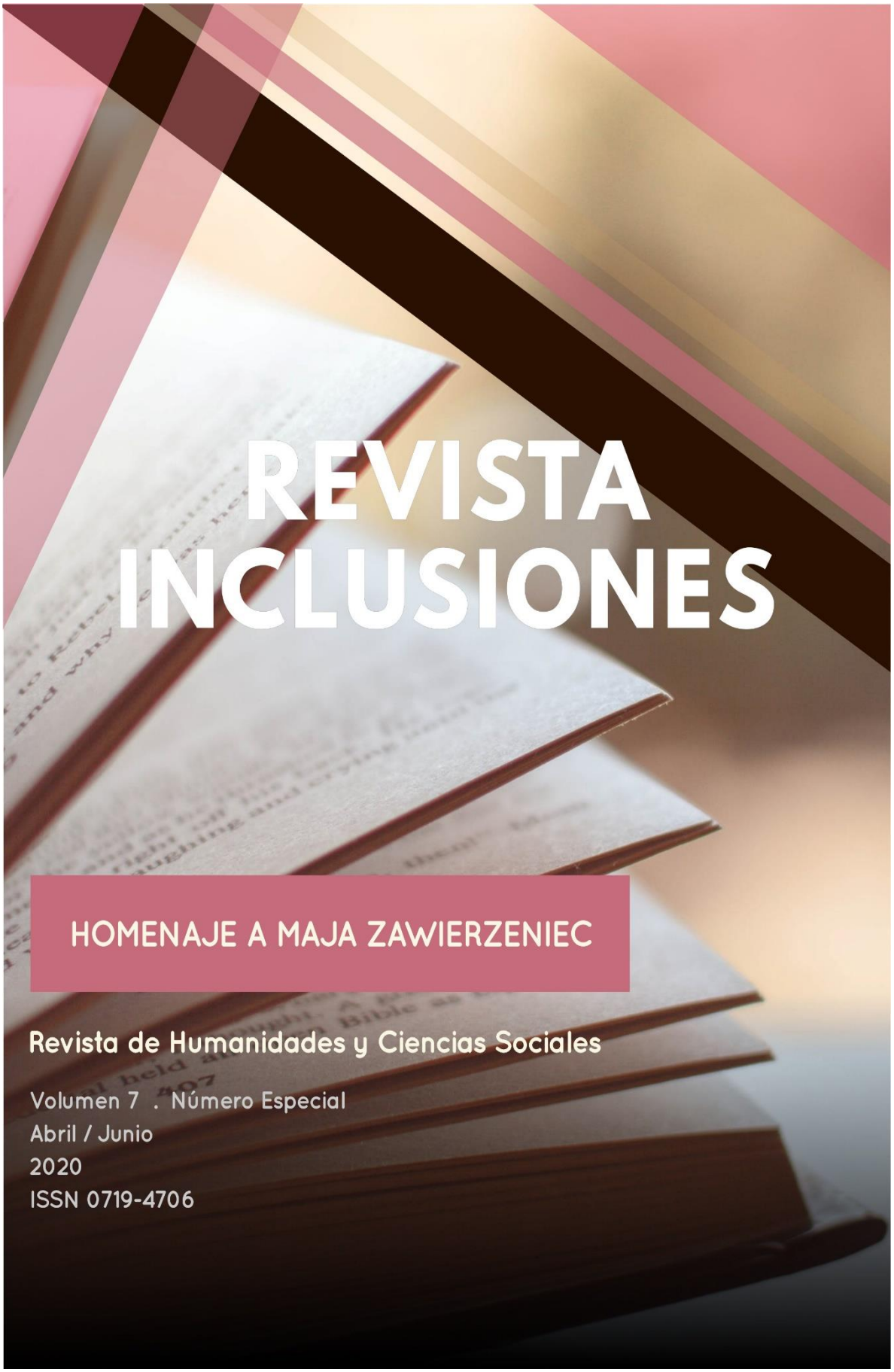

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ORGANIZATION OF STUDENTS' INDEPENDENT WORK THROUGH THE ACTIVE USE OF DISTANCE LEARNING TECHNOLOGIES IN TECHNICAL UNIVERSITIES

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Abstract

The article discusses the reasons for increasing the role of independent work of students on educational material and strengthening the responsibility of teachers for its successful implementation, as well as the principles of successful organization of students' independent work are distinguished. Special attention is paid to the degree of efficiency and expediency of use of such creative task as the abstract in the educational system in modern conditions of Internet availability of any information. The organization of independent work of students is carried out through the active use of distance learning technologies implemented through the open information and educational environment of the University. Under such conditions the effectiveness of its organization determines the quality of the entire educational process and the formation of professional competencies.

