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Higher Education Curricula Designing on the Basis of the Regional Labour Market Demands

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ABSTRACT
The relevance of the research problem is reasoned by the need to develop conceptual approaches and technologies for designing educational curricula based on current and prospective order for specialists' training from educational services' consumers – regional entities of the labor market. The goal of the article lies in justification of the concepts and techniques of educational curricula designing that are based on joint activities of the University and employers to determine the needs in employees for the regional labor market; to formulate requirements on the basis of professional standards to the qualification characteristics of graduates; to develop the content of the basic professional educational curricula. Leading research methods for this problem were: pedagogical modeling and design, study of the universities' experience, questionnaires, pedagogical experiment, as well as methods of mathematical statistics, which allowed completely, explore the effectiveness of educational curricula design and carry out their correction taking into account the requirements of the regional labor market. The article reveals the concept and technology of educational curricula designing, including pre-project analysis; definition of design idea and construction of the curriculum concept; development of the content and main components of the curriculum and its testing; assessment of the design effectiveness. The role of the regional labor market's entities at different stages of high educational curriculum development is justified. The materials of the article can be useful for the universities' development of the basic professional educational curricula, the basic and optional parts' content of educational curricula; at curricula and projects' development in the sphere of professional education.

Keywords: design, educational curriculum, higher education, regional labor market, social partnership

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State of the literature

- When designing educational programs, universities traditionally take into account the potential of the internal environment of educational organizations and the requests of entrants. The current and prospective demands of the labor market are often not taken into account.
- In the scientific literature and normative acts the necessity of joint activity of the university and employers in designing educational programs is declared, however, the concepts and technologies of interaction of subjects of the regional labor market in this area are not sufficiently explored.
- In studies on the problem of designing educational programs based on the requests of the regional labor market, as a rule, attention is focused on certain aspects of interaction with employers, although its systemic implementation gives better results.

Contribution of this paper to the literature

- The conceptual idea of social partnership in the design of educational programs is proposed; The principles of technological effectiveness, predictability, systemic nature, cooperation and continuity in designing higher educational institutions on the basis of the requests of the regional labor market are justified.
- At various stages of the design of educational programs, various forms of interaction between subjects of the regional labor market were used.
- The ways of operative correction of the goals and objectives of educational programs, their content and structure are shown when designing higher educational programs on the basis of the requests of the regional labor market.

INTRODUCTION

The urgency of the problem is due to the necessity of forming a new type of relations between universities and regional entities of the labor market. In modern conditions the professional education cannot evolve as a closed system, when the University only provides the training on educational curricula, which are the most popular with applicants, without due taking into consideration of the current state and prospects of the regional labor market development.

In this regard, the study of conceptual approaches and technologies of educational curricula designing based on current and prospective order for specialists' training by consumers of educational services is quite significant.

The concept of universities' educational curricula designing based on the demands of the regional labor market

Educational curricula designing is considered in psychological and pedagogical research as an important area of pedagogical design (Bolotov & Serikov, 2003; Zaire-Beck,

1995; Kolesnikova, 2005; Sharifzyanova, Shtreter & Nauryzbayeva, 2015; Asaphova & Golovanova, 2015; Kalimullin & Schaydullina, 2015; Valeeva, 2015).

Educational curricula designing is characterized as education entities' practice – oriented activity on unique educational products' creation and services' and results' implementing. The Federal Law "On education in Russian Federation" defines the educational curriculum as a set of basic characteristics of education (volume, content, outcomes), organizational-pedagogical conditions and in the cases provided by this Federal law, forms of evaluation, which is presented in the form of curriculum, academic calendar schedule, working curricula of academic subjects, courses, disciplines (modules) and other components, as well as assessment and teaching materials (System GARANT: http://base.garant.ru/70291362/1/#block_1000#ixzz3di6IMjI1). It is noted that universities develop independently educational curricula in accordance with the requirements of the FSES (federal state educational standard).

