American Journal Of Social Sciences And Humanity Research
(ISSN – 2771-2141)
VOLUME 04 ISSUE 02 PAGES: 135-139
SJIF IMPACT FACTOR (2021: 5. 993) (2022: 6. 015) (2023: 7. 164)
OCLC – 1121105677
Crossref doi Google Scholar WorldCat MENDELEY
Publisher: Oscar Publishing Services

OSCAR PUBLISHING SERVICES

Journal Website: https://theusajournals.com/index.php/ajsshr

Research Article

DIGITAL TRANSFORMATION: ITS DIDACTIC POSSIBILITIES

Submission Date: February 17, 2024, **Accepted Date:** February 22, 2024,
Published Date: February 27, 2024
Crossref doi: https://doi.org/10.37547/ajsshr/Volume04Issue02-20

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ABSTRACT

This article discusses the didactic possibilities of developing pupils' design-technological competence based on digital transformation, as well as the essence of developing pupils' design-technological competence through the transformation system in technology classes.

KEYWORDS

ICT, general secondary schools, science of technology, digital transformation, teacher, pupils, design-technological competence.

INTRODUCTION

In modern pedagogy, didactics is considered as a separate field dealing with the theory of education and enlightenment. At the same time, didactics covers the problem of educational methods. As the teacher strives to ensure systematic learning of pupils on a subject, he shows an example of the performance of certain tasks. At the same time, it ensures pupil's activity and independence at all stages of education. Pupils acquire new knowledge based on experience and observations under the guidance of the teacher. Special assignments are given to them for deep and independent learning and creative application of the knowledge they have learned [3].

Technological science occupies an important place in the general secondary education system. The science of technology is a necessary component of development of students' design-technological competence, education and gives them the

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opportunity to apply their technological knowledge in practice. Teaching technology based on an innovative approach requires solving pedagogical and management issues of developing design-technological competence in pupils.

Rapidly improving, cheap and reliable digital (information and communication) technologies (RT or ICT) serve profound changes in the economic and social spheres. These changes are often called the new technological (digital or fourth industrial) revolution [4,6]. The changes associated with it are called "digital transformation".

In recent years, digital transformation has started to be discussed in the field of general education as well [2,5].

The transition to the digital economy increases the requirements for the effectiveness of general education. The educational preparation provided by public schools today is completely inadequate for the modernizing economy and the economy of tomorrow [1].

At the same time, several works are being carried out in order to improve the effectiveness of the quality of education in our republic. In particular, issues of organizing education through digital technologies and digital transformation are being promoted. The main goal of developing design-technological competence on the basis of digital technology is to prepare schoolchildren for creative work and ensure its harmonious development in all aspects. the implementation of the goals of development of design-technological competence among pupils of general secondary schools requires ensuring the continuity and integrity of technology science.

Development of design-technological competence of pupils through the transformation system in technology classes - this educational process involves the organization of classes using information and communication technologies (ICT) by the educational institution.

To organize the use of digital transformation, to improve the content of the educational subject of technology at secondary school, to introduce innovative technologies into the content of the program by improving the programs of technology, content of teaching (regulations, textbooks and training manuals), form (team, group, individual), method (traditional and non-traditional) and tools (visual, printed, audiovisual, electronic, interactive whiteboard, electronic educational resources, didactic materials, educational workshop equipment, equipment, mobile application, problematic video tasks, etc.) , self-management, development and independent learning, analysis, searching for news, being aware of and using science and technology news, knowing the methods of processing products and types of products based on technological

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innovations, technological design and implementation, and self-development. is considered

In technology lessons, the following elements are used to develop pupils' design-technological competence through the transformation system (Figure 1):