Keywords

Independent work of students – Technologies – Electronic course – Work

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Introduction

The solution of the priority tasks of professional education in Russia is connected with the increase of the role of independent work of students on educational material and the strengthening of the responsibility of teachers for its successful implementation. Independent work helps to transfer a student from a passive consumer of knowledge to an active creator of knowledge, who is able to formulate a problem, analyze the ways of its solution, choose the best option and prove its effectiveness.

At a time when the number of classroom hours has decreased significantly in all disciplines, and the requirements for graduates have increased, teachers and students found themselves in a difficult situation when the number of classroom hours in a particular discipline does not meet the requirements for professional training of graduates. Therefore, under these circumstances, reducing the classroom load at times increases the independent work of students.

Nowadays, modern society pays great attention to the availability, quality and effectiveness of training in the educational sphere, which is possible in the implementation of the fundamental principles: self-education is the leading function of the educational process; individualization as the basis of training; compliance with the principle of visibility and entertainment of training; orientation to the practical tendency of the educational process; guaranteed results of education[1].

The increased importance of independent work along with the other types of educational activities is determined by many factors. The necessity of taking into account the individual characteristics of students should be considered among which are: differences in level of readiness of students to perceive educational material on a particular subject, differences in pace, style and character of individual activities, the differences in the value attitude of students to the discipline, the desire of students to self-manage their personal time[2].

The requirements of the federal state educational standard of the new generation provide for the amount of independent work of students from 1/3 to 2/3 of the total amount of educational time allocated for the study of a separate discipline[3]. Another reason for increasing the importance of independent work of students is the active development of information and educational environment of the University, the use of distance education technologies. Under such conditions, the effectiveness of its organization determines the quality of the entire educational process, the formation of professional competencies[4].

[1] S. M. Markova, Engineering and pedagogical education: Methodology, theory, practice: Monograph (N. Novgorod: VGIPU, 2008).

[2] E. A. Kostyleva, Preparation of students for professional and pedagogical activity by means of interaction technologies: abstract, dis. cand. ped. sciences (Nizhny Novgorod: Volzh. state engineering-pedagogical academy, 2005).

[3] D. S. Kostylev; E. Yu. Salyaeva; O. I. Vaganova y L. I. Kutepova, "Implementing of requirements of Federal state educational standard to the operation of an electronic information-educational environment of Institute", Azimuth of research: pedagogy and psychology Vol: 5 num 2 (2016): 80-82.

[4] A. V. Gushchin y O. N. Prokhorova, "Formation of electronic information and educational environment of Minin University at the first stage of the project "UE: E-learning and electronic educational environment", Bulletin of Minin University num 3 (2015).

Methods

Realization of independent work is possible if students have the skills to study independently. The problem of formation of students' skills of self-educational activity stands out as one of the most important and determines the restructuring of the entire educational process in the University[5]. A research of the question of the organization of independent work of students was being conducted by S. I. Arkhangelsky, E. Y. Golant, M. A. Danilov and others[6].

For successful organization of independent work of students it is possible to allocate the following principles:

• Consistency, which means that the organization of independent work of students must be approached systematically: the content, forms, methods, means of its implementation must meet the general goal, and the results are tracked by specially developed criteria[7];

• Modularity. The content of independent work on the study of the discipline is divided into relatively independent modules corresponding to the training modules allocated in the discipline[8];

• Structuring the content of independent work into relatively independent elements corresponding to the educational elements in each educational module of the discipline;

• Activity. Each element of independent work should provide for the inclusion of students in specific activities that correspond to the content of the studied educational element and contribute to the formation of skills of independent work[9];

• Manageability. Independent work of students should be managed at any level of education. This is necessary in order to teach students to independently manage their activities. The leading role in the implementation of management of independent work of students belongs to the teacher, who, in the process of implementation of each module of independent work, clearly carries out the main management functions (analytical,

[5] M. L. Gruzdeva, "The content of the concept of "information culture", Privolzhskii scientific journal num 1 (2008): 178-182.

