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Possibilities of Using Integrative Technologies in Technology Lessons

Sharifzoda Sardorbek
O'rozboy tabib o'g'li, Urganch State Pedagogical Institute Dean of the Faculty of Pedagogy

Abstract: This article describes the possibilities of using integrated technologies in the formation of basic competencies in students.

Keywords: competence, integration approach, activity, social competence, integrated technology.

The development of integrative technologies of teaching and their application in educational practice expands the possibilities of forming basic competencies in students. This is especially evident in the process of technology education. Because the basic competencies formed in students' technology lessons determine their readiness levels for future work activities and life in micro-society. The professional activity of a specialist has the character of integrity. All areas of the profession are expressed in it. Including the workplace, subject of activity, tasks to be solved, technical tools, technologies, management tools, financial calculations, etc.

Integrative approach is a concept that means the joint application of several approaches (situational, systematic, innovative, etc.) to the managed object in the organization and management of the educational process. This term represents generalized approaches[1].

The development and implementation of integrative technologies allows to see and imagine the unique aspects of the pedagogical process. If we use modular teaching technologies as an integrative technology, it becomes possible to change the content and structural structure of the educational subject. Teaching tools, methods and techniques are directly linked to the module within this technology. Innovative computer technologies require the use of new teaching tools and methods. The teaching goals and content remain unchanged. When designing the teaching process of any academic subject, it is appropriate to consider all its components. Studying their combination with different technologies is also of particular importance.

Modern technologies of education include: computer information technologies, distance learning, modular learning, game technologies, project technology, sign-contextual technologies[5].

Integrative learning technologies embody many features of different technologies. Such technologies have the following characteristics:

- Integrativeness. In this place, the educational process and its components acquire an integrative character.
- Modularity. All elements of this technology are integrative.
- Difficulty. Based on the application of problem-based teaching methods, problematic tasks and questions are created. With their help, problematic situations are created. Students are encouraged to search for solutions to these questions and assignments.

The systematic nature of the educational process based on the integrative approach is directly related to the systematic nature of the educational process.

The following requirements are set for pedagogical technologies of an integrative nature:

- ensuring the transformation of educational content into integrated projects that students can master;
- embodying in itself the motivational and procedural aspects of directing students to specific activities;
- to imagine the planned activity as a process;
- presentation of tasks and methods of their implementation specific to a specific field of education;
- organization of learning activities and situations as a model representing consistency;
- to determine the joint actions of the subjects of the educational process, to express the functions, roles, and interactions of the subjects in a certain consistency during its design;
- motivational provision of technologies based on students' self-expression;
- effective use of information sources and computer technologies that serve to ensure the effectiveness of educational situations [4].

The educational process based on integrative technologies and competence approach is organized based on certain principles. The educational process based on the integrative approach and the applied technologies are based on general laws, which are recognized as private laws at the same time.

Technologies of an integrative nature rely on the following principles: modularity, individualization, flexibility, cooperation, implementation of feedback.

Technologies based on these principles make it possible to implement convenient methods of forming social competence in students based on the formation of basic competencies.

The principle of modularity evaluates modules as the main tool in the educational process and creates a convenient opportunity to use them in the formation of basic competencies. Accordingly, it is envisaged to implement educational modules that serve a specific purpose in the educational process. Within the framework of the module concept, the independent structural structure of the educational subject is understood. Each module combines certain elements into its content: didactic purpose, actions necessary for students, special educational materials, the process of acquiring knowledge, skills, skills and competencies, information on the methods of learning the content of the educational module, and independent control and diagnosis of the results of educational activities of students.

The division of educational content into modules begins with the mutual differentiation of its logically completed components. In the process of mastering each module, it is required to use certain tools and methods. This makes it possible to organize various types of training, systematize the tools and methods used in them, create favorable conditions for students to independently control the results of their educational activities, and determine the levels of formation of basic competencies.

The choice of specific educational tools and methods is made in connection with the content and specific features of the studied subject. It directly depends on such factors as the material and technical, methodical, information supply of the educational process, the educational and mental development levels of the students, and the professional skills of the teachers. The individualization of the educational process is related to the personal development of students, the formation of basic competencies, social knowledge, and the formation of

personal qualities. It is important to teach students individually, to choose the content, form, and methods of the educational process, to form social competence in the learner with the help of basic competencies, and to achieve the connection of education with life. In order to individualize the content of the educational process, first of all, it is necessary to determine the personal-educational trajectories of students based on the diagnosis of the initial levels of knowledge and competences formed by students, to determine the system of educational tasks and educational materials necessary for the formation of social competence of an integrative nature in them. The diagnostic process should be organized in such a way that it is possible to choose an individual educational module based on its results. This principle should serve to create a stable system of variable methods and tools of the educational process and control of students' learning activities.

