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Application of flipped classroom technique in teaching bachelor students majoring in law

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Abstract

The article shares the experience of using the 'Flipped Classroom' model in a pedagogical university and examines the results of using this technique when teaching Multimedia Technologies. Theoretical, empirical, experimental methods and methods of

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quantitative and qualitative assessment of the results were used. As a result, blended learning is an effective method of improving the quality of students' training. In conclusion, it is such an organization of the learning process which supports the development of qualities and skills: cooperation, creativity, ability to solve problems, self-reliance, and ICT literacy. This provides an opportunity to support their development in each student.

Keywords: Blended learning, Creative contests, Pedagogical.

Aplicación de la técnica de aula invertida en la enseñanza de estudiantes de licenciatura con especialización en derecho

Resumen

El artículo comparte la experiencia de usar el modelo de "Aula invertida" en una universidad pedagógica y examina los resultados del uso de esta técnica al enseñar tecnologías multimedia. Se utilizaron métodos teóricos, empíricos, experimentales y métodos de evaluación cuantitativa y cualitativa de los resultados. Como resultado, el aprendizaje combinado es un método efectivo para mejorar la calidad de la capacitación de los estudiantes. En conclusión, es una organización del proceso de aprendizaje que apoya el desarrollo de cualidades y habilidades: cooperación, creatividad, capacidad para resolver problemas, autosuficiencia y alfabetización en TIC. Esto proporciona una oportunidad para apoyar su desarrollo en cada estudiante.

Palabras clave: Aprendizaje mixto, Concursos creativos, Pedagógico.

1. INTRODUCTION

Modern higher education is in a state of flux now, not only in Russia, but throughout the world. The high-quality level of higher education is the future of any country, its stability and its prosperity.

Under the conditions of constant economic and social changes, it is very important to enable future specialists to perform independent learning, update their knowledge themselves, and improve their professional qualifications throughout their lifetime.

The analysis of the modern goals of higher education, the conditions for achieving new educational results show that one of the most important characteristics of the development of the general education system is the strengthening of the fundamentality, consistency, and integrative content (SAMERKHANOVA & OMAROVA, 2016). Recently, in the system of higher vocational education, there has been a tendency to reduce the number of classroom hours in the educational process of a higher education institution with an increase in the volume and complexity of educational material. According to the results of the research, 80% of students studying in higher education institutions need a tutor or some practical advice, while 95% need real help (SEREGINA, 2017).

It should be noted that most of the works are focused on the specifics of the organization of this process and the preparation of tasks. However, thorough research on the implementation of this technique into student's independent work has not been carried out well enough. The purpose of the article is to investigate the results of using the Flipped Classroom technique in the learning process in teaching Multimedia Technologies of the Information Technologies educational module for law students enrolled in the Nizhny Novgorod State Pedagogical University named after K. Minin. As part of this

study, an answer is given to the question of whether it is possible to work with modern students who are easily oriented on the Internet using an inverted class technique, whether this technique will give an advantage over the traditional form of education. To achieve it, the following tasks were identified: to analyze the concept of the Flipped Classroom model as a modern educational technique; consider the features of the use of this pedagogical technique in students of the universal bachelor degree; show the effectiveness of the use of technique Flipped Classroom in the classroom on the subject Multimedia technologies.

2. METHODOLOGY

In order to modernize domestic education in Russian universities, a universal baccalaureate system has been introduced; the introduction of a modular training system has begun. At the Nizhny Novgorod State Pedagogical University named after K. Minin (NSPU), this training model has been tested since 2016; the system presupposes that during the first two years of study students will receive general basic knowledge necessary for the bachelor's degree, and simultaneously special attention is paid to practical vocational training, where conditions for the construction of an individual educational trajectory for a student in the process of professional subject activity are created and required competences are monitored and developed (SAMERKHANOVA & OMAROVA, 2016).

When designing the educational programs of the universal baccalaureate, the developers took into account the global and domestic trends in the professional training of future specialists during the transition to the information society. According to the training system, students developed the Information Technology module. The program of the module is focused on the formation and development of professional readiness for the implementation of activities established by the professional standard, and the general cultural and general professional competencies established by the FSES. The module contains the basic part (Informatics and ICT) and the optional part of educational disciplines (Multimedia technologies, Internet technologies, Computer graphics, Fundamentals of programming, World information resources), which provides students with the opportunity to build their individual educational program in accordance with their interests and abilities. The module is studied in the first or second semester of the first year (KRUPODEROVA & BRYKSINA, 2018).

The module objective is to create conditions for students to acquire practical skills for the effective use of various types of information technologies in their daily and professional lives. The module's design is based on the systemic, activity-based and student-centered pedagogical approaches, which presuppose the organization of an educational process aimed at acquiring meta-competencies by students thereby developing their creative potential. The diagnostic study was conducted over two years (from 2017 to 2018) at the Nizhny Novgorod State Pedagogical University and covered about 80

undergraduate law students who were studying the subject Multimedia technology from the module Information Technologies.

