
**IN ORGANIZING INDEPENDENT EDUCATION OF STUDENTS
ANALYSIS OF THE METHODOLOGY OF USING WEB TECHNOLOGIES**

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Annotation:

This article is intended for technical students and provides information on the methodology of using web technologies to organize independent education. The research proves that the use of web-based technologies can increase the effectiveness of science teaching and improve the academic performance of students inside and outside the classroom. It is known from experience that introducing the practice of using web technologies for independent thinking and creative work among pedagogues and students is one of the important tasks. Technical students offer valuable insights into the potential benefits of using web technologies to facilitate the management of independent learning organizations.

Keywords: web technologies, independent education, methodology, objective component , case, media, information technology , multimedia resources, presentation, experimental.

Introduction:

In the modern world, the field of production is constantly developing. For the production sector, the issue of technical personnel is in the first place. For this purpose, the development of independent education in higher education institutions and pedagogues always require the organization of independent education and its supervision. To do this, teachers look for new ways to support students' learning and improve their academic performance. The rapid penetration of information technologies into all aspects of society's life has created an opportunity for many members of society to independently improve their knowledge and skills, master new types of activities, and conduct activities in a wide range of areas. At the same time, this possibility is considered as a social and economic necessity. This event made it necessary to pay more attention to the issue of organizing students' independent activities. In this way, a new main goal of education in the information society was formed and rapidly introduced into educational practice: that is, education in the information society is the search for knowledge by the individual, the ability to use various information sources. nikmasi and independently develops self through knowledge .

Goal Setting – It is the process of clarifying the goal by vividly imagining the perfect result . There is also the fact that the priority of a certain point of view was not observed in the issue of goal-setting methodology in educational processes. For our research, we have chosen one variant of this methodology given in successive stages (Table 1).

Stages of using the method in goal setting

Implementation steps	It answers the question posed
Transferring the goal from the theoretical level to the technological level	What should be achieved?
To take into account both the substantive aspect of the activity and the organizational aspect	Why is it achieved?
Reflecting on the degree to which the pursuit of the goal is progressing	How to measure the result?
Conditions for diagnosis of future educational activities in order to achieve the goal	What conditions?
Determining the means to achieve the goal	What is needed?
Determining the algorithm of activities to achieve the goal: a clear guide to achieving the goal, action steps	How to achieve?
The teacher should predict the main goal and correct them in such a way that the social goals of the learners should be in harmony with each other without going into conflict.	How should it be agreed?

Is the most important factor in introducing students to the essence of technology, given the current state of web technologies and requirements introduced by employers . In order to organize independent work at a more efficient level, more modern systems that implement its information supply are needed, in addition, in order to ensure the maximum use of this information, students need to improve the information in terms of quality, quantity, volume and content. .

A promising goal involves a predictive approach to the organization of students' independent work, which, in turn, requires taking into account the processes of emerging trends in the generation of web technologies in the field of Internet services.

Also, as the basis of the preparation stage, we have brought again laws, approaches and principles.

Here we turn to the essence of the laws of didactic educational processes.

The effectiveness of the educational system requires theoretical knowledge of the laws related to the passage of these educational processes. The legality of education is considered as an expression of the action of laws in certain conditions. That is, the educational law is the

objective, stable purposeful connections between the components and components of the educational process.

The content of independent work on information technologies will consist of theoretical material and its presentation, laboratory work, training courses, training project and information base. The information will be aimed at ensuring the introduction of web technologies to the organization of independent work on information technologies .

Independent work on information technologies can be organized in the following forms:

- outside the auditorium (working with web technologist services, preparing for participation in training courses, developing projects and self-monitoring);
- in the auditorium (subject and current control, presentation of case or course materials to the teacher, project protection, final control);
- individual (work with web technologies service, preparation of materials for participation in cases or training courses, project development, preparation for project defense, self-control, preparation for final control);
- collective with the group (working with the web-technology service, discussing and editing the case, evaluating the case).