There is a particular relevance of the educational curricula design which becomes more important in the transition period to Federal state educational standards of higher education in which there is a significant proportion of the variable component of the educational content, there is a possibility of choice by Universities of professional activities, the profile of the educational curriculum. Competence-based approach embodied in the standards implies that for each level and field of study, depending on the types of professional activities to be performed for a graduate the educational outcomes, expressed in a common cultural and professional competences are defined (Latypov & Sabirova, 2013; Vedishenkova, Efimova & Ryabova, 2015). Competencies are considered by researchers (Bolotov, Serikov, 2003; Zeer, Pavlova & Symanuk, 2005; Zimnaya, 2004) as the readiness and ability of the student to solve a variety of professional tasks, to apply existing knowledge and skills in a specific professional situation. To achieve these results, vocational education should become more practice-oriented, providing quick adaptation to the requirements of the labor market.

The researchers emphasize that the design of educational curricula largely become the domain of the professional community and requires the development of social partnership as a special type of interaction of educational institutions with entities and market institutions, regional bodies of legislative and Executive authorities, regional employment services, community organizations, aimed at maximum coordination and implementation of all participants' interests of this process (Golyshev, 2012; Osipov, Karstanje, Tumaliev & Zarubin, 2005; Reznick, Nazarova, 2009; Khodyreva, 2012).

An analysis of foreign research (Clifford & Montgomery, 2017; Clegg, 2016) showed that two interrelated trends are considered in the design of higher education education programs - globalization and localization.

Scientists (Peer & Penker, 2014; Baughan, 2015; Leonard, Fitzgerald & Riordan, 2016) examine the mechanisms of interaction between universities and employers to ensure sustainable regional development.

On the basis of empirical research (Branine & Avramenko, 2015; Jameson et al., 2012; Gray, 2016), the expectations of employers and graduates are studied, and the role of higher education institutions in their satisfaction.

Substantial attention is paid to the problems of recording the demands of the labor market for the successful professional adaptation of graduates in the content of higher education (Asayeghn, 1982; Grosemans, Coertjens & Kyndt, 2017; Chang, Churyk & Yu, 2015). In the works of foreign scientists (Hanes, Kemper & Mulhern, 1986; Elliston, 1988) the problems of the design of educational programs providing a high level of practical training for students under the programs of pedagogical, engineering, and managerial education are analyzed. Notes the importance of taking into account the position of students, their professional perspectives in the design of higher education educational programs (Hendel, 1985; Higdon, 2016).

The concept of educational curricula designing is based on the ideas of competence-based and system approaches. The basic idea of the concept is social partnership as a special type of interaction between universities and regional entities of the labor market for joint implementation of specific measures aimed at improving the efficiency of higher professional education and specialists' training quality. This idea is implemented in all phases of design: from pre-design analysis and the educational curriculum concept's design till its testing and evaluation.

Universities' educational curricula designing based on the requests of the regional labor market is based on the following principles:

- the principle of adaptability, the implementation of which is ensured by the need to design educational curricula from the results expressed in the totality of cultural, general and professional competencies that should be possessed by graduates;

- the principle of predictability, suggesting that during the educational curriculum designing it is necessary to study not only the needs of employers regarding the quantity and quality of labor resources, but also to form them actively with the perspective needs of socio-economic development of the region.

- the principle of consistency, the implementation of which involves the integrated design of the structure and content of the educational curriculum, its orientation (profile) depending on its focus on specific activities for which graduates should be trained taking into account current and future needs of employers; joint activity of entities of the regional labor market at all stages of professional education - beginning with professional orientation and ending with employment.

- the principle of cooperation, which requires that the relationship between entities of design are to be based on mutual interest in the quality of future specialists' training, equal participation in the process of development, implementation and evaluation of educational curricula quality;

- the principle of continuity, focusing on the achievement of the integrity of social partnership in the process of educational curricula designing, ensuring the improvement of the contents and technologies of professional education, and also providing the "completion" of the system in accordance with the changing requirements of the labor market.

