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INTEGRATION OF SPECIAL SUBJECTS IN HIGHER EDUCATION

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ABSTRACT

This article deals with the integration of special subjects of bachelor's and master's programs in technical higher educational institutions, the desire to integrate educational material, the levels of interdisciplinary integration, the methodological basis of an integrated approach, the components of integration.

Key words: integration, special subjects, education, educational process, levels of integration, components of education, interdisciplinary communication.

INTRODUCTION

The ability of a student to independently master knowledge and skills is developed in higher education institutions under the following conditions, which are interconnected with theoretical, psychological, educational, organizational, design, and communicative components:

- formation of a complete vision of the future professional activities of students through interdisciplinary communication;
- organization of modular training in the process of teaching special subjects through interdisciplinary communication;
- the formation of reflection and competence that is dialectical thinking as an independent learning mechanism.

Today's students are forced to turn to independent activities not only to reduce the time to adapt to professional activities, but also to keep up with new and modern production technologies and find a field of knowledge in accordance with their capabilities. The flexibility of graduates largely depends on the ability to improve their professional skills.

Activities based on interdisciplinary communication provide a complete picture of the training of future professionals.

The introduction of the integration of subjects into the education system allows us to solve the tasks currently set for higher education and society as a whole.

Integrated learning has a positive effect on the development of independence, cognitive activity and the interests of students. Its content, the teaching activities of the teacher are addressed to the student’s personality, therefore they contribute to the all-round development of abilities, enhancing the thinking processes of students, encouraging them to

generalize knowledge from different sciences, the ability to acquire and develop skills, competencies that can be used or transformed to a variety of life situations.

MAIN PART

The result of integrated learning is manifested in the development of students' creative thinking. It contributes not only to the intensification, systematization, optimization of educational and cognitive activity, but also to the mastery of cultural literacy (linguistic, ethical, historical, philosophical). And the type of culture determines the type of human consciousness, so integration is extremely relevant and necessary in modern higher education.

The problem of introducing the integration of subjects in training is designed to solve questions of this nature. Studies show that interdisciplinary communication at the stages of their inclusion in the cognitive activity of the student plays the role of starting stimulus. Knowledge gained from previous experience becomes regulators of its cognitive activity.

An indicator of student mental development is the transfer of knowledge from one subject to another, which characterizes the productivity of cognitive activity. The transfer consists in the interdisciplinary generalization of the known and synthesizing new, generalized knowledge. Interdisciplinary communication in the training introduces elements of creativity in the mental activity of the student, as well as elements of reproduction and search, manifested in cognitive activity.

The desire to integrate educational material is a natural and leading trend of the world and domestic educational process. And now the problem of integration is once again receiving a lot of attention in the process of organizing training and education.

The Law of Uzbekistan "On Education" emphasizes that the content of education should ensure the formation of a picture of the world that is adequate to the modern level and level of the educational program.

This means that a special role in the learning process should be given to the development of systems thinking, the ability to replenish their knowledge, being guided in the flow of information of varying degrees of complexity, language and socio-cultural orientation. The components of education that reflect the trends of integration of scientific knowledge are of primary importance here. It is integration that determines today the style of scientific thinking and worldview of a person. The philosophical dictionary gives the following interpretation of these concepts: integration is a side of the development process associated with the integration into a whole of previously heterogeneous parts and elements.

Integration is a leading trend in the development of scientific knowledge in modern conditions. It manifests itself in the synthesis of knowledge, increasing the effectiveness of scientific research. Integration and differentiation are natural processes of science development. These two processes correspond to two tendencies of human cognition, on the one hand, to represent the world as a whole, on the other hand, to comprehend patterns and quality of various structures and systems more deeply and specifically.

What is the essence of integration in the training of special subjects?

With regard to the learning system, "integration" as a concept can take on two meanings:

• first, it is the creation of a holistic view of the world around students (here integration is seen as the goal of education);

• secondly, it is finding a common platform for bringing together subject knowledge (here integration is a learning tool).

The methodological basis of an integrated approach is the establishment of intra-subject and interdisciplinary connections in mastering the fundamentals of science and understanding the laws of all that exist in the world.