The types of activities include educational activities such as working with web technology services of students, preparing educational cases, preparing educational projects, and preparing for control activities.

Supervision is self-assessment, self-analysis, self-monitoring and analysis of their educational activities performed by students during independent work. refers to control actions such as

Literature review. Several studies have been conducted on the use of web-based technologies in education and their effectiveness in improving student learning and academic performance. Here are some related research studies:

"Organization of students' independent work using web 2.0 technologies" Shegoleva AV The use of Web 2.0 technologies allows students to independently improve their language skills, to teach in offline mode, and to provide future specialists of the modern information society with additional professional orientation and provides qualitatively new skills. With Web 2.0 , you can collaborate and post text and media information on the web [1].

" Web-technologies as a means of developing the independence of university students " Lyubimova YM Khisamyeva RM The article examines the problems of using web technologies as a means of development. The independence of university students is suggested to be contributed by web technologies . It allows to develop the independence of university students and increase the effectiveness of education [1] . The capabilities of modern web technologies are shown to be effective in organizing independent education, and special attention is paid to remote control tools in the independent activities of students. Web technologies for education , training purposes , and individual plans for professionals . The

article focuses on the development of students' abilities based on web technologies . In order to improve the qualifications of teachers in the field of production, a methodological guide was developed for independent work of students based on web technologies [2] .

These studies show that web-based technologies can be effective in improving student learning and academic performance in a variety of educational settings. Research highlights the importance of providing students with a variety of resources and opportunities for self-management to achieve academic success[3].

Analysis and results.The analysis and results of the research presented in the article show that web technologies can be an effective tool to support independent learning among technical students.

The theoretical material is developed based on a person-oriented approach, necessary for the organization of independent work in the field of information technology for students of humanitarian education with the introduction of web technologies.

Each lecture is accompanied by a presentation. Multimedia resources are a promising and highly effective tool in the field of education. Electronic (educational) presentation - a logically linked sequence of slides united by a single theme and common design principles [2]. Multimedia presentation - is the organization of computer animation, graphics, video images into a single environment. Designing a presentation using information technologies requires compliance with certain didactic principles and scientific-methodological rules developed in traditional didactics, filled with new content when using information technologies. The choice of material for the presentation corresponds to the principles of science, availability and appearance.

Workbook sheets containing a set of exercises of different levels of complexity are also added to the theoretical material. They are used by us to optimize the activity of the listeners, to create positive motivation for learning through interesting tasks, and also to ensure self-control.

It is evaluated based on the criteria of evaluating students' work in lectures and transferring the accumulated rating to a 100-point scale . In the lecture, the student is evaluated with 1 point for attending and taking notes. For discussion of class questions, answers on the board, and active participation in report preparation, the student can be given 0.5 to 1 additional incentive point at the teacher's discretion. The criteria for evaluating the preparation of the report are presented in Table 2 .

Table 2 . Criteria for evaluating his readiness after the lecture

F action views	Points to be awarded
Search for information on the topic suggested by the teacher	1
Preparing a lecture and presenting it at a training session, a scientific seminar	3

Points for work in lecture classes are calculated according to the following formula.

$$R_{mon} = \frac{x}{n} 15 \quad (1)$$

where x is the number of classes in which the student participated and worked actively; n - the total number of lessons according to the curriculum.

Before starting to perform laboratory work, it is necessary to fully familiarize yourself with its content, and the theoretical material should also be carefully studied.

For each laboratory work, the following is indicated: topic, purpose, tasks, reference to the theoretical basis of the work, reporting requirements, tasks, control questions. The execution of each job is accompanied by the creation of a report file (report) containing the results of step-by-step instructions.

Each laboratory work is evaluated according to a three-point system. This assessment includes the following:

- to complete the work on time; absence of annotation errors;
- job protection.

Laboratory work is evaluated with a maximum of 3 points and a minimum of 1 point. Attendance at the lesson is evaluated with 1 point.