[6] D. S. Kostylev y E. A. Kostyleva, "Independent work of students in the system of distance learning MOODLE in the disciplines of mathematical and natural science cycle", Scientific research: from theory to practice num 2 Vol: 3 (2015): 226-228; L. Yu. Krilishkova y L. I. Kutepova, "Professionally important qualities of personality of a specialist in the field of housing and communal services", Vestnik of Severo-Kavkazskiy humanitarian Institute num 1 Vol: 5 (2013): 261-264; M. M. Kutepov, Technology of formation of professional skills of future specialists in the field of physical culture: thesis for the degree of candidate of pedagogical sciences. Nizhny Novgorod. 2003 y M. M. Kutepov, Implementation of the project of passing of standards of Ready for Labor and Defense in high school. In the collection: Physical culture and a healthy lifestyle of student youth (Saratov: Proceedings of VII Intercollegiate scientific and practical conference, 2015).

[7] O. I. Vaganova y O. E. Ermakova, "System-activity approach in development of professional pedagogical education", Bulletin of Minin University num 4 Vol: 6 (2014).

[8] M. M. Kutepov, Technology of formation of professional skills of future specialists in the field of physical culture: abstract of the thesis for the degree of candidate of pedagogical Sciences (Nizhny Novgorod, 2003).

[9] L. I. Kutepova, Didactic conditions of formation of professional competences. Modern tendencies of development of technical and economic education (N. Novgorod, 2014).

prognostic, organizational, controlling, correctional), pays attention to the correctness of their implementation, teaches students self-government[10];

• Interrelation and complementarities of the contact independent work performed by the student under the direct supervision of the teacher in the classroom, and non-contact, performed without direct contact with the teacher, but according to the tasks prepared by him, using the didactic equipment of independent work created by him. Contact independent work should prepare the student to perform non-contact work. The student learns to perform the necessary actions under the direct supervision of the teacher at the lesson, which constitute his independent work on the assimilation of a certain educational element, realizes the personal importance of mastering these actions and prepares to perform these actions without direct contact with the teacher. Results of non-contact independent work of students should be checked by the teacher and on their basis the organization of contact independent work is corrected[11];

• Diversity of didactic support of independent work of students. For students being actively included in independent work it is necessary to create its didactic maintenance beforehand[12]. The technological map of the discipline should contain information about all types of independent work, requirements for their implementation and evaluation criteria. For the organization of contact independent work tasks on paper or electronic media should be developed. For non-contact independent work tasks can be exhibited on the website of the Department and provided with guidelines, recommendations, memos, samples of design[13]. Significant assistance in the implementation of independent work is provided to students by educational and methodical manuals, task books on problem solving, containing the necessary theoretical information, questions for self-examination of knowledge, samples of tasks for independent work, individual tasks, and samples of problem solving[14]. The organization of independent work of students is carried out through the active use of distance learning technologies implemented through the open information and educational environment of the University. The most effective way to organize independent work of students is the development and implementation of electronic educational and methodical complexes on the basis of the distance learning platform LMS Moodle (Learning Management System Module object-oriented dynamic learning environment). The LMS Moodle platform is the most popular distance learning system and contributes to the qualitative implementation of various types of independent work, the organization of group and individual work of students[15].

[10] D. S. Kostylev; E. A. Kostyleva y G. I. Kabad'ko, "Methodical system of quality control of teaching disciplines of mathematical and natural science cycle of students in the conditions of distance learning", Historical and socio-educational thought num 7(5-1) (2015): 238-242.

