

# ENHANCING PROFESSIONAL COMPETENCE THROUGH INTEGRATED EDUCATION AND INDEPENDENT LEARNING IN HIGHER EDUCATION

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## Abstract

The future development of a country is largely determined by the quality of its education system, particularly the higher education sector, which plays a pivotal role in preparing highly qualified professionals. With a focus on the reform of the education system, this study emphasizes the importance of aligning educational training with labor market demands, improving both theoretical and practical knowledge in specialized disciplines, and enhancing the effectiveness of students' independent learning. The integration of education, science, and production is vital for the effective development of students' professional competencies. This paper discusses how interdisciplinary integration in independent learning fosters the practical and theoretical growth of students, improving their ability to apply knowledge in future professional activities. The research highlights the critical role of developing integrated learning tasks that encourage students' self-education, ultimately enhancing their competencies. By exploring different levels of integrated learning—ranging from basic interdisciplinary connections to the creation of new interdisciplinary disciplines—this study demonstrates how these educational strategies contribute to the formation of well-rounded, qualified specialists. The results of this study underscore the necessity of independent learning in higher education for fostering professional competence, suggesting that the transition to integrated education is essential for producing skilled professionals across various fields.

**Keywords:** Higher education, professional competence, independent learning, interdisciplinary integration, integrated education, self-education, curriculum development, specialized disciplines, educational reform, students' professional skills, education system, practical knowledge, theoretical knowledge, learning methods, educational tasks, integrated learning, student development, competency-based education.

## Introduction

It is known that the future of the country is determined by the level of development of the education system. Today we deeply understand that overcoming economic difficulties and embarking on the path of development of our country depends on reforming the education system. Today, the training of highly qualified personnel in higher educational institutions is

considered a pressing issue in the field of education, and great attention is paid to the implementation of reforms in the system.

In the training of modern personnel, taking into account the requirements and needs of the labor market, it is important to improve them with theoretical and practical knowledge, especially to increase the effectiveness of specialized disciplines, as well as to increase and effectively organize independent study hours allocated for specialized disciplines.

Thus, the formation of students' skills and abilities, the abandonment of the old education system, and its replacement with new ones require deep knowledge and constant observation. The high-quality and effective organization of students' independent learning in a higher educational institution depends on such factors as their professional field (direction), subjects in the curriculum, types of independent learning (under supervision or individually), the form of independent learning (in the form of an integrated or separate subject), requirements for independent learning tasks (written, practical), the type and formalization of the result of independent learning (software, scientific article, presentation, educational materials, etc.). In addition, in the consistent and systematic organization of independent education, it is necessary to pay attention to the improvement of students' knowledge and mastery skills or the development of professional competencies.

For the organization of the integrated educational process of students, it is necessary to pay special attention to the integration of education, science, and production. For the effective organization of integrated education, which is one of the main requirements of higher education, it is important to strengthen cooperation in research work between the educational institution, employers, and participants in the educational process. In this case, positive aspects are noticeable for students: employment becomes easier, the employer uses the student's integrative activity, and the student increases their experience and competence, improving their professional qualifications.

## METHODOLOGY

As a result of mastering independent education in the specialty, the formation and improvement of the student's professional skills is required.

The development of a student's professional competence through independent learning is not only skills and knowledge, but also personal qualities of integrative activity, formed in an interdisciplinary context and within the framework of various processes, necessary for the high-quality and effective work of students.

From the first days of study at a higher educational institution, a student must perform work that allows them to implement the requirements of the State Educational Standards. By applying various methods and forms of training in such activities, it is possible to achieve a more effective result in the professional training of the future specialist.

From a pedagogical point of view, the process of forming integrated education is associated with the unification of previously dispersed elements into a single whole and is considered as development.

Thus, we have the need to select subjects to determine the quality of effective development of a student's professional competence through self-education. We developed integrated learning

tools by combining interdisciplinary independent learning. These tools were developed using methods and technologies. We considered it expedient to include these methods and technologies as an integral part of the professional education program.