MATERIALS AND METHODS

Research objectives

During the research the following tasks were solved:

- to prove the concept and technology of educational curricula design based on the demands of the regional labor market;

- to characterize the features of interaction with employers at every stage of the educational curriculum design;

- to evaluate the effectiveness of the proposed concepts and technologies of educational curricula designing.

Theoretical and empirical methods

Leading research methods for this problem solving are:

- theoretical methods – a retrospective analysis, which allow to identify the nature and specifics of the educational curricula development in higher education; pedagogical modeling and design, when creating the concepts and techniques of educational curricula designing based on the demands of the regional labor market;

- experiential - learning and generalization of pedagogical experience in the educational curricula development, interviews, questionnaires, document review, pedagogical experiment, methods of mathematical statistics, which allowed fully to explore the effectiveness of the design of the University's educational curricula and to implement their correction with the requirements of the regional labor market.

Research base

The base of the research became Vyatka state University of Humanities

Research's stages

The study was conducted in three stages:

The first phase involved analysis of the methodological basis of the study; definition of the concept how to design the educational curricula based on the demands of the regional labor market.

The second phase included organization of activities for the design of basic educational curricula in accordance with the technology: pre-analysis, definition of design idea and construction of the curriculum concept; development of the content and main components of the curriculum and their assessment; evaluation of the effectiveness of the educational curriculum design.

The third phase involved analysis of the effectiveness of the proposed concept and technology of educational curricula designing based on the demands of the regional labor market

Assessment criteria

Analysis of the effectiveness of educational curricula design was implemented on the base of the study of employers' views about the quality of graduates' training and experts' assessment on the quality of educational curricula offered (availability of matching of educational curricula with basic employers) and on the basis of data on graduates' employment (including the results of universities' effectiveness monitoring).

RESULTS

In general, the stages of the educational curriculum design can be represented as follows:

Preliminary analysis suggests the need to examine statistics relating to the analysis of the situation on the regional labor market, evaluation of University graduates' employment, identifying of main employers, who is able to formulate the demands to the quality of vocational education graduates.

During the pre-analysis the survey "Assessment of University graduates' professional training by the employers" was carried out, 315 employers were interviewed, one third of which were representatives of education (35,7%, tab. 1), the rest of them belonged to the other industries relatively evenly within 3-13,9% (see **Table 1**).

Assessing the needs of the regional labor market in graduates of higher education institutions, employers note that basically (in 69.5% of cases) there is a need in less than 5 young professionals per year, in every fourth organization (24,4%) – from 5 to 10 young professionals per year.

Table 1. Industries of Economy, %

Answers	Quantity	%
Education	105	35,7
State and municipal management	41	13,9
Industry	29	9,9
Wholesale and retail trade	25	8,5
Financial activity	20	6,8
Health and social services	18	6,1
Transport and communications	17	5,8
housing construction	12	4,1
Hotels and restaurants	8	2,7
Other	19	6,5
The answer is missed	21	–
Totally	**315**	**100**

Describing the quality of professional education on the existing educational curricula, about half of employers surveyed (44,8%) indicate that the level of graduates' training of Vyat SHU (Vyatka state Humanities University) completely corresponds to their requirements, almost the same number of employers (47.4 per cent) believe that it corresponds to a greater degree. The most satisfied with the quality of young specialists' training in Vyat SHU are employers of hotel and restaurant business (62,5%) and education (53,8%), employers of state and municipal management, industry, construction, financial activities, health and social services (42-66%).

The definition of design idea and the concept's curriculum construction as the design phase involves the justification of the goals and objectives of educational curricula, which are formulated in terms of the competence approach (cultural, general and professional competences); the characteristics of occupations that are in demand by the regional labor market, and in which the graduates will be included after educational curriculum mastering.