The principle of flexibility in educational programs should ensure easy learning of the educational content by students, create favorable conditions for the transformation of the provided knowledge into competencies. It is also required to pay special attention to the provision of educational materials based on the individual capabilities of students. This principle contributes to the formation of social competence in students and helps them easily adapt to the life of a rapidly changing society.

The principle of cooperation is the basis for students to interact and act on the basis of subject-subject relations with each other and with the teacher. This principle ensures mutual cooperation between the teacher and the students, the pedagogue appears in the position of consultant, coordinator and helps the students to learn the educational module independently. It is known that cooperation is a pedagogical process that ensures that several people work together towards a common goal. Pupils achieve more positive results when working together than when they work individually. Cooperation creates conditions for students to work together towards a common goal. In this process, students carry out learning activities such as completing educational tasks together, analyzing situations, engaging in discussions, organizing brainstorming, completing projects, creating texts, discussing problems and finding solutions to them. The principle of feedback provides a convenient opportunity to monitor and independently control the learning process of each educational module. As a result, pedagogues and parents will have the opportunity to receive accurate information about the students' educational activities and the possibilities of mastering their competencies. Based on this, pedagogues make clear decisions about determining the content of the next stages of the educational process.

The theoretical foundations of integrative educational technologies are expressed in the following: active and competent approaches, developmental and person-oriented educational concepts, problem-based learning and research-based teaching concepts.

The basis of integrative educational technologies is primarily an active approach. It is clear that the psychological structure of activity embodies the subject, goal, motives and means of activity, actions and operations, results of activity [3].

The content of the educational subject appears as the content of the joint activity between the teacher and the student. It integrates concepts, laws, principles, rules, tasks, problems and other learning elements. All this serves to form the experience of social activity in students. It is known that the content and purpose of education is expressed in the DTS, educational programs, textbooks. In the project of the educational process, the joint activities of the teacher and students are shown in an integrated manner. As a result, students are able to master the knowledge, skills, competences and social activities provided for in the educational programs. Students' learning activities combine research, communicative, and practical activities to ensure the formation and development of competencies and the creation of content at the level of social competence.

It is important to rely on the competence approach in determining the purpose and content of education. Within the requirements of the DTS based on the competency approach, core and subject-related competencies are embedded in the educational content, and the level of competence formation in students is determined by the knowledge and actions they acquire. One of the important elements of the formation of social competence in students is the formation of professional thinking, initial professional skills and the experience of entering into labor relations.

Interacting with members of society, self-development, working with information, and mastering national and universal values also help students to take a decent place in the labor market in the future. Acquiring scientific and technical achievements, being aware of innovative technologies, mastering basic skills related to robotics play an important role in ensuring competitiveness. Acquiring initial professional skills enables students to apply a certain system of knowledge, skills, and qualifications in their practical activities, to find clear answers to questions within the scope of professional activities, and to demonstrate personal qualities. The competence of the future specialist embodies socio-personal, general scientific, economic, organizational-management and special competencies. The initial levels of these competencies are formed in technology classes. The knowledge, skills, and abilities that serve to create such competencies should be reflected in the DTS and technology science program. At the same time, in technology classes students are formed such abilities as interest in a certain profession, readiness for professional activity, application of their knowledge, skills, skills in their chosen professional activity.

Integrative technologies should serve not only the formation of competencies, but also the development of the student's personality. For the comprehensive development of a person, it means the formation of various needs, interests, abilities, aesthetic and moral qualities.

When thinking about the development of a person, special importance is attached to its comprehensive development. To achieve this goal, it is necessary to find a solution to the following tasks:

- formation of diverse needs and interests in students within the scope of their chosen professions;
- mental and physical development of students;
- formation of students' scientific worldview, informing them about the advanced achievements of science and technology;
- formation of students' ability to respect the laws, follow the norms of behavior in the society;
- aesthetic education of students, formation of aesthetic taste in them;
- implementation of labor and professional education;
- inculcating a sense of patriotism and self-sacrifice in students, instilling respect for the history of the Uzbek people and their native language.

It is important for students to have humanistic thinking and work experience, regardless of the field in which they will work as future professionals. Such a system of values directs students to carefully protect their goals, interests, actions, human life and dignity, strengthen their health, stabilize the country's material and spiritual, cultural wealth, interpersonal relations, and show high examples of behavior.