In this case, we aimed to achieve an increase in the effectiveness of the development of the student's professional competence through methods and technologies. Assessment of a student's professional competence through integrated learning is a very complex task, both theoretically and practically. In this case, the selection and practical application of teaching methods requires the improvement of competencies and functions in accordance with the requirements of the independent learning process.

## RESULT AND DISCUSSION

One of the important aspects of the development of professional competence in the process of our research is the interdisciplinary integration of independent learning. Analysis shows that it is the interdisciplinary integration of independent learning that increases the practical and theoretical significance of education, allows the student to apply their knowledge and skills not only during the educational process, but also in subsequent production activities.

In the development of a student's professional competence, three main groups of interdisciplinary integration of independent learning are distinguished:

1. Content-information group - by types of knowledge (scientific, practical).
2. Practical-activity group - by types of skills (cognition and formation).
3. Organizational and methodological group - on methods of implementing interdisciplinary connections in the educational process.

The logical activation of interdisciplinary integration in independent It is known that the future of the country is determined by the level of development of the education system. Today we deeply understand that overcoming economic difficulties and embarking on the path of development of our country depends on reforming the education system. Today, the training of highly qualified personnel in higher educational institutions is considered a pressing issue in the field of education, and great attention is paid to the implementation of reforms in the system.

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The logical activation of interdisciplinary integration in independent learning reflects a commonly expressed and conscious relationship between the elements of the structure of various academic disciplines. Such a relationship can be new disciplines formed as a result of assimilating the connections between knowledge obtained from different disciplines.

If we consider independent learning from a practical point of view in the research process, it becomes clear that it is based on the analysis of students' completion of various tasks from beginning to end, preparation for their completion (including the study of some factual material), and subsequent successful completion of the tasks. In fact, the process of independent learning can be described as alternating periods of completing tasks. Consequently, the quality of independent learning should also depend on how competently and consistently the chain of tasks and assignments is structured.

In such conditions, the need to develop independent learning tasks arises. Such independent learning tasks should be aimed at organizing activities for the development of students' professional competencies.

Based on this, we consider three levels of integrated learning:

The low level of integrated learning, as a rule, represents only interdisciplinary connections. In this case, when studying the sources of one science based on independent learning, other scientific sources (facts, examples, concepts) are gradually introduced from time to time. In this case, the independence of both disciplines with their goals and objectives is preserved.

The secondary level of integrated learning is a very complex object of study for students, in which independent learning is considered from different angles with the help of several academic disciplines. In this case, the general independence of each science is also preserved.

The higher level is the creation of a new interdisciplinary discipline of integrated education, in which independent learning occupies the main part of the disciplines. Integrated educational tasks designed for mastering independent learning topics and consolidating previously studied material are used in theoretical and practical lessons. For example, the assignment for studying new material through independent study assignments is divided into two parts. When performing the first part of the task, students acquire the knowledge necessary for mastering the topic of independent study, and in the second part, it is assumed to study the available material and complete the task by testing it in practice, through which the formation of independent learning skills is carried out. Therefore, students are offered to study the main part of their subjects in self-study. These are the most demanded knowledge in performing practical work.





Thus, the application of integrated learning through independent study in the development of students' professional competence allows students to form a holistic understanding of the subject being studied. This process increases students' interest in learning and contributes to the development of professional competencies. With the help of integrated educational tasks, it is possible to provide information sources, ensure group work in order to increase students' interest in the subject. In addition, the level of assimilation and processing of information is carried out under the guidance of the teacher, if necessary.

## CONCLUSION

Conducting a presentation of the results of interdisciplinary independent study of students, analysis and evaluation of the created work, together with group students develops their professional competencies. At the same time, students understand information, technologies, methods and means of creation, strengthen their theoretical knowledge, and develop motivation.

Thus, the transition to an integrated education system in the formation of students' professional competencies through self-education and the attachment of great importance to students' self-education in this system is the main factor in the formation of students' professional competencies. The formation of students' professional competencies in the process of independent learning leads to the formation of students as qualified specialists in all areas of education.

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