At this stage it was necessary to clarify the requirements of employers to the education results, expressed as the totality of common cultural and professional competences. According to employers, the professional skills that enhance the competitiveness of young specialists in the labor market are: the readiness to plan and organize their professional activities (11,7%, tab. 2), the readiness to use innovative and modern information technologies in professional activity (10,5%) and readiness to creativity, innovation in their professional activities (10.4 percent). Less significant for the graduates' competitiveness in the labor market are communication skills (negotiation skills, basic knowledge of business communication), readiness for professional mobility, retraining and skill to produce a specific product (9,1–9,5%). Results are presented in **Table 2.**

Table 2. Professional skills that enhance the competitiveness of young specialists in the labor market, %

Answers	%
The readiness to plan and organize professional activities	11,7
Readiness to use innovative and modern information technologies in professional activity	10,5
Readiness for creativity and innovation in professional activities	10,4
Negotiating skills, knowledge of the basics of business communication	9,5
Readiness to retrain or improve skills	9,3
The ability to produce a specific product	9,1
The ability to use knowledge from related fields of science	8,3
The ability to lead a group	6,8
Ability to work with business information	6,7
Traditional methods and technologies' skills	6,5
Skills of preparation of official documents and business correspondence	5,7
The ability to reasonable defending of view point	5,5
Totally	**100**

Survey data indicate that among the personal characteristics that contribute to the promotion of young specialists in the labor market, the employers most often indicate on: performance efficiency (16%), responsibility (11,8%), as well as activity, initiative, learning, flexible thinking, ability to work in a team (7-9%, **Table 3).**

Table 3. Qualities that contribute to the competitiveness of young specialists in the labor market

Answers	%
Performance efficiency	16,0
Responsibility	11,8
Activity, initiative	9,4
Learning, flexible thinking	8,6
Ability to work in a team	7,8
Mobility	5,0
Ability to set and achieve the goal	4,4
Orientation on the result	4,3
Intelligence	3,6
Kindness, humanism, understanding	3,2
Self-confidence	3,2
Entrepreneurial spirit, vitality	3,1
Courage, the ability to take risks	2,6
The ability to compromise	2,5
Non-standard and systematic thinking	2,5
Persistence	2,3
Fairness	1,9
Strategic thinking	1,8
Maintaining a healthy lifestyle	1,6
Tolerance	1,3
Patriotism	1,2
Healthy selfishness, ambition	1,1
Inner freedom, independence	0,8
Totally	**100**

In turn, among the qualities that hinder the competitiveness of young specialists in the labor market, the employers in the first place indicate on: laziness (in 14% of cases), diffidence (11.3%) and also irresponsibility, lack of initiative, unwillingness to take

responsibility for the results of their work, lack of discipline and high self-esteem (7-9%, **Table 4**).

Table 4. Qualities that hinder the competitiveness of young specialists in the labor market

Answers	%
Laziness	14,0
Diffidence	11,3
Irresponsibility	9,9
Lack of initiative	9,8
unwillingness to take responsibility for the results of their work	9,8
Lack of discipline	8,1
High self-esteem	7,4
Increased aggressiveness, conflict	5,6
Inability to obey	4,5
Excessive ambition	4,1
Low level of culture	3,5
The lack of orientation on the results	3,3
The inability to compromise	3,2
Standardization of thinking	2,9
Bad habits	2,6
Totally	**100**

A significant attention the employers pay to the graduates' availability of specific professional skills, practical experience. Employers note that young professional's minimum level of practical experience should primarily include practical training in the organization in the same industry as the organization of employment place(47,3%), about one-quarter of employers (23,8%) indicate the adequacy of practical training's availability in organization of any activities. Every seventh employer (14.5 per cent) believes that the young professional needs to have practice only in their organization.

