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EMPLOYER-UNIVERSITY INTERACTIONS AS LEADING APPROACH IN TEACHING QUALITY IMPROVEMENT – RESULTS OF BG051PO001-3.1.07-0041 EDUCOMP PROJECT

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ABSTRACT

The productive interaction between employers and university in almost each level in the University of Forestry is a part of basic approaches for gaining competitive advantages in the competitive struggle to attract students. Project BG051PO001-3.1.07-0041 EDUCOMP achieved spectacular results in that matter. In current paper an attempt is made for presenting the leading results of the project that influence the quality of interactions which could improve the quality of educational programs.

Key words: employers, interaction, EDUCOMP.

INTRODUCTION

The study of the needs and requirements of the business in the Forest Industry (FI) is a key step in the realization of the main objectives of the project BG051PO001-3.1.07-0041 „Updating the curriculum of subjects in the Faculty of Business Management“ (FBM) economic governance of University of Forestry (UF) in accordance with the requirements of labor market – EDUCOMP". Necessary knowledge, skills and competencies of students and opportunities for cooperation between the Faculty of Business Management (FBM) at the University of Forestry, and wood and furniture enterprises in Bulgaria are crucial to improving the quality of educational services in the faculty and the successful realization of business managers who are trained in it.

The main objective of the project is to create and implement the practice of FBM sustainable mechanism for updating the curriculum to meet the requirements of flexibility, adaptability and responsiveness of the latest achievements of science, the practical needs and expectations of students in today's digital generation. Its features are speed and multichanelling in the perception of information; multitasking; nonlinear visual thinking; expectation of timely feedback and reward; waiting for permanent connection to the Internet and timely access to a wide variety of information sources. Students are fully engaged, excited and motivated in their personal virtual spaces, including social networks, social media, shared resources and communication. These tendencies put focus on innovation of educational services to meet the challenges of the digital generation.

1. CHARACTERISTICS OF MODERN EDUCATIONAL SERVICE

Educational services are an activity and/or product that allow both parties in the interaction-learner and learner to develop and deploy its capabilities in the context of lifelong learning. It is the result of knowledge, experience and personal qualities of teachers in high schools, combined with their ability to orient training towards competencies demanded by the business.

The report “Challenges and Trends in continuing Development of Skills and Career Development of the European Workforce“, (European Business Forum on Vocational

Training, EK, Brussels 7-8.06,2012) conference organized by the European Commission and widely represented by the global educational community in 2012, in Brussels, widely commented model called „70-20-10". It is the current understanding of the managers surveyed European organizations competencies that are obtained respectively 70 % on the job, 20 % through mentoring and coaching, and only 10 % through direct training.

The model for the modern design of the education service in the high school is based on team teaching in which the teacher involved, a representative of the business and the student. Each of the three countries play the typical role: the teacher is the director of team teaching, who knows the course as a whole; business experience brings innovation practices and offers concrete examples and real cases; a student is a creator worth of training intended for him. (Slancheva-Baneva, 2014)

Modern understanding of quality education services have innovative context. In the literature there are different definitions of innovation, which is associated with novelty. *novelty* (novation - amendment, renewal) is something that has not existed until now - a new order, a custom method invention phenomenon. It can occur both in production and management, in tangible and intangible area. European classification divides innovation into 4 main types of innovations, which can be made in an organization – product, process, organizational and marketing. (OECD, 2005).

Innovations in education include new and significantly improved components, tools and forms, concepts and methods of teaching. With regard to the educational process in high school for four key types of innovation are:

- creation of new curricula or improve existing ones;
- the use of new techniques and methods of teaching;
- the use of new methods of teaching arrangements;
- use of new ways of presentation and promotion of the course;
- collaboration with industry chambers, businesses and organizations.

Quality of educational services, adequate consumer demand is determined by practical

innovations in the learning process on the one hand and the realization of graduates, on the other hand. Its comprehensive evaluation includes: (Madjirova, 2004)

- quality of education;
- quality of life at the University;
- partnership and external cooperation;
- university management;
- academic and professional careers.

