

The problem of practice-oriented instruction in higher education

El problema de la enseñanza orientada a la práctica en la educación superior

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ABSTRACT:

A key aspect of the paper is the problem of practice-oriented instruction in higher education. There is much evidence that the purpose of practice-oriented training of students is the process of forming general functional and professional competences. This dominant feature coincides with the goal of modern education. Recent developments in the field of education have led to a renewed interest in practice-oriented approach, which, on the one hand, is associated with the organization of educational, industrial and pre-diploma practices of students, and, on the other hand, with effective introduction of professionally-oriented teaching technologies, which are the methods of contextual learning and active forms of education. Central to the entire educational process is the determinant of effectiveness of the organizational and training conditions. The research project used a convenience sample of 612 5th year University students. The sample was representative with respect to gender and training profiles of the participants.

Keywords: Competence approach, activity approach, practice-oriented education, contextual training, active forms of education.

RESUMEN:

Un aspecto clave del documento es el problema de la instrucción orientada a la práctica en la educación superior. Hay muchas pruebas de que el propósito de la formación orientada a la práctica de los estudiantes es el proceso de formación de competencias generales funcionales y profesionales. Esta característica dominante coincide con el objetivo de la educación moderna. Los acontecimientos recientes en el campo de la educación han llevado a un renovado interés en el enfoque orientado a la práctica, que, por un lado, está asociado con la organización de prácticas educativas, industriales y prediplomadas de los estudiantes, y, por otro lado, con introducción efectiva de las tecnologías de enseñanza profesionalmente orientadas, que son los métodos de aprendizaje contextual y las formas activas de educación. El centro de todo el proceso educativo es el determinante de la efectividad de las condiciones organizacionales y de capacitación. El proyecto de investigación utilizó una muestra de conveniencia de 612 estudiantes universitarios de 5º año. La muestra fue representativa con respecto a los perfiles de género y formación de los participantes.

Palabras clave: enfoque de competencia, enfoque de la actividad, educación orientada a la práctica,

1. Value of the data

The data enrich the knowledge of educational instruction as follows:

- The data demonstrate the effectiveness of a practice-oriented model of professional training for students.
- Practice-oriented system is implemented for the training of a competent specialist. The focus on the result of education, when the result is not the sum of the acquired information, but the professional competence as a person's readiness and ability to act in various professional situations.
- The practice-oriented approach allows to significantly increase the effectiveness of training, to achieve a high level of professional competence of a future specialist that meets the requirements of the employer.

2. Data

The main challenge faced by many universities today is disproportion between the constantly increasing demand of specialists and supply in the labor market, and disbalance between the system of vocational education and modern business. In this regard, practice-oriented education in the university becomes a pivotal moment, which is determined in this paper from different aspects. A.A. Verbitskii (2010), A.L. Andreev (2005) connect the development of practice-oriented education with the use of contextual learning technologies for profile and non-core disciplines, in which quasi professional activities are realized. Key issues here are active forms and methods of teaching: workshops, master classes, trainings, business games, projects and problematic techniques, independent research. I.V. Petrova (2010), S.S. Polisadov (2014), Brunnet, and Portugal, (2016), treat practice-oriented education from the point of view of the organization of training, industrial and pre-graduation practice with the immersion of the student in professional environment, in which students correlate their understanding of the profession with the actual reality of work processes in business environment. From these aspects, the traditional element of training - the practice of students - acquires completely new meaning and becomes an important element of the university training programs. In practice-oriented instruction the practice of students acquires continuous character, mainly in the same organization or in the same branch. Of great importance is the search for permanent business partners (employers) and the organization of university department branches there.

To build practice-oriented training it is necessary to develop new activity-competence approach. Revealing the essence of the competence concept in terms of the results of instruction, I.G. Tatur defined the competence of a specialist with a higher education degree as follows, "his desire and ability (readiness) to imply his potential (knowledge, skills, experience, personal qualities, etc.) for successful creative (productive) activity in the professional and social sphere, realizing the social Importance and personal responsibility for the results of this activity" (Tatur, 2004: 8). Education cannot be practice-oriented without gaining experience, the level of which is more accurately determined by the methods of the activity-competence approach. The vector of the activity approach is directed to the organization of the learning process, to the technologies of practice-oriented instruction, where the entire learning process is an activity in its nature (Kupaevtsev, 2005; Bringula, Aviles, Batalla, Borebor, Uy, and San Diego, 2017; Veerasamy, D'Souza, Lindén, Kaila, Laakso and Salakoski, 2016). In educational programs the activity content of education is reflected in the emphasis on the methods, strategies and skills that are necessary. It is critical to acquire activity experience, which must be accumulated and understood by students.

