opción

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Project-based learning at the pedagogical university of the Republic of Kazakhstan

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Abstract

This article describes the results of a study of the specificity of implementation of project-based learning at a pedagogical university in Kazakhstan and the difficulties arising from this via comparative qualitative research methods. As a result, lecturers of the pedagogical university have knowledge of project-based learning, but they rarely use this method of teaching, however, most of the respondents consider this method to be promising. In conclusion, the content of educational programs includes disciplines projected to develop the personal and moral professional qualities of future teachers, general cultural and professional competences.

Aprendizaje basado en proyectos en la universidad pedagógica de la República de Kazajstán

Resumen

Este artículo describe los resultados de un estudio sobre la especificidad de la implementación del aprendizaje basado en proyectos en una universidad pedagógica en Kazajstán y las dificultades derivadas de esto a través de métodos comparativos de investigación cualitativa. Como resultado, los profesores de la universidad pedagógica tienen conocimiento del aprendizaje basado en proyectos, pero rara vez utilizan este método de enseñanza, sin embargo, la mayoría de los encuestados consideran que este método es prometedor. En conclusión, el contenido de los programas educativos incluye disciplinas proyectadas para desarrollar las cualidades profesionales personales y morales de los futuros maestros, las competencias culturales y profesionales generales.

Palabras clave: Basado en proyectos, Aprendizaje, Universidad pedagógica, Estudiantes.

1. INTRODUCTION

Every year there are more supporters of project-based learning in a pedagogical university. Project-based learning is an important learning approach that allows students to master academic and practical knowledge and develop the skills necessary for a successful career. In world practice, project training is applied at all levels of education. This approach is also being actively implemented through the content of updated educational programs in the system of pre-

school and school education in the Republic of Kazakhstan. For example, a teacher of a pre-school educational organization should be able to organize the project work of children, propose solutions to a particular project task, provide resources, and integrate the efforts of pupils in creating their projects. Thus, labor-market requires young teachers to be able to apply project-based learning in practice.

Pedagogical universities are very cautious about the use of project-based training for academic purposes. Fears are caused by the fact that existing educational standards have different requirements for the content. Typically, these standards relate to knowledge and skills that do not imply the creative application of practical skills, while modern teachers should be able to use their accumulated knowledge and experience in changing conditions (PICKUNOV, 2000). The university sector must assume the right role in the correct application of knowledge, with the right degree of competence, in the context and with the right people in order to facilitate the path in what needs to be done, how it should be done and the results that integrate knowledge from a human context of reason and experience (HERNÁNDEZ, VILLALOBOS, MORALES & MORENO, 2016). In the process of teaching, higher education teachers strive to adhere to traditional methods of organizing the educational process. A lecturer in a pedagogical university of Kazakhstan is accustomed to a lecture-seminar system in which students, having obtained theoretical information on disciplines, expand their knowledge by searching for information on the scientific literature, reinforce them with the ability

to transform the received content. Difficulties in the organization of activities and methods of assessment arise in the process of applying project-based learning (KOKOTSAKI, MENZIES & WIGGINS, 2016).

In our study, we identified variables that demonstrate the causes of problems in the implementation of project-based learning into the practice of a pedagogical university.

Among these variables, the most significant ones are:

1. The readiness of lecturers to use project-based learning as a response to the needs of educational practice.

2. Evaluation of the level of professional competence of students by employers.

3. Project-based learning in the content of educational programs of higher education.

4. The implementation of project-based learning in the process of pedagogical practice.

The results of the study and their discussion are the subject of this article (MERGENDOLLER & THOMAS, 2005).

2. METHOD

The participants of this study were the lecturers of Pavlodar State Pedagogical University (Republic of Kazakhstan). The survey of university lecturers was carried out in order to identify problems in the implementation of project-based learning. The materials from the survey of employers, which were included in the self-assessment report documentation for institutional accreditation of Pavlodar State Pedagogical University in 2018 is also used in the study. We analyzed the content of educational programs and ways of organizing project-based learning on the example of major 5B010100 - Pre-school education and training, Pavlodar State Pedagogical University (Republic of Kazakhstan) (SHATSKY, 1980: Mendoza Velazco & Rivero Padrón, 2019).

3. RESULTS

The effectiveness of the use of various types of project activities requires appropriate conditions. One of the most important is the readiness of teachers of the pedagogical university to use project activities in teaching students. To identify the level of this readiness, we conducted a survey among lecturers of Pavlodar State Pedagogical University (Republic of Kazakhstan, Pavlodar). The study involved 120 lecturers, among whom - 9 lecturers have research and educational experience of over 20 years, 38 lecturers - more than 10 years, 61

lecturers - more than 5 years, 12 lecturers - less than 5 years. The survey bore insular nature and was anonymous. The questions were as follows:

1) Do you know about project-based learning, its history, types of project activities?