Often discussed and analyzed is the question of the practical training of the students and the weak interaction between research organizations and universities, and businesses. This puts the focus on the study of the needs of studies in FI and outlining key prerequisites forms and problems of its implementation.

The project presented educational innovations of all the above species. One example of an interactive session recorded within the project demonstrated how the students through role-playing game developed both knowledge, skills and competencies for: time management, forming and welding team, conflict resolution, team-building presentation of results, learning from each other training group, administration of the process, evaluation of performance, protection team opinion and giving innovative proposals (in the case of a development of a student participating in role-play model "Wheel of Life").

2. METHODOLOGY OF STUDY OF THE NEEDS OF EMPLOYERS IN FOREST INDUSTRY AND COOPERATION WITH FACULTY OF BUSINESS MANAGEMENT AND UNIVERSITY OF FORESTRY

In 2013 conducted a survey among 68 enterprises of forest industry on guidelines for updating the training of students in the FBM in order to fully meet the needs of business and cooperation opportunities. Respondents are owners, directors, managers and other personnel performing management functions.

Method of registration

The method used to register directly themselves individually survey respondents filled out the questionnaires.

Questionnaire

The questionnaire contains questions 5 blocks:

1) Knowledge, skills and competencies required of employees in the sector
2) Preparation of FBM graduates in UF
3) Collaboration between business and UF
4) General information on the institution – employer
5) Personal information about the respondent.

National Qualifications Framework (NQF) of the Republic of Bulgaria in the commitment of Bulgaria according to the Recommendation of the European Parliament and of the Council establishing an EQF for lifelong learning. The development of national qualifications frameworks in accordance with national laws and practices in different countries is to establish the correlation between their national qualifications systems to the EQF by referencing, in a transparent and comprehensible manner, their qualification levels to the appropriate levels of the EQF. NQF of the Republic of Bulgaria covers the entire education system and all its qualifications in terms of knowledge, skills and competences.

Knowledge is described as theoretical and/or factual. Examples are: knowledge of technical requirements brought to production; appearance of the materials used; knowledge of global developments in the industry - technological equipment, , materials and products; used of specialized computer programs; technology and technological equipment of the enterprise; rules for the technical operation of machinery and electric; rules for the technical operation of machinery and electric; knowledge of organizational structures, command and organizational relationships in enterprises; knowledge of the regulations and standards in the field of occupational safety, labor and social relations, design and technological documentation; knowledge of the system of remuneration of labor and forms of incentives; basic knowledge in economics and management of the FI.

Skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (icluding skills and use of methods, materials, tools and instruments). They are controlled by compliance of manufacturing and operation of equipment, tools, equipment and accessories; effective management of the cost of raw materials and their compliance with technical documentation; analyzing the quality of production; management process design, installation and operation of equipment; general knowledge of company product specification, design and characteristics, opportunities for development and expansion; analytical thinking; knowledge of methods and technology for the treatment of various raw materials for production; logical thinking; CAD/CAM

systems for design, Auto CAD and specialized software; knowledge of the basic stages of labor organization in the design and construction; skills to work in the Internet, MS Office, Internet; rapid absorption of new knowledge; entrepreneurship; knowledge of computer and other automated systems to perform process control of production; handling economic conceptual apparatus.

Competencies – personal and professional is described in terms of the level of responsibility and autonomy. These include: autonomy and responsibility, competence learning, communication and social competencies, professional competencies. (NQF 2012)

Competencies in terms of autonomy and responsibility: effective time management; offering new ideas and solutions; preparation of proposals; control compliance; the principles of non-discrimination and equal employment opportunities; social responsibility and ethics; mobilize the capacities of others; integration in the enterprise; making analogies; recognition of new opportunities; forming their own informed opinion; "Green behavior"; making funding decisions.

Competences for learning: the formation of new knowledge based on changing information and technology; build new knowledge in a global environment; if necessary, take steps to update their competences; use at least one foreign language; continuous improvement of language culture; assess the level of knowledge and compare the necessary profession.

