

# Improving the Quality of Personnel in the Field of Technology Through the Effective Organization of Independent Education

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**Abstract:** In this article, the problems of organizing independent education, one of the main problems of higher education institutions transitioning to the credit module system, and recommendations for solving them have been developed. The article describes the problems of the effective organization of independent education in higher educational institutions in technology. In addition, the analysis of external and internal factors in the organization of effective independent education and effective use of Internet resources by students is provided.

**Keywords:** Independent education, credit module system, cognitive, individual education, modernization, effective independent education, conceptual model, online resources, competence.

## Introduction

The modernization of the higher education system sets the task of training specialists who can adapt to changing life conditions, acquire the necessary knowledge independently, and skillfully apply them in practice to solve various problems. This task can be achieved by improving the quality of education and students' independent work experiences.

The main problem of higher education institutions that have switched to the credit module system of rational organization of independent education is not solved. Since two subjects are involved in this process: a teacher and a student, developing an activity algorithm for each is appropriate.

## Methodology

Independent education is an integral and important form of learning. Its purpose is to develop students' knowledge and skills as the main professional competencies aimed at independent and creative solutions to technological and scientific problems arising in future professional practice. The relevance of the purpose and means of teaching, research methods, and ways of effective management of the process will be extremely high due to the independent work of the student. Independent education is an important component of the educational process, where skills and knowledge are formed, in addition, it gives students knowledge and methods of cognitive activity, interest in creative work, and ultimately the ability to solve technical and scientific problems. It is in the process of independent education that students have the opportunity to demonstrate their motivation, determination, self-will, self-confidence, self-control, and other personal characteristics. In this regard, it is important to plan, organize and implement the process of teaching a student at the university in the absence of a teacher. The educational process should be organized in such a way that students should be able to master not only the content of the taught subjects but also the ways of acquiring knowledge.

The main component of independent education is the transfer of responsibility for the learning process from the teacher to the student. Students are expected to gain insight into their own learning, be motivated to learn and work with teachers to create a learning environment. Independent education is not just about getting students to work; teachers play an important role in promoting and supporting independent learning.

The main problem is the need to organize independent work. In many students, analysis, recording, working with primary sources, expression, time management, taking into account the individual characteristics of their mental and physiological characteristics, the almost complete

absence of psychological training, independent work, and general rules of its organization there are great difficulties associated with not being familiar with.

It is known that currently, Central Asian higher education institutions are switching to the credit module system. At least 50-60 percent of credits given to subjects in the credit module system are independent study hours, during which the student must work independently. One of the biggest problems of any higher education institution that has switched to the credit module system is the organization of independent education and the improvement of the quality of independent work. In addition, this problem is exacerbated by the fact that students are not taught to work independently, they lack motivation, and they lack the necessary educational, scientific, teaching-methodical, and reference skills. Unfortunately, many students do not understand the essence of independent education.

Without the direct participation of the teacher, the student must learn to organize his activity, to regulate and control it from the point of view of information and the educational environment. There is a problem of awareness of the possibilities of using special information and educational Internet resources within the framework of independent work of students. Another problem is the difficulty of choosing between online educational resources and interesting ones.

The results of the study show that the way to choose the necessary resources on the Internet is chaotic. It is interesting that students send a query to search engines and go to different links, regardless of the source of information. Unchecked information remains previous, so it becomes difficult to perform independent work and, as a result, errors occur in students' independent work. How to search for useful educational information for students? In this case, the issue of organizing independent education is one of the most important. By addressing the issue of student awareness of the availability of online educational resources, we can avoid students' "chaotic wandering" in search of the material they need, thus reducing the use of unreliable and inaccurate resources.

On the one hand, in the modern information and educational environment, students have the opportunity to perform independent work using various educational online resources and software, and on the other hand, they have the opportunity to freely access information of any nature. There is an opportunity to increase their level of independent work on the Internet. It is necessary to increase students' knowledge in this regard, to create conditions for the effective organization of independent work among them in the information and educational environment.

It is known that independent education is organized differently in technical universities. In each of these universities, students are given different types of individual jobs. The choice of personal work mainly depends on the character and goals of the taught subject.

The conceptual approach to organizing the independent work of students studying in the technical direction requires turning the student from a passive object of education into an active subject of knowledge. Thus, a modern student should be able to formulate a scientific problem, find ways to solve it, determine the result(s), and prove its validity. Increasing the independence of students in the learning process increases the opportunities for individual education, taking into account the wider use of interactive methods in acquiring knowledge, the development of creative abilities of students, and their needs and abilities. The analysis of the curriculum shows that the hours of classroom training in higher educational institutions are gradually decreasing and, accordingly, the amount of theoretical knowledge provided is also decreasing. The main goal here is to prevent students from being overloaded during classes and to help them learn independently.

Effective independent education depends on a number of external and internal factors. External factors include establishing a strong relationship between teachers and students and creating a "friendly environment" where ICT can become an important element. Intrinsic factors are skills that specific students need to acquire. They include cognitive skills such as memory and concentration and problem-solving, meta-cognitive skills related to understanding how learning occurs, and affective skills related to feelings and emotions. takes

Details of some studies have shown that the use of independent learning methods allows teachers to organize a wide range of activities in their groups and to teach and teach rather than the organizational aspects and behavior of students allowed to pay more attention. For example, it allowed teachers to work with certain groups, while other groups work independently of each

other. Two studies have shown that students who are independent learners perform to higher standards, are more motivated, and have higher self-esteem than others. Students develop skills that help them to further their knowledge by using their own ideas to form their own opinions; solve problems using different learning strategies.

In effective self-directed learning, the teacher's role shifts from being a knowledge provider to a "coach" who helps students learn the strategies they need to learn. The main type of activity is the teacher helping students create their own ideas about learning goals.

Thus, the effective organization of students' independent work should be aimed at forming their need to learn their specialty. At the same time, specialized skills and practical knowledge are acquired, which will later provide an opportunity to work independently with specialized literature. At the same time, the main tasks of quality organization of independent work in technical universities are to achieve the appropriate level of communicative competence of the specialty and to prepare graduates for independent work in their specialty after graduation. The core of the conceptual model of the organization of students' independent work at the university is a set of ideas about the possibilities of independent educational activity of students in the educational process, the laws and principles corresponding to them, as well as optimal pedagogical conditions. Currently, there are different approaches to organizing students' independent work. Although they have their own goals, they serve to activate the educational process and create all the opportunities for students in their specialty.

## Conclusion

Technology that is ready to transfer knowledge through the use of independent work will be replaced by technology that allows students to acquire knowledge independently. Increasing the independence of students in the learning process increases the opportunities for individual education, taking into account the wider use of interactive methods in acquiring knowledge, the development of creative abilities of students, and their needs and abilities. Thus, at the current stage of modernization of the higher education system, scientists offer various techniques aimed at the comprehensive development of a specialist. Despite the abundance and sometimes inconsistency of these methods, most of them have one thing in common - the student's independent work is a means of implementing the main educational program and has a developmental and educational function.

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