[11] D. S. Kostylev; E. A. Kostyleva y L. I. Kutepova, "Organization of information environment in the system of additional professional education in the conditions of distance learning", Prospects of science num 4 Vol: 67 (2015): 23-25.

[12] O. I. Vaganova; A. V. Khizhnaya; E. A. Kostyleva y D. S. Kostylev, "Portfolio as a tool for assessing students' achievements", International journal of applied and fundamental research num 4 (2016).

[13] M. M. Kutepov; L. I. Kutepova y O. A. Nikishina, "Corporate culture of student sports. Modern science-intensive technologies Vol: 1 num 1 (2016): 129-132.

[14] L. I. Kutepova, Didactic conditions of formation of design skills of students of construction specialties of secondary professional education: dis. cand. ped. sciences (N. Novgorod, 2002).

[15] O. I. Vaganova y A. V. Khizhnaya, "Evaluation of educational results of University students in the electronic environment Moodle", Society: sociology, psychology, pedagogy num 1 (2016): 93-94.

One of the key issues in the system of modern education is the control of students' knowledge. There are various forms of knowledge verification, but the question of the degree of their effectiveness remains open. Nowadays in the Federal state educational standard, considerable attention is paid to the Fund of evaluation means of an educational organization as a system of assessing the level of competence of students. The evaluation tool is understood as a unit of control material, which varies in content elements, as well as in the degree of complexity and, thus, allows you to check the actions performed by the subject[16].

All valuation tools can be divided into three large groups. The first group is represented by the tasks of the reproductive level, which allow determining the students' knowledge of the actual material, the degree of possession of the conceptual apparatus, the ability to recognize the objects of study within a particular module of the discipline. These are test tasks of different forms, elementary tasks to perform specific actions, simple tasks solved by a given algorithm, and others.

The second group of evaluation tools is tasks of the reconstructive level, that is, tasks that allow assessing how the student is able to analyze, combine and summarize the material passed, establish logical chains, draw conclusions. Such tasks include complex control work, tasks for decision-making in a non-standard situation and others.

The third group of assessment tools is formed by creative tasks, which, unlike the first two, allow students to generalize their knowledge from different scientific fields, solve dilemmas and make original decisions, argue their position. An example of such tasks can serve as abstracts, essays, reports, research and others. And it is creative tasks, as the practice of teaching in high school shows that cause the greatest difficulties for the controlled students.

Such creative task as the abstract is considered in this article regarding the degree of efficiency and expediency of its use in the educational system in modern conditions of Internet availability of any information.

Abstract is one of the most common secondary genres of scientific style in educational and scientific practice. It is a written creative work partly of a research type, based on the students' study of a significant number of diverse, primarily scientific literatures. The ability to generalize the material selected by the writer on a given topic and to concisely present it in the written form is traditionally controlled with the help of the abstract.

Depending on the purpose of the task, the student can create both a productive and reproductive form of presentation of the material. As a rule, students choose reproductive forms: abstracts-notes or abstracts-summaries that do not involve critical analysis of primary sources. In such abstracts, it is enough to competently reproduce the information from the original texts.

Productive abstracts (abstracts-reviews and abstracts-reports) are more complex, as they require an analytical approach, an objective assessment of the literature studied.

[16] L. K. Gabysheva, Methodological recommendations on the formation of funds of evaluation means for assessing the quality of development of the basic professional educational program of secondary/primary vocational education (Tyumen: Publishing centre, TSOGU. 2013)46.

Of course, the creative component is most pronounced in the productive forms. However, it persists in productive essays, as it reflects partly the subjective view of the writer on the subject of speech.

Students begin to get acquainted in detail with the genre of "abstract" in the secondary educational level. Almost all school courses assume independent work with scientific literature. Accordingly, the main form of control of this type of educational activity becomes an abstract. Nevertheless, despite the logical use of this form, there is an obvious tendency to reduce the frequency of application of the abstract in the educational practice. This is directly related to Internet borrowings.

Modern schoolchildren and students have a wide access to electronic scientific resources, abstract databases. There was a temptation of assignment of another's text. "Downloading" of the ready-made scientific products, on the one hand, saves time of the student, on the other hand, does not require mental costs. Teachers and lecturers are faced with the fact that many schoolchildren and students do not even bother to read the downloaded products, and accordingly do not know the subject of the abstract and cannot answer questions on the topic of work.