Communication and social competencies: teamwork; negotiation; delegation of responsibilities to comply with the quality; communication with clients; preparation of reports and documents; conflict resolution; making legally sound decisions; work in an international environment; presentation of ideas, products, reports; communication with professionals from different cultures; free professional conduct conversations in at least two foreign languages; preparation and presentation of reports; socially responsible behavior; participation in specialized discussions; promotion of natural resources.

Professional competencies: planning, organizing and implementing the introduction of new products or technologies, new equipment, new tools and equipment; development and management of new products and projects; preparation of drawings and project documentation; preparation of analyzes, plans and forecasts; use of information technology, software applications; analyzing statistics; effective application of the methods of organization and control of resources, people and processes, time management, capacity.

3. RESULTS OF THE SURVEY

Fall survey companies sector FI shows that over three quarters of them have more than seven years of story, which shows that they have imposed on the market. Minimum proportion of those that exist for less than three years (3.8 %). The other 18.9 % have a history between 3 and 7 years.

The number of employees mainly companies with between 10 and 25 people (almost half – 45.3 %), followed by a little larger – between 26 and 49 people (32.1 %). Enterprises employing more than 50 people 17 %. Even fewer are those which are employed to 9 – 6 to 9 to 1.9 % or 5 – 3.8 %.

In terms of positioning, many companies from the Southwestern Region – 38.2 %. Southcentral Region are represented by 21.8 % of respondents Northeastern Region-16.4 %. Fewer representatives are Southcentral Region and Southeastern Region – in 10.9 % of Northwestern Region – only 1.8 %.

In terms of education strongly dominate graduates – 88 %. Secondary vocational education are 5 %. Total average a 2 % and 5 % did not answer.

Definitely stand out knowledge - knowledge of the technical requirements brought to manufactured products, the type of the materials used, knowledge of global developments in the industry – technological equipment, materials and products, which almost unanimously are very important skills.

In this sector is paid much attention to skills. The first group includes five skills that are associated with the process. They are relatively well advanced and analytical skills and logical thinking. As a minor identify skills relevant to the performance of management functions - handling economic conceptual apparatus, knowledge of computer and other automated systems to perform process control industry.

Competencies that are identified as the most important are:

- effective time management;
- offering new ideas and solutions;
- formation of new knowledge based on changing information and technology;
- build new knowledge in a global environment;
- teamwork;
- negotiation.

Business representatives from FI expressed almost universal mode of employment of graduates of the FBM of UF – 98.2 %. A negative response is explained by the lack of need for new staff. This consensus means no differences by sector, size of enterprise, specializing in the owner / director.

Open question about the qualities that are missing UF graduates about half of the respondents did not respond. The majority of the responses are grouped about the lack of ability to work with specialized software – 21 % and practical training and the associated confidence in the work – 19.6 %. Some respondents indicated more streamlined wording „knowledge and skills in the sector“ (approximately 9 %).

According to respondents, the most important quality of successful work in the sector is excellent knowledge of materials, machinery and technology (34.5 %), willingness and ability to absorb new knowledge (25.9 %) and the existence of previously acquired knowledge and skills in sector (23.3 %).

Cooperation

Opinions about the state of cooperation between UF and practice is concentrated in the middle levels of the scale. Light prevail estimates „satisfactory“, which are given by 52.7 % of respondents. Like, good „it identified 45.5 %. Very good only as 1.8 percent and no one assessed as unsatisfactory.

Table 1: Cooperation between University of Forestry and the practice

How do you assess the cooperation between university and practice at this stage?				Total
Very good	Good	Satisfactory	Unsatisfactory	
1,8 %	**45,5 %**	**52,7 %**	**0 %**	**100,0 %**

Business representatives expressed the greatest willingness to participate in various committees and working groups, to participate in meetings with students and teachers, in meetings with the leadership of the FBM. No great desire to participate in internship programs (although it is expressed dissatisfaction with the practical training of graduates). More interest is to open days.