− Yes, of course (list what you know);

− No, I do not know this theory.

2) Would you like to learn about the theory and technology of the use of project-based learning?

− Yes;

− I think some questions are worth considering;

− No.

3) Do you agree with the statement that project-based learning is an effective and promising type of organization of students' independent work?

− Yes, completely;

− Partially;

− No.

4) Do you use project-based learning in your activities?

− Yes, I actively use in all types of occupations;

− I use some elements of project-based learning;

− No, I consider it inappropriate.

5) If project-based learning becomes an obligatory activity, …

− It will stimulate both lecturers and students to self-education and creativity;

− Positively change the existing system of teaching and practice of teaching students;

− It will create difficulties for lecturers and students;

− It does not affect the practice of teaching.

The survey showed that 95% of lecturers know about the method of projects, types of project activities, the history of the formation of project-based learning, and how to implement them. 5% admitted that they are unfamiliar with some questions of the theory of

project-based learning. The second question showed that lecturers are ready to study theory and practice of project-based learning, 70% of participants answered affirmative, and 27.5% would like to consider some questions, 2.5% of the total number of respondents do not consider it necessary to study. 98.3% of respondents agree that project-based learning as an effective and promising type of organization of independent work of students, 1.7% of the total number of respondents partially agree with this statement.

During the year, students of Pavlodar State Pedagogical University, the only specialized university in the region, undergo various teaching internships in educational institutions of the region. In 2017, the survey involved 25 heads of practice bases. They acted like experts. The purpose of the survey was to determine the level of professional competence of students of Pavlodar State Pedagogical University. The concept of professional competence of a teacher expresses the unity of his theoretical and practical readiness for the implementation of educational activities and characterizes his professionalism. The questionnaire consisted of seven professional competencies and personal qualities that professionals should be possessed. Competencies are evaluated by a 3-point scale, where 3 means high level, 2 points - average, 1 point - very low. Respondents were also offered to make their proposals on the formation of competence of the future specialist.

Table 1. Results of the survey (% of the total respondents)

Competences	Points		
	3 points	2 points	1 point
The level of theoretical training in the main profession.	93%	5%	2%
The level of practical training, the ability to put learning into practice	85%	13%	2%
The level of organizational training, communication skills, and interaction with people in a team.	87%	13%	0
Communication skills and interaction with students	87%	13%	0
Computer skills (collecting, storing and processing information).	57%	38%	5%
Culture-universal, humanitarian training	95%	5%	0
The breadth of vision, erudition.	90%	10%	0

While appreciating the theoretical training of students (93% of the total number of respondents), employers, nevertheless, note that there are students with a low level of skills for collecting, storing and processing information (5% low, 38% average, 57% of the total number of respondents call a high level). They also note the lack of practical training skills of students and the ability to put learning into practice (2% of the total number of respondents). The level of culture-universal, humanitarian training of students is highly appreciated; it is 95% of the total number of respondents.

The breadth of vision and erudition are marked by 90% of the total number of respondents. The level of organizational training,

communication skills, and interaction with people in a team are positively evaluated: they recognize a high level - 87% of the total number of respondents. A similar survey was conducted in 2018 and 35 heads of practice bases took part in it. Analysis of the survey results directed the efforts of university lecturers to solve the abovementioned problems. The situation in 2018 has changed positively.

Table 2. Results of the survey (% of the total respondents)

Competences	Points		
	3 points	**2 points**	**1 point**
The level of theoretical training in the main profession.	97%	5 %	2%
The level of practical training, the ability to put learning into practice	88%	11 %	1%
The level of organizational training, communication skills, and interaction with people in a team.	88%	12 %	0
Communication skills and interaction with students	85%	15 %	0
Computer skills (collecting, storing and processing information).	75%	23 %	2 %
Culture-universal, humanitarian training	97 %	3 %	0
The breadth of the outlook, erudition.	92%	8 %	0

According to the survey, a relatively large percentage of employers highly evaluated the level of practical training, the ability to put learning into practice. Let us compare these results for two years (see Figure 1).
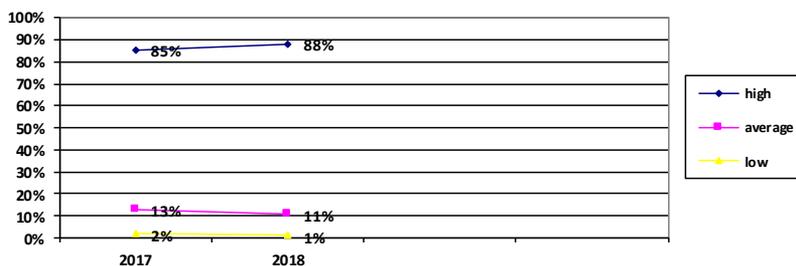
Figure 1 - Comparative results of the survey (% of the total respondents) The level of practical training, the ability to put learning into practice

One of the most important components that play a priority fundamental role in the formation of pedagogical knowledge and skills in preparing bachelors is professional practice, presented in accordance with the Order of the Minister of Education and Science of the Republic of Kazakhstan dated January 29, 2016 No. 107, the following types: educational (introductory training) practice, teaching practice of first-year students, psychological and teaching practice of second-year students, teaching and educational practice of third-year students, work experience internship of the fourth-course students, pre-graduation practical training (COCCO, 2006).