And this is possible under the condition of repeated return to the concepts in different lessons, their deepening and enrichment, the isolation of the essential features and concepts available to a given age. Therefore, any lesson with its established structure and logic of conducting can be taken as the basis for integration, the content group of concepts that is relevant to the subject, but the integrated lesson involves knowledge, the results of concept analysis from the point of view of other sciences. other academic subjects.

Thus, the integration between academic subjects does not negate the subject system. It is possible through its improvement, overcoming shortcomings and is aimed at deepening the interrelations and interdependencies between objects.

Integration in higher education goes in several directions and at different levels:

- intra-subject – integration of concepts, knowledge, skills, etc. within individual subjects;
- interdisciplinary – synthesis of facts, concepts, principles, etc. two or more disciplines;
- trans-object – synthesis of the components of the main and additional educational content.

An example of the first level is the systematization of knowledge within a particular discipline – the transition from scattered facts to their system in the process of opening a new law, clarifying the picture of the world. The integration of this level – intra-subject – is aimed at “compressing” the material into large blocks, which ultimately leads to a change in the structure of the content of the discipline. In higher education, content may have a different structure, where individual knowledge or its elements are “linked” to each other in various ways.

For intra – integration is characterized by a spiral structure based on the principle of concentricity. Knowledge of the value of such an organization can be carried out either from the particular (details) to the general, or from the general to the particular. The content is gradually enriched by new information, links and dependencies. The peculiarity of this form is that students, without losing the original problem from the field of view, expand and deepen the circle of knowledge connected with it.

The synthesis of the second level – interdisciplinary integration – is manifested in the use of laws, theories, methods of one academic discipline in the study of another. The systematization of content carried out at this level leads to such a cognitive result as the formation of a complete picture of the world in the minds of students, which, in turn, leads to the emergence of a qualitatively new type of knowledge that finds expression in general

scientific concepts, categories and approaches. Intersubject integration significantly enriches intradisciplinary.

In higher education, interdisciplinary communication can be established on the composition of scientific knowledge (actual, conceptual specific).

Conceptual interdisciplinary connections are of particular importance for the formation of natural science concepts. Such use of interdisciplinary connections can be called horizontal thematism.

The vertical topic in the lesson takes from five minutes or more, its implementation is different: a different approach to the analysis of the work, a new figurative comparison and association, new exercises or creative tasks, a brief conversation on the content of the vertical topic, a small remark, emphasis on the explanation, problem dialogue , explanation.

Each vertical theme has a brief definition of a general content, one or several epigraphs introducing into the emotional-poetic image of the theme, its philosophical-aesthetic content. Epigraphs seem to offer different turns of the topic, different directions of its disclosure. The content of the thematism covers everything that is included in the concept of "culture".

There are the following forms of organization of the educational process on the basis of integration: layer-like, spiral, interpenetrating, contrasting, individually differentiated (creative).

Layer-like – the layering of various activities (cognitive, artistic and aesthetic, gaming, communicative, etc.), the content of which is permeated by a single value or object of knowledge

Spiral - content, methods of activity, in which the student is included, constantly and gradually increase, quantitatively and qualitatively change. Knowledge of the value or object in such an organization can be carried out either from the particular (details) to the general (whole), or from the general to the particular, depending on the level of cognitive development of students at a given stage as a whole.

The contrasting form is built on the dialogue and display of the contrasting facets of the world, on the disclosure of value through its opposites, the knowledge of the whole through part, multitude and through individuality.

The integration of content in this case creates the conditions for the emergence of dialogues of culture, art, personalities; stimulates communication, the exchange of knowledge between students and the teacher, provides a search for ways to work; encourages children to reflection, self-esteem.

Individually differentiated (creative) form is the most difficult form of organizing an integrated lesson: children independently choose activities, organize subject space and communication around themselves.

It is important to learn how to transfer a student from one activity to another, contributing to the development of his potential. The translation tool is a product created by a student.

For example, from the drawings, you can create a composition, invent and play a fairy tale, create a building, study and calculate it mathematically, etc. The integration of the

content allows the student to see the object being studied integrally and creatively self-actualize.

The highest level of content integration can be characterized as the integration into a single unit of the content of educational areas of primary education, organized by the second level of integration, with the content of education received by students outside the classroom - trans-subject integration.

It is important to take into account the requirements and proposals for university graduates, developed by experienced specialists of similar companies (employers) when developing curricula and programs.