Table 2: Forms of cooperation FBM of UF and the practice

Assessment the readiness of employers to engage in forms of cooperation with University of Forestry	
(values from 0 to 1, where 1 is „I participated“ and 0 – „would not participate”)	All
Training Programs	0,42
Meetings with students and teachers	0,62
Meetings with the leadership of the Faculty of Business Management	0,51
Membership in committees and working groups	0,71
Open Days	0,27

It is interesting to see the distribution of respondents according to the specialty business representatives. Most ready to participate in one or other forms of cooperation occur graduates woodworking. Upon completing the manufacture of furniture and representatives of engineering disciplines. At least "open" cooperation are representatives of other specialties. However, at the highest level are ready to join the implementation of training programs (followed by the production of furniture).

Table 3: Readiness for cooperation between the Faculty of Business Management and the practice

Assessment of employers' willingness to engage with forms of cooperation according to their specialty					
(values from 0 to 1, where 1 is „I participated“ and 0 – „would not participate“)	Wood-working	Furniture	Engi-neering Sciences	Others	Total
Training Programs	0,33	0,46	0,38	0,50	0,44
Meetings with students and teachers	1,00	0,62	0,63	0,60	0,63
Meetings with the leadership of the Faculty of Business Management	0,67	0,31	0,63	0,55	0,52
Membership in committees and working groups	1,00	0,85	0,56	0,65	0,69
Open Days	0,33	0,23	0,31	0,30	0,29

Interestingly, a statistically significant, a moderate relationship of responses to meetings with students and faculty to the sex of the respondents (Kramer 0,321). Such show almost all female respondents.

Even stronger relationship (which is quite logical), an area between the company and the willingness to participate in meetings with the leadership of the FBM (Kramer 0.503). From closest positioned to Sofia Southwestern Region come most positive responses. It is however the most remote Northeastern Region, while Northwestern Region nobody has expressed such a wish.

Table 4: Regional breakdown of enterprises from Forest Industry and cooperation with Faculty of Business Management

Distribution of willingness to participate in meetings with the leadership of the Faculty of Business Management by region of the enterprise

		As an employer, would you participated in meetings with the leadership of the Faculty of Business Management of University of Forestry?		Total
		Yes	No	
Region	Southwestern Region	75,0 %	25,0 %	100,0 %
	Southeastern Region	16,7 %	83,3 %	100,0 %
	Southcentral Region	33,3 %	66,7 %	100,0 %
	Northwestern region	0,0 %	100,0 %	100,0 %
	Northeastern Region	66,7 %	33,3 %	100,0 %
	Northcentral Region	16,7 %	83,3 %	100,0 %
Total		50,0 %	50,0 %	100,0 %

CONCLUSIONS

The study conducted in the Forest Industry on the needs of the practice and forms of cooperation between the FBM and the business of UF shows results that are satisfactory levels of cooperation. The most important qualities for successful work in the sector are excellent knowledge of materials, machinery and technology, willingness and ability to absorb new knowledge and presence of previously acquired knowledge and skills in the sector. Analytical skills and logical thinking are relatively well advanced. The core competencies are effective time management, making innovative solutions and teamwork.

Along with studying the needs of the practice and cooperation between business and UF meetings, visits and discussions are assigned, as well as tasks to practical employers of students FBM.

As a result, are highlighted new forms discussed with BCWFI and managers of furniture enterprises in Bulgaria. The main results of the existing cooperation are:

- a new format of the curriculum type "Syllabus" – a list of the knowledge, skills and competencies that are covered by the course, including programs and practices detailed description of the exercises;
- conducting lectures by practitioners on specific topics and practical problems;
- develop theses on behalf of businesses;
- meetings, visits, practical training and internships in companies of FI.

Cooperation within the framework of the project "Updating of curricula in accordance with the requirements placed on the labor market" between business and higher education institution has proved extremely useful and promising for all those interested in higher education competitiveness in FBM countries.

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