For laboratory work, points will be reduced for failure to complete or failure to complete one of the indicators with inconsistent quality. You must get at least 1 point to be accepted for credit for each work. The criteria for evaluating the performance of laboratory work are presented in Table 3 .

3 – table Criteria for evaluating the performance of laboratory work

Ball ar	Evaluation criteria
0	The work is not done
1	The work was not completed on time; there are errors; During the defense, a number of questions were not answered satisfactorily
2	The work was done on time; there are no gross errors, there are minor comments; some questions were not fully answered during the defense
3	The work was completed on time, there were no errors; During the defense, there are answers to all the teacher's questions.

The score for the laboratory work is entered in the rating book without translation. Actively working students who defend all tasks in advance in laboratory sessions will receive one incentive point.

"Learning work" menu, a description of the problem situation, symbols and their actions, requirements for the implementation of the work and the evaluation system for its implementation, and a list of additional sources of information for the task are presented.

To organize the collective work of students, the Google Groups service was used - a tool for teaching and group cooperation; creating records with the opportunity to discuss emerging issues; posting various notices. Online office is designed for publication and joint editing of text materials[3].

<http://docs.google.com> includes word processing, spreadsheets, presentations, forms, and document storage services.

The organization of assessment of tasks is carried out with the help of an expert table (both the students themselves and the teacher act as experts). The criteria for evaluating the performance of educational work are presented in Table 4 .

4 – table Criteria for evaluating the performance of educational work

Criteria	
Compliance of the content of the report with its purpose	
Text presentation sequence	
Use of information technologies in the presentation of material	
Work with information sources	
Organization of communication with the group	
Completion in %	Ball
From 0% to 25 %	2
From 26% to 50 %	3
From 51% to 75 %	4
From 76% to 100 %	5

As a tool for creating an expert table, the Google Tables service appeared, where the average value of student grades can be determined; conditionally format cells to automatically identify students who are above or below a certain threshold ; creating diagrams as a visual tool for analyzing monitoring results; providing general access to tables .

Research methodology. The methodology section of the article outlines the research design, participants, and procedures. The research used a quest test with a pre-test and post-test approach to investigate the effectiveness of web technologies in supporting independent learning among engineering students.

60 students of the engineering faculty of one of the universities in Uzbekistan took part in the research. Participants were divided into two groups: an experimental group (n = 30) and a control group (n = 30). The experimental group received web technologies to support independent learning, while the control group received no additional resources.

The study was conducted for eight weeks. At the beginning of the study, all participants took a pre-test to assess their knowledge of the course material. The experimental group was then

provided with web technologies, including online tutorials, videos and practical exercises. Students were instructed to use resources to support their independent learning outside of class. During the study, students in both groups attended the same lectures and received the same course assignments. At the end of the eight weeks, all participants took a test to assess their knowledge of the course material. In addition, the students of the experimental group were asked to express their opinions about the effectiveness of web technologies.

Pre- and post-test scores were analyzed to assess changes in student knowledge of the course material. The mean scores of the experimental and control groups were compared using an independent samples t test to determine if there were significant differences in performance between the two groups.

Students' opinions about the effectiveness of web technologies were analyzed using descriptive statistics. Feedback was also used to identify areas where resources could be improved.

Conclusion. In summary, the paper presents a study that examines the use of web-based technologies to support independent learning among engineering students. Research results show that the use of web technologies can improve students' understanding of learning material and learning performance.

The results of the study show that the experimental group that received web technologies achieved significantly better results on the test than the control group that did not receive additional resources. In addition, students' opinions about the effectiveness of web technologies were very positive, indicating that they found the resources interesting, informative and useful in learning.

are important for teachers and students . Using Web technologies can provide students with the resources they need to work independently and achieve academic success. Teachers should consider incorporating web-based resources into their teaching practices to facilitate independent learning and improve student academic performance.

The study proves that web technologies can be an effective tool to support independent learning among engineering students. The findings contribute to the growing body of research on the use of technology in education and highlight the potential of web-based technologies to support self-management and improve student academic performance.

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