

filling out and submitting enterprise reports through the site my.soliq.uz, which is used in the business process. Wider use of SWOT analysis methods in science.

Employers noted a lack of skills for graduates to develop business strategies and thereby attract new customers. However, in this direction it is necessary to create a "Career" center through the department of the education market operating in higher education institutions. It is advisable to meet the needs of employers by studying the requirements of the education market during the career center and training on this basis.

Minimal positive differences in the indicators of innovative management criteria require the formation of graduates' skills in this area. In order to attract and encourage graduates in this field, it is necessary to organize business trainings, seminars and workshops with entrepreneurs who have achieved high results in business.

According to the normative documents of higher education, up to 15% of the subjects in the working curriculum can be amended on the basis of the standard curriculum. Based on this, it is recommended to include additional and standard subjects in the program as well as other disciplines that form knowledge, skills and abilities in entrepreneurship.

Last but not least, it is highly recommended to introduce a special subject "Financial Literacy", which includes business management, capital management, banking and credit relations and tax procedures, as well as accounting, within a joint undergraduate program in coordination with the Ministry of Higher Education, the Ministry of Finance, the Tax Committee and the Central Bank.