The theoretical ground for the study was based on the works by Baker, etc. In the course of the study, a complex of theoretical (literature analysis), empirical (study and synthesis of pedagogical experience, educational results, questionnaires, testing, interviewing), experimental methods and methods for quantitative and qualitative assessment of the results obtained were used.

The Information Technologies module is studied in the first or second semester of the first year. The discipline Multimedia technology refers to the optional part of the module and consists of classroom work with a teacher (24 hours), contact independent work (12 hours) and extracurricular independent work (36 hours). This discipline, like other disciplines of the module, aims at developing general cultural and general professional competencies. The purpose of this discipline is to create conditions for mastering modern methods and tools for processing multimedia information (Kang'ethe, 2015).

3. RESULTS

The information and educational space for the discipline Multimedia technologies is a system of independent creative tasks supplied with didactic materials, aimed at the formation of educational results (Table 1).

Table 1: System of independent creative tasks for the discipline Multimedia technologies

Educational results of the discipline	Competences	Assessment means
Demonstrates knowledge of multimedia information processing tools, evaluation and efficient use of ready-made multimedia products Demonstrates the skills of working with graphic, sound, video information in the subject informational environment, the information environment of the university, the Internet, as well as the ability to use the appropriate tools for creating one's own information environment	OK-3: the ability to use natural science and mathematical knowledge for orientation in the modern information space OPK-13: the ability to solve standard tasks of professional activity on the basis of information and bibliographic culture using information and communication technologies and taking into account the basic requirements of information security. OPK-5: ability to use modern computer and information technologies in professional activities	Assessment of the products of the project activity Criteria for assessing the performance of laboratory work Creative task Tests in an open electronic system

The organization of independent work in this discipline is based on the principles of the development of creativity, self-education, critical thinking, contextual learning, the project method using the Flipped Classroom technique (Table 2.). Independent work on this discipline of students is planned in the electronic educational and methodical complex located in the Moodle environment. For each creative task, methodological recommendations, links to video tutorials are presented, additional materials are offered, educational materials are presented, a reflective survey is organized, and at the end

of each topic students are offered a reflexive questionnaire, the learning problems encountered are discussed in the chat and on the distance course forum (DUDYSHEVA & ROMANOVA, 2016).

Table 2: Content of students' independent work

Topics	Creative project
Part 1. Hardware and software multimedia means	
Topic 1.1. Hardware multimedia means	Creating a shared document
Topic 1.2. Raster and vector graphics	Creating animation Making a collage
Topic 1.3. Sound and video	Creating a video clip
Topic 1.4. Creating a presentation	Creating a presentation
Part 2. Multimedia and the Internet	
Topic 2.1. Online multimedia means	Creating a shared mental map
Topic 2.2. The common use of media files on the internet	Creating a google-site

Revealing a student's creative potential is impossible without a reflexive tool, which is actually interconnected with creative qualities. Reflection, in this case, acts as a mechanism of creativity, ensuring the development of an original solution and criticality as the basis for rational decision making (CHELNOKOVA & KUZNETSOVA, 2017).

M. Lebrun, one of the authors of the book Blended/flipped Pedagogy wrote that flipped learning was not a new method, but rather a new way of thinking, the purpose of which was to optimize classroom work with students with the help of extracurricular activities focused on an in-depth study of a discipline. In general, the essence of the flipped classroom technique is the rearrangement of the key

components of the educational process. According to B. Bloom's revised taxonomy, this model means that students perform lower levels of cognitive activity (such as gaining knowledge, mastering the simplest techniques) outside the audience, focusing on understanding higher forms of cognitive activity (application, analysis, synthesis, evaluation) in the class (MAKAROVA, 2016).

Using the technique of blended learning solves several methodological problems at once: increases motivation in studying the discipline; introduces student-friendly forms of independent work; not only boosts effective work for room students but also provides absent students with online work; develops virtual academic mobility of students as they can get acquainted with the experience of teaching processes in other universities; offers a variety of educational technologies for use in future professional educational activities (BULGANINA, GOLUBEVA & LEBEDEVA, 2017). The use of the Flipped Classroom technique along with multimedia technologies helps the teacher to more effectively organize the learning process: to increase the learning motivation of students; to use a student-friendly form of independent work; to more work of room students more effective and load absent students with online tasks; to provide students with virtual academic mobility.

The analysis of the results of monitoring the final testing of the discipline in the Moodle distance course over the past two years showed a positive trend in the results (the number of students who scored more than 75 points out of 100 increased by 12%). The analysis

of the results of the rating assessment of the final certification for the discipline Multimedia technologies showed an increase in the quality of student learning by 7.8%.

During experimental and practical work, indicators of the development of general professional competence among control groups were monitored. The conclusions were made on the basis of expert assessment and students' self-assessment. Self-assessment of students and a level of their general professional competence is shown in Figure 1. It should be noted that in the experimental group the number of students with a low level decreased by 7.4% and the number of students with a high level of general professional competence increased by 4%.