About half of employers (45.9 per cent) believe that young professional's minimum period of experience should be 1 year, 51,3% (total share) believe that it would be the period of 2-3 years. The most loyal are the employers of the spheres of transport and communication, hotel and restaurant business, health and social services and construction – 50-100% of them believe that a minimum work experience should last 1 year. In the system of education and state and municipal government employers also often note that the minimum period of work experience should last 2-3 years (37-50%).According to 66.2% of employers' opinion the practical experience, is a leading additional advantage of the graduation applicant. Also very attractive for the employers are the qualities like knowledge of specific computer programs (13.3%) and a high level of communicativeness (10.4 percent).

The development of the curriculum content and its major components as well as their assessment includes determining of training courses/modules' list, the mastering of which will help to form in students competences required for successful adaptation at the regional labor market. In addition it is important, in cooperation with employers to justify the content and technology of students' practical training, to determine the practices' fields, which allow ensure the formation of common cultural, general and professional competencies. It is also important to develop in cooperation a set of assessment tools for current and interim

certification, allowing the entities of design to assess the quality of the process and results of future specialists' professional training.

At this stage the effectiveness of cooperation forms with employers was investigated. It was revealed that making the choice of interaction forms with employers the most relevant for them are providing the students with opportunities to get practice or training (61,7%, tab. 5). To a lesser extent employers consider such important forms of cooperation like the provision of existing vacancies (11%), cooperation with the students in the development of proposed by the employers the course and final qualifying works' themes (6%), provision of experts to conduct the training sessions, master-classes for students (5,4%), and participation in advanced training curricula and specialists' professional training development (4.4 per cent).

To provide an placement for training practice in a greater extent are ready organizations in the sphere of state and municipal management, construction, industry (in 70-75% of cases), education, health and social services, and wholesale and retail trade (52-62% of cases)

To offer available vacancies for graduates for temporary employment during the period of the educational curriculum mastering are ready enterprises of transport and communication, wholesale and retail trade, hotel and restaurant business, as well as financial institutions (in 18-20% of cases).

Cooperation in the development of proposed for students by the employers the course and final qualifying works' themes more often are ready to carry out industrial enterprises, institutions of health and social services (in 11-13% of cases).

To provide experts to conduct training sessions, master-classes with students are ready mainly the organization of the education sector, financial services and industrial enterprises (in 6-10% of cases).

Enterprises of transport and communication more often than other organizations are ready to participate in specialists' advanced training and professional training curricula, University's activities to promote the graduates' employment, educational curricula development, practices and academic disciplines' curricula, long-term order formation for specialists' training for their organization, as well as to participate in the activities of the Association of Vyat SHU graduates.(more than 6% of cases). These results are presented in **Table 5.**

Table 5. Relevant forms of cooperation of employers with Vayt SHU, %

Answers	Sample	Industries									
		State and municipal management	Education	Transport and communications	Industry	Wholesale and retail trade	Hotels and restaurants	Financial activity	Health and social services	Housing construction	Other
The provision of places for practical training/internship	61,7	75	62,2	43,8	70,4	52,0	25	40,0	53,3	75,0	78,9
The provision of available positions	11,1	5,0	7,1	18,8	11,1	20	25	20	13,3	16,7	10,5
Cooperation in the development of students' course and final qualifying works proposed by the employer	6,0	2,5	7,1	0	11,1	8	0	5	13,3	8,3	0
Provision of specialists to conduct the training sessions and master-classes for students	5,4	2,5	10,2	6,3	0	4	0	10	0	0	0
Participation in specialists' advanced training and professional training curricula	4,4	5	3,1	6,3	3,7	4	50	5	0	0	0
Participation in University's activities on graduates' employment	3,7	7,5	3,1	6,3	0	4	0	5	13,3	0	0
Approbation of students′ research works	2,7	0	2	0	0	8	0	5	6,7	0	0
Opening of the University's Department on the basis of the organization	1,7	0	4,1	0	3,7	0	0	0	0	0	0
Participation in the development of educational curricula and practices and academic disciplines' curricula	1,3	0	0,0	6,3	0	0	0	10	0	0	0
Participation in long-term order formation for specialists' training for the organization/institution	1	2,5	0	6,3	0	0	0	0	0		5,3
Participation in activities of the Graduates' Association of Vyat SHU	0,3	0	0	6,2	0	0	0	0	0	0	0
The conclusion of the joint cooperation agreement with the University on a range of issues, including joint work plan	0	0	0	0	0	0	0	0	0	0	0
Other			1	0	0	0	0	0	0	0	5,3
Totally	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Evaluation of the effectiveness of the educational curriculum design involves the compliance determining of studying results in the development of the educational curriculum to the demands of the regional labor market. Crucial in this assessment are the results of employment of University graduates in enterprises and organizations of the region, including their educational qualifications. The implementation of this technology