These provisions formed the basis for the organizational and pedagogical conditions of the practice-oriented education of university students. The development and implementation of

pedagogical conditions for improving the practice-oriented instruction of the vocational training of students in the university was expressed in several aspects. The most important of them were:

- the total number of hours provided for practical education (up to 50% of the training time at the university);
 - the practice management, which experienced mentors and specialists of the partner organization (employers) offered;
 - the use of certain (creative) methods in teaching (problem-oriented learning method, project method, etc.);
 - the orientation to active methods of training in a team;
 - the integration of professional "life-oriented" instructional subjects into the training outline, the way to define a holistic view of the future professional activity and its large fragments;
 - the development of special working programs, which included tasks built on the systemic and dynamic principles. A single internal logical line linked all work assignments.
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3. Experimental design, materials, and methods

The selective study was conducted among students of the 5th year of various training profiles in the number of 612 to study the effectiveness of the organizational and pedagogical conditions of the university practice-oriented instruction process. The indicator of effectiveness was the level of the formation of professional competence as a set of professional competencies of future specialists, which have their content for each profile of training. We assessed the formation of professional competencies by the ability to solve non-standard educational and professional tasks in the workplace of the industrial and professional practice. We determined the following levels of professional competence of students.

3.1. Low level of professional competence.

Graduates of this level do not know how to solve practical problems during practical training, which is expressed as follows: they do not meet an array of requirements for the correct performance of simple tasks, since the students consider them insignificant. Mediocre skills and predictable strategies prevail. They perform disparate operations in practical activity. In the training activity, there is predominantly low rate of mastering skills. Students insufficiently understand and assess the goals and tasks of self-instruction, acquire low skills of self-regulation of training and practical activities.

3.2. Average level of professional competence

In the process of passing practice the following feature characterizes students of this level: they follow the patterns of performing actions without analyzing and critically understanding their use. They approach practical tasks as incidental. They do not see any correlation with similar tasks. Such students are capable of some independent actions, but only within the framework of clearly stated tasks. The students can offer their own way of solving the problem, but without theoretical justification. In the training activity such students have poorly developed self-education skills, they do not sufficiently understand the importance of their profession, their skills of self-regulation of instructional and practical activities are developed at an average level.

3.3. High level of professional competence

Graduates of this level can find and highlight the main thing in a large flow of information. They have well-formed ability to critically comprehend and apply the information received. They have the necessary methods to solve complex practical problems. They can fulfill tasks of a creative nature. During training their rate of mastering knowledge is high enough, they know how to regulate their work, they show interest in independent activities that are not stimulated from

the outside. Such students quickly respond to innovations, develop intellectual creativity both theoretical and practical. They are capable of self-training and reflection in the learning process. Table 1 presents the results of the study, demonstrating the dynamics of the professional competence of students before and after implementation of the practice-oriented model of education.

Table 1. Distribution of students with different levels of professional competence during the practice.

Levels	Before implementation of the practice-oriented model of education		After implementation of the practice-oriented model of education	
	Number	%	Number	%
High	124	20	245	40
Average	390	64	302	49
Low	98	16	65	11

According to the data received, before the implementation of practice-oriented model of education only 20% of students showed a high level of ability to cope with difficulties and develop solutions. They also demonstrated independent activity and innovations. Most students - 64% - demonstrated professional competence at the level of the functional performance: they performed practical activities without analysis and critical reflection, showed independent actions, but only within the framework of clearly defined tasks. 16% of students during training activities showed low need for self-education, low skills of self-regulation of educational and practical activities.

After the practice-oriented model of education was implemented, we conducted control study of the level of education of professional competence at the stage of graduating practice. We found a statistically significant increase in the proportion of students with high level of professional competence ($\chi^2_{exp} = 6.878$). Another finding was a 5% decrease in the proportion of students with low level of professional competence.

4. Outcomes

The data demonstrate the effectiveness of the practice-oriented model of professional training of students. Our important finding is that the implementation of practice-oriented training in the university is aimed, firstly, at approaching the needs of practice and life, and secondly, at creating conditions for the purposeful formation of competitive specialists.

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