In particular, the following suggestions should be considered:

1. Normative documents of higher education. The relationship between social and humanitarian and special disciplines should be revised in the curriculum.

2. Starting from the first academic year, professional and special disciplines should be maintained in the first academic year so that the hours of professional and specialized subjects are higher. This will allow the student to have a clear idea of future professional skills, which means that greater access to vocational education will help them make a clear decision on how to master the training course.

3. Planning some of the social and humanities disciplines to expand and to enhance the training of students who wish to get a master's degree in higher education.

Integration into society of a person with special educational needs means a process and result of giving him the rights and real opportunities to participate in all types and forms of social life on an equal basis and together with community members in conditions that compensate for his developmental disabilities.

In the education system, integration means the possibility of a minimally restrictive alternative for people with developmental disabilities: education in a special (correctional) educational institution or in a general education institution (general preschool institution).

Integration is a leading trend in the development of scientific knowledge in modern conditions. It manifests itself in the synthesis of knowledge, increasing the effectiveness of scientific research. Integration and differentiation are the natural processes of the development of science. These two processes correspond to two tendencies of human cognition, on the one hand, to represent the world as a whole, on the other hand, to comprehend deeper and more concretely the patterns and qualitative originality of various structures and systems.

Integration in modern education goes in several directions and at different levels:

• intra-subject - integration of concepts, knowledge, skills, etc. within individual subjects;

• interdisciplinary - synthesis of facts, concepts, principles, etc. two or more disciplines;

• trans-object - synthesis of the components of the main and additional educational content.

The foundation of education and its most important element is the learning process, specially created to achieve the specified goals. The quality of education as a whole ultimately depends on its quality. This quality, i.e. pedagogical efficiency and effectiveness of the learning process depends on its integrity as a system, the integration of its components. With

regard to the learning process, integrity is its scientific and pedagogical validity and ability through interdisciplinary integration to provide holistic fundamental education in all disciplines.

The implementation of interdisciplinary integration, i.e. the construction of integral models of the studied phenomena would allow:

• to create conditions for the conscious understanding by the students of these phenomena and to facilitate the solution of cognitive and professional tasks;

• on the basis of the previous to promote the integration of education;

• promote the harmonious development of personality.

Thus, the solution of the designated tasks is closely related to the problem of integration. There are various approaches to its definition. Let's analyze the most significant of them. The most general concept of integration is defined as the connection between phenomena in the process of development in nature, society and cognition, when the new, replacing the old, retains some of its elements.

The peculiarity of the domestic version of the integrated approach lies in the early correction of impaired functions against the background of a purposeful general development of an abnormal child, in providing him with rehabilitation opportunities through a system of special differentiated and integrated education.

The formation of the cognitive interests of students occurs primarily in the classroom. I activate students' learning and cognitive activity and increase interest in learning at each stage of the lesson, using various tasks for the purposes of influence and use in various lessons.

Since integration is not an end in itself, but a certain system in the activity of a teacher, there must be an end result of integrated learning:

- ✓ to increase the level of students' knowledge of the subject, which manifests itself in the depth of digestible concepts, patterns due to their multifaceted interpretation using information from integrable sciences;
- ✓ in changing the level of intellectual activity provided by the consideration of educational material from the perspective of leading ideas, the establishment of natural relationships between the problems studied;
- ✓ in the emotional development of students;
- ✓ in the growth of students' cognitive interest, manifested in the desire for active and independent work in the classroom and during extracurricular time;
- ✓ in the inclusion of students in creative activities, the result of which may be their own independent work, which is a reflection of the personal attitude to certain phenomena and processes.

CONCLUSION

The highlighted aspects correspond to the educational, developmental and educational functions of training.

This allows us to formulate the conclusion that the integration of subjects contributes to the overall development of the student and a deeper study of topics in the class on special subjects, contributes to the formation of a holistic picture of the world among students, understanding the links between phenomena in nature, society and the world as a whole.

REFERENCES

1. Bray T.G. Integration of subjects in the modern school. Literature at school. - 1996.

2. Kukushkin V.S. Modern educational technology in primary school. Rostov-on-Don. - 2003.

3. Potapova E.N. Integrated lessons in elementary school or how to create a complete picture of the world for younger students. M .: New School. - 2002.

4. Serdyukova N.S. Integration of training classes in primary school. Primary School. 1994. - № 11.