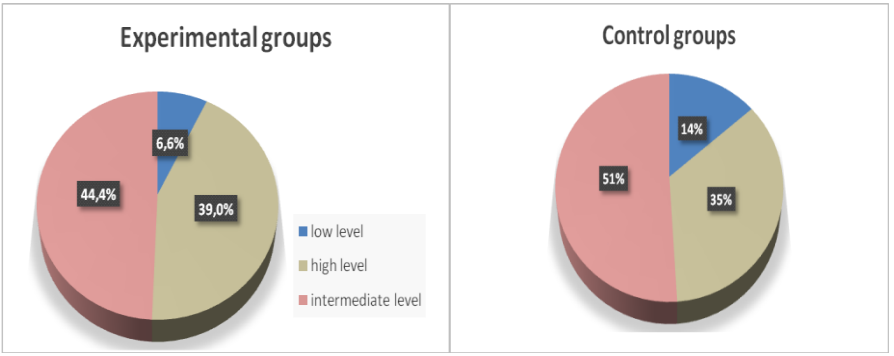

Fig. 1: Students' self-assessment of professional competence

4. DISCUSSION

The model of open education proceeds from an understanding of the openness of the world, the processes of cognition and education of a person. Education is less and less confined to a specific educational institution, it becomes independent from the time and place of study. Education is increasingly shifting from the formal format to the informal one. This process has especially accelerated in recent years with the advent of massive open online courses and activation of the movement for open educational resources. The organization of training can be built with the inclusion in the academic disciplines of activities involving the participation of students in educational and research projects of outside organizations, regional and all-Russian student conferences.

Independent work of students in high school has serious disadvantages. First, it is the inability of students to organize their independent work. The lack of skills in planning, self-organization, and self-control leads to the fact that students' creative work is performed at a very low level at the very last moment, often taking advantage of the work of more successful classmates, possibly parents, compiling well-known textbooks, even downloading similar work of low quality from the Internet. Secondly, the lack of elementary skills of working with a book, reference books, inability to withdraw the main thing, to conduct a comparative analysis, to perform creative tasks.

The use of the flipped classroom learning technique solves many problems of the learning process at a higher education institution. There are several reasons for using it: a Flipped Classroom contributes to better learning, improves interaction with other students and teachers, and develops critical thinking; the student is more active; audience time is spent more rationally. Many works devoted to this pedagogical technique, by KVASHNINA & AZHEL (2016), describe its advantages and disadvantages. The main advantages include high productivity, increased self-organization; the opportunity to work with educational theoretical material at an individual pace at a convenient time; development of meta disciplinary competencies, autonomy, self-development skills.

The main disadvantages of the Flipped Classroom include the additional burden imposed on the teacher on the organization of the educational process; the requirement of serious preparation, high discipline and information culture expected from the student; the lack of personal contact with the teacher; there is no guarantee that all students will do their homework and come prepared (MAKAROVA, 2016). There are several types of blended technique: the classical form implies a preliminary explanation of the theoretical material for the upcoming lesson (video, presentation, audio lecture), and then the teacher organizes a discussion of the study material in the classroom; An advanced model means that students independently prepare for a given topic and post the results on a collaborative electronic platform so that the teacher and other students have the opportunity to see them in advance and better prepare for the lesson.

5. CONCLUSION

The goal of learning the opposite is, in essence, the transfer of students from passive to active learning. At the same time, the teacher should strive to involve students in such types of educational activities that would form their ability to develop self-education and self-development, improve academic autonomy, promote the development of cognitive, creative and research skills, expand the boundaries of their culture, horizons, and consciousness. These types of learning activities stimulate the development of deeper and more conscious thinking, including analysis, synthesis and reflection.

The main advantage of the inverted learning technique lies in such an organization of educational work, which supports the development of qualities and skills of the 21st century: cooperation, creativity, ability to solve problems, independence, ICT literacy, etc. It provides an opportunity to support the development of each student.

Based on the analysis, it can be concluded that in the course of using the Flipped Classroom technique in the discipline Multimedia technologies, students successfully form general cultural and professional competencies, develop cognitive activity, creative abilities, reflective culture, the level of awareness of the students in the process of self-regulation of university education is increased. The practical significance of this study is that the basic concepts and conclusions can be used in the pedagogical practice of higher

education to optimize the learning process of students, are of interest to teachers and specialists of different educational systems.

Flipped classroom learning is an effective method of improving the quality of professional training of students, which motivates tutors and teachers to develop professionally, improve teaching methods, expand educational strategies, and introduce new technologies. Flipped Classroom technique has greater flexibility and provides greater involvement of students in the learning process, allows to create a dynamic and creative environment where students learn to solve tasks together, develop their critical thinking, initiative, self-discipline, social responsibility.

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