stage justifies the necessity in a prompt and timely adjustment of the educational curriculum by the design entities in terms of its content and technology implementation depending on the results of employment.

At this stage the employers' view was identified about the quality of the basic professional educational curricula of the University. Overall, the overwhelming majority of employers (total share 95,7%) consider that the profile of existing educational curricula in varying degrees, meets the requirements of the labor market of the Kirov region.

Among the most important factors of graduates training's quality, employers identify the two main of them: highly – qualified teaching staff (35.4 per cent) and the content of the educational curriculum which is developed taking into account the employers' opinion (33,8%). They also noted the importance of qualitative characteristics of the educational curriculum: educational-methodical provision (6,1%), the participation of employers' representatives in the educational process (5,1%), modern material and technical base (5,1%), the use in educational process of innovative educational technologies (3,2%). Furthermore, as the essential conditions for educational curricula quality ensuring, employers call the students' employment on specialty during their training (4.2%) and the opportunity to obtain additional qualifications. (3.2 per cent).

The implementation's effectiveness of main professional educational curricula of higher education developed by Vyatka State Humanitarian University in cooperation with the entities of the regional labor market is confirmed by the results of Universities' Monitoring, held in 2015, by the Ministry of Education and Science of the Russian Federation. The level of University graduates' employment is at the level which are established by the normative values' founder, and it reaches 80%.

DISCUSSIONS

The problem of pedagogical design in general, and educational curricula designing, in particular, was developed in the line of system (Zaire-Beck, 1995; Kolesnikova, 2005; Masyukova, 1999; Rodionov, 1996) and competence (Zeer, Pavlova & Symanuk, 2005; Zimnaya, 2004; Bolotov & Serikov, 2004) approaches, which are the proposed concept's theoretical foundation of design of the main professional educational curricula of higher education.

Despite the methodology's extensive development in the research of engineering curriculum design in general and vocational education, the features of designing educational curricula based on the demands of the regional labor market are not fully disclosed; the idea of social partnership as a special type of interaction between universities and regional entities of the labor market needs in the conceptual justification; educational curricula design technology, including pre-project analysis requires its specification; there is need in definition of design idea and construction of the curricula concept; so the content and main components' development of the curriculum and testing also need their development; and

the effectiveness assessment of the educational curriculum design taking into account the needs of the regional labor market is required.

COCNLUSION

The research conducted allow to carry out systematically the design of the basic professional educational curricula of higher education on the basis of the concept, the basic idea of which is social partnership as a special type of interaction between universities and regional entities of the labor market, focused on the coordination and implementation of all participants' interests of region's personnel potential formation process. Consideration as the main requirements of the design principles of consistency, adaptability, predictability, continuity, cooperation allow effectively solve the formation problem of active interaction field of the various stakeholders in the development of professional education: the Federal and regional authorities, universities, students, employers, community representatives, business and professional communities. The proposed design technology will ensure taking into account the requirements of the regional labor market at all stages of design, allowing to carry out the modernization of educational curricula taking into account the views of participants in an open educational environment, to adjust the goals and objectives of the curricula, their content and structure.

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