

## The Importance of Interdisciplinary Relations in the Development of Professional Competence of Technology Teacher

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### ABSTRACT

In this article, any science occurs under the influence of other sciences close to it and develops together with them. The importance of the use of interdisciplinary links in the teaching of science in schools, colleges and universities was highlighted.

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The organization of the education system based on the ongoing socio-economic reforms in the country, the best practices of developed countries and science and modern information and communication technologies, the education of a spiritually mature and intellectually developed person. Linking technology lessons to other disciplines also yields effective results, which is one of the important factors in increasing lesson effectiveness.

When organizing integrated lessons, attention should be paid to the following: The annual calendar developed in the field of science should include integrated topics in the thematic plan. In it the calendar thematic plan is made on the basis of the following table 6. When writing a lesson plan: 1. After writing the main topic, write the integrated topic in parentheses. 2. The purpose of the main topic (educational, pedagogical and developmental) should be covered, as well as the purpose of the integrated topic. 3. It is necessary to add a combination of visual and visual aids used in the transition to the theme integrated with the main theme. 4. This course work should include information on an integrated topic.

Use of interdisciplinary connections in the formation of competencies in students The purpose of the practical lesson: to teach students to organize lessons based on the use of interdisciplinary links in the formation of competencies in students. Guidelines for organizing the activities of students: study the goals and objectives of general education; study of textbooks and manuals; collection and analysis of data on the interaction of science with technology; development of interdisciplinary communication scheme. Theoretical materials for practical training. The use of interdisciplinary links in the educational process is of great importance. It is known that any science arises under the influence of other sciences close to it and develops together with them. Therefore, it is important to use interdisciplinary links and connections in the teaching of science in schools, colleges and universities. Similarly, linking technology science classes to other disciplines will yield effective results, which is one of the important factors in increasing lesson effectiveness. Interdisciplinary links in technology can be divided into two types and can be conditionally called internal and external interdisciplinary links. Internal connection in the lessons of technology means the interconnection of topics in the disciplines of this field. External links, on the other hand, refer to the

connections that Technology Science courses make with other disciplines. From the above, it can be seen that the teaching of the science of technology in such a sequence is inextricably linked, and they reinforce and complement each other. If in the primary grades there are preparatory classes, in grades V-VII they will be improved and more extensive knowledge of industry and agriculture will be provided. In the upper grades, they are directed to professions in certain specialties. It is obvious that the lessons of technology science are interconnected at these stages and are based on the principle of moving from simple to complex, from easy to difficult. The task of the technology teacher is to follow this principle and link the new material with the previous material. This work is done using three known types of interdisciplinary connections, i.e., before the transition to a new topic, during the transition to a new topic, and after the passage of a new topic. External links in technology education, on the other hand, indicate its interaction with other fields and disciplines. In general, technology science classes can be linked to all the subjects taught in school. In practice, technology classes are mostly linked to subjects such as drawing, painting, fine arts, physics, mathematics, physical education, mother tongue and literature, chemistry, geography, basics of computers and computer science, history, and biology. The following is a practical assignment with some guidelines and methodological recommendations for using concepts and information related to other disciplines in technology science classes. Fill in the given table on the possibilities of linking technology science lessons with each other and with other disciplines in the formation of students' competencies.