Results

The survey of the first-year students (yesterday's leavers of secondary educational institutions) of the city of Surgut (branch of the Industrial University of Tyumen in Surgut, the Surgut State University, the Surgut State Pedagogical University) showed that 97 % of respondents have a positive attitude to the use of works extracted from Internet resources in their educational process. Moreover, most of the students surveyed do not consider such borrowing as plagiarism.

The question arises: is it appropriate to use the abstract as one of the main evaluative means of control of the creative nature in the modern educational space? In our opinion, it is not necessary to refuse the abstract in educational and scientific practice. If you correctly formulate the task, set a specific goal for students, then with the help of the abstract, you can solve a number of problems. In particular, it is possible to control the level of formation of general communicative skills developed both by school and University. These skills are:

1) The ability to select material on a given topic;

2) The ability to work with primary sources (to select and systematize material);

3) The ability to highlight the main thing, analyze, summarize;

4) The ability to competently present the material in writing;

5) The ability to control the created text.

In addition, each composite part of the abstract clearly reflects how well the task is performed, and allows you to properly assess the work of the student. Table 1 below shows what this ratio looks like.

Structure of the abstract	Estimated components
1.The abstract title	Correspondence of the abstract topic to the content
2.Plan	Knowledge of the rules of categorization, design of lists
3.Introduction	Understanding of the main tasks of the given part of the abstract (the ability to formulate the purpose, objectives of the work, explicate the conceptual apparatus)
4.Main part	Ability to create the text in terms of the following characteristics: • Logicality (the presence of logical errors, violation of causal relationships, repetition of thoughts, etc.); • Accuracy (actual errors); • Compactness (ignorance of the methods of compression); • Language competence (presence of spelling, punctuation, grammar, speech errors); • Correctness in the evaluation of the material
5.Summary	Ability to generalize
6.List of references	Depth of study of the topic

Table 1
Compositional Control

As a rule, the abstract also involves an oral form of presentation. This form of work explicates not only the degree of having a good command of the material and independence in the creation of the text, but also knowledge of the basics of rhetoric. Oral speech is thought over in advance by students and with more careful preparation and rehearsed. Accordingly, public speech allows you to evaluate the ability of the speaker to competently present the material, clearly and argumentatively make a speech, the ability to hold in front of the audience and the ability to answer questions. Thus, the abstract is justifiably an effective evaluative tool.

Analysis of The Results

Based on the above, we can say that active independent educational work of students without the participation of a teacher is possible only if there is a serious and stable motivation. There are many motivating factors of independent work of students and one of them is the usefulness for the educational process. If a student knows that the results of the work performed will be used in a lecture course, in a manual, in a laboratory workshop, in the preparation of a publication or otherwise, then his attitude to the task and its quality significantly changes for the better.

Another use of the utility factor is the active application of the results of independent work in the professional training. For example, if a student has received a task for a final qualifying work at one of the junior courses, he can gladly perform independent tasks in a number of disciplines, which will then be included as sections in his final qualifying work.

Conclusions

Thus, it can be concluded that the effectiveness of the organization of independent work of students is provided if the following psychological and pedagogical conditions are present: the diagnosis of personal characteristics of students, the definition of the content, forms, methods and means of organization of independent work, monitoring and evaluation of the results of tasks. And it is also very important to create the following organizational and pedagogical conditions: the development of internal motivation of

students to study; the presence of cognitive interest of students to the process of obtaining knowledge, sufficient knowledge for the organization and implementation of extracurricular independent work, the acquisition of skills for self-organization of extracurricular independent work of students.

The improvement of education cannot be realized on the basis of traditional forms of knowledge processing and adapted teaching methods. The transfer of knowledge and its acquisition are currently based on advances in technology. Thus, the developed e-courses on the platform of distance learning LMS Moodle allow you to create a fundamentally new educational environment that activates the independent work of students, carrying out an interactive dialogue between the user and the information system implemented through multimedia.

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