Program of professional practice of students aimed to develop students' professionally significant pedagogical skills:

−Planning, forecasting, analyzing the main components of training and education;

−The use of teaching methods and tools appropriated to didactic goals and objectives;

−The use of various forms and methods of organization, implementation of educational and cognitive, creative activities of pupils;

−Implementation of an individual approach to pupils in the course of training and educational work, taking into account the peculiarities of their development;

−Conducting pedagogical diagnostics of the state of the pedagogical process;

−Evaluation of the results of the activity of students, teachers and their own.

Analyzing targets in the content of the work programs of the practices, we determined that project-based learning is not a priority to use in the process of work placement.

4. DISCUSSION AND CONCLUSION

Considering the theoretical and practical issues related to the problems of using project-based learning in the pedagogical university, we turned to experience that already exists in the history of pedagogy

and modern experience in advanced national education systems. Project-based learning was called the method of problems, the method of projects and associated with the ideas of the humanistic direction in education. The main ideas of this technology were developed by J. Dewey and his student W. Kill-Patrick. These scholars believed that learning should be focused on the purposeful activity of students, consistent with their personal interests. The main didactic unit of the educational process, in their opinion, is a problem taken from real life and personally significant for students.

They should independently or by joint efforts in the group resolve it, applying the necessary experience, sometimes from different fields of science, and get a measurable result. The problem and the ways to solve it, thus, acquire the contours of the project activity. In the 20th century, in Soviet pedagogy, the ideas of project education are associated with the name of the outstanding Russian scientists KAPTEREV (1914), who believed that project-based learning is aimed at a comprehensive exercise of the mind and the development of thinking. Further, project-based learning is developed in parallel with the development of American scientists and is associated with the names of (SMAGINA, 2016).

According to contemporary authors, project-based learning is a form of education focused on the students, based on the three constructivist principles: learning depends on the context; students are actively involved in learning and achieve their goals through social

interaction and sharing of knowledge and understanding. According to KOVALENKO & NIKITINA (2012), in a modern higher education institution, the organization of project activities based only on competence, activity and personality-oriented approaches, declared as priority in all educational normative documents, is not sufficiently effective for training competitive specialists. The future goals of organizing general scientific and professional training of future specialists are the development of independence and freedom of cognition for the creative development and transformation of the world, the ability and willingness to creatively master new types and ways of activity, personal self-development in this process.

Modernization of the content of higher education programs is aimed at the formation of competencies, according to the Dublin descriptors, the Professional standard of the teacher in order to improve the quality of the programs of the pedagogical university taking into account the modern requirements of science and practice, as well as the needs of society and the professional environment. The content of educational programs includes disciplines projected to develop the personal and moral professional qualities of future teachers, general cultural and professional competences. The logical sequence of courses of disciplines is traced, the structure is developed taking into account the continuity of the content of the educational program, the main requirements are reflected in the curricula and training programs.

Considering the abovementioned targets, we can note the need to revise approaches to the development of educational programs. In spite of the fact, that the focus on practice is declared, the programs themselves require substantial improvement. Changes should be in the following directions:

1. It is necessary to improve the structure of the educational program and bring it in compliance with the regulatory requirements for the development of educational programs and the professional standard Teacher.

2. The educational program does not reflect the study of the structure and content of school curricula, the legislative and regulatory framework for updating the content of secondary education, the concept, and mechanism of assessment, an integrated approach to teaching, etc.

3. Educational modules are represented by irrelevant disciplines, the names, and contents of which do not reflect new trends in education and do not correspond to new academic disciplines.

4. The training outcomes and the competence of the graduate in the EP do not correspond to the new format of education and training in educational institutions.

Thus, the most important feature of the modern social order in relation to the training of teachers in higher education is the formation of specialists who are able to qualitatively and productively project the educational process at all levels of education and are ready for continuous self-development in their chosen professional sphere. The extension of these requirements causes the need to master modern teachers of project activities, which today should be considered as a key component of their professional activities since it allows organizing the learning process successfully from setting goals and objectives to modeling strategies for professional self-development.

The analysis of the presented aspects of training future teachers in the Pedagogical University of the Republic Kazakhstan has shown that project competence is not considered as a target component of their future profession, but is used only as a means of learning, and the skills of students' project activities are formed outside the professional context and in the wake of subject knowledge. In other words, the project competence of future teachers is researched and formed primarily as training, regardless of the characteristics of their professional activities.

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