Today's development of the society requires the wide implementation of moral, civic and labor education with students through democratization and humanization of the educational process.

Organization of technology education on the basis of a research approach serves to form the ability of students to do scientific research and show their creative abilities. Based on the research approach, students will be able to study the surrounding labor resources in depth. In this way, in technology classes, students conduct independent research and expand their knowledge. In this context, the competence of using scientific and technical achievements is included. In this process, students not only learn new information, but also create experience of creative activity. In such lessons, the teacher tries to bring the research activities of students closer to the research of scientists. Students are required to engage in construction, design, and creative activities. In these classes, students acquire new knowledge and acquire research skills. Students' interests, inclinations, cognitive actions are important in lessons aimed at forming research skills.

Technology teachers should regularly assess students' research skills and organize activities based on their interests. The problem of preparing students for intellectual creative activity is of particular importance from the point of view of developing their creativity and serves to ensure the effectiveness of technology education at school. Timely identification and correct orientation of students' talents, abilities and professional inclinations play an important role in their personal professional development [2].

Enrichment of professional choice and professional thinking is achieved by developing the abilities of students in the implementation of this or that activity based on the goals and tasks of education. Effective use of educational technologies is appropriate. For example, it is recommended to organize conversations, discussions, debates, mutual agreements, and games in technology lessons, introducing them to various work situations, in order to form communicative competence in students. Questions, assignments, and situations are used as the main means of systematizing these actions of students.

Integrative technologies include the use of electronic tools in the educational process. In the traditional teaching process, the teacher's speech, textbooks, teaching-methodical manuals, information and dictionaries, handouts, posters, educational films, television and video films, stands, models, and laboratory equipment occupy an important place. Along with this, electronic educational tools also serve to increase the efficiency of the educational process. Among them, electronic textbooks, teaching-methodical manuals, general cultural publications, Internet tools, and virtual laboratories can be included. All these can be combined under the name of computer-based training system.

In technology classes with the help of electronic tools, students are able to quickly model objects. Because electronic tools expand the possibilities of modeling and presentation of objects and objects made and constructed by students. In addition, there is an opportunity to depict them in a large plan.

Technologies of an integrative nature are considered to be convenient for the organization of individual and group design activities of students as an innovative pedagogical phenomenon. Such projects are directed to the implementation of practical tasks. Students create a model of the object and present the technology for its use. It is a project method that encourages students to do independent research. Their activities related to the project are carried out with the help of certain methods and tools and are directed to the solution of a specific task. Project activity has an integrative nature. Its integrative character is that during research within the framework of the project, students rely on the knowledge, skills, skills and competences they have acquired from various educational subjects. The project method allows students to use the acquired integrative knowledge and competencies in the process of collaborative activities during the implementation of the project.

Design activity serves to systematize students' practical actions. One of the important features of the project method is that it encourages students to acquire new knowledge and methods of

activity on a regular basis. The project method allows students to improve their work. Project activity is manifested as a means of development, independent self-development, a source of communication, and an opportunity for creative cooperation for teachers and students. In this way, integrative educational technologies are combined with: reproductive research methods of teaching, traditional and computer-based teaching tools, in-class and independent learning activities of students.

New technologies of an integrative nature of teaching, based on various psychological-pedagogical concepts, allow integration of various teaching methods and tools. As a result, students have the opportunity to organize independent creative activities with the help of various technologies.

In evaluating the effectiveness of the educational process based on the competence approach, it is necessary to base on new criteria: in this place, the answers of the students to the questions asked by the teachers are not evaluated, but the product created during the research and technological activities during the performance of control tasks is evaluated. It is of particular importance that students independently create the presented product in the process of individual or group activity.

In this case, certain requirements are placed on the teacher: he can design teaching technologies; able to clearly determine the goals, content, tasks and methods of organizing an integrative educational process. It is important for the teacher to be able to design, control and evaluate the results of the students' creative activities. Students should be able to engage in research and design activities at certain stages of the educational process.

Certain requirements are placed on pedagogical technologies of an integrative nature: ensuring the transformation of educational content into integrated projects that students can master; embodying in itself the motivational and procedural aspects of directing students to specific activities; to imagine the planned activity as a process; presentation of tasks and methods of their implementation specific to a specific field of education; organization of learning activities and situations as a model representing consistency; to determine the joint actions of the subjects of the educational process, to express the functions, roles, and interactions of the subjects in a certain consistency during its design; motivational provision of technologies based on students' self-expression; effective use of information sources and computer technologies that serve to ensure the effectiveness of educational situations.

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