Interaction with Technology Science	1. Fine Arts	2. Drawing	3. Mathematics	4. Physics	5. Informatics	6. Chemistry	7. Biology	8. Geography	9. Physical education	10. Mother tongue	11. History	12. Ecology
Technology and fine arts	The role of pictures in technology classes is extremely important, as a picture or sketch of a detail or item is drawn and shown to students before it is made. Students also copy and draw these pictures in their notebooks. Through these pictures, students form an idea of that detail or item. Many students have difficulty doing this task because they do not have enough knowledge and skills to draw. Therefore, in technology classes, the teacher has to give students an idea of the technical drawing of objects, sketches, vivid images, perspectives, the sequence of work in drawing, as well as color differentiation, their symmetrical placement, and so on.											
Technology and drawing	Technology lessons are unimaginable without drawing. Drawing is also very important in technology classes. Because the creation of any detail begins with the reading of its drawing, and in the process the reader gets an idea of the parts of the future object. Consequently, the drawing and use of technology and instructional maps, one of the most important exhibits in Technology lessons, also depends on how the drawings are used. This means that the practical activities of students and the quality of the products they make depend in many ways on their knowledge and skills in drawing. However, drawing is taught from the 7th grade.											
Technology and mathematics	In technology education classes, students will need concepts related to the formation of shapes such as right angles, perpendicular and parallel lines, right triangles, and right rectangles. In addition, in technology classes, students use a variety of tools, such as axes of symmetry, symmetrical placement of shapes, circles, splitting, experimenting, drawing, drawing, protractors, angle gauges, compasses, angles, arc centers, straight and curved other dimensions. have to determine. At such times, knowledge of geometry will be required. Consequently, the school geometry course has great potential in performing tasks such as using drawing and measuring tools, replacing surfaces. The task is to use them appropriately in Technology lessons. Knowledge of arithmetic is also required to determine the various dimensions of a given object, such as length, width, height, surface, size, and to calculate how much material will be used.											
Technology and physics	In practical training in technology education, it is necessary to know the physical properties of different materials before processing them. The property of a substance to retain its chemical composition as a result of external influences is called its physical properties. Such properties include the properties of materials such as color, density, solubility, thermal board, heat capacity, thermal and electrical conductivity, magnetization. For example, when a metal is heated, its composition does not change when heat or electricity is applied to it and the metal is magnetized. The physical properties of metals are very useful in distinguishing and using them. For example, any metal has a specific luster, which is called its color. Not all metals are the same color. For example, copper is red, tin is shiny arrow, zinc is gray, steel is light blue. Here it can be noted that the color changes when metals are oxidized in air, and even the thinnest piece of metal does not transmit light. The rapid transfer of heat from a material when it is heated is called its thermal											

conductivity. The faster the metal conducts heat, the faster and flatter it heats and cools. Therefore, when making and processing metal products, it is necessary to take into account that their size may change due to heat. In general, the ability to differentiate according to the physical properties of materials, the choice of alternatives is achieved in the manufacture of details and parts. In addition, in technology classes, it is necessary to make extensive use of physical concepts such as types of motion, force, pressure, force, energy, work, friction in the manufacture of various items from materials using primary tools or equipment, adjusting tools. Technology and informatics. In today's industry, it is difficult to improve the technological processes of production without the computer and the basics of computer science. Due to modern requirements, new, small and medium enterprises are being opened in cities and villages. Great attention is paid to the use of modern automatic control systems in these production facilities. Therefore, in the lessons of technology education, it is necessary to give students an idea of how to apply them in the production process, taking into account the knowledge and skills acquired in the field of computers and the basics of computer science. For example, when introducing students to lathes, milling, planing, rolling, drilling machines for mechanical processing of materials, it is necessary to tell students about the principles of operation of modern advanced automatic and semi-automatic programmed machines. Students will be able to perform the operations performed on the above-mentioned machines on one machine, that is, on a machine in a programmed system; it will be better to talk about the conveniences of cutting, drilling, carving, finishing and other operations. The importance of programming for such work should also be emphasized. During the tour, it is advisable to demonstrate this category of machines, to combine their knowledge of technology and computer science. Technology and chemistry. In order to expand students' knowledge of materials science, it is necessary to expand their understanding of this field by informing them about chemically obtained materials, including plastics, polymers, polyethylene films, artificial glass, artificial rubber and others. In this case, explaining the production and use of similar materials through the chemical composition and properties of substances gives good results. In addition, it is necessary to pay special attention to the rules of formation, use and safety of adhesives, cosmetics and solvents, such as glue, paint, varnish, acetone. Technology and ecology. Today, in a market economy, the economical use of tools and raw materials has become one of the main requirements of the agenda. The inefficient use of raw materials and tools in practical training ultimately leads to environmental problems. Therefore, it is necessary to explain to students why it is necessary to use these raw materials sparingly when giving them materials such as wood, metal, plastic. They can be told that these things have been around for a long time and in what ways, and how much they affect or depend on nature. The above points show that interdisciplinary links in technology are an important factor in increasing the effectiveness of education. We know that it is not possible to link a single lesson to all subjects at once, but to select concepts and information that are relevant to the topic being studied and use them when necessary. Concepts in other disciplines, including foreign languages and economics, can also be used extensively in technology classes, but not a single technology teacher can do this. The work that needs to be done will have to be done by all science teachers together. For this purpose, at the beginning of the school year, teachers of school subjects should mutually agree to develop a joint curriculum, report on the work to be done and done in pedagogical councils, meetings of methodological associations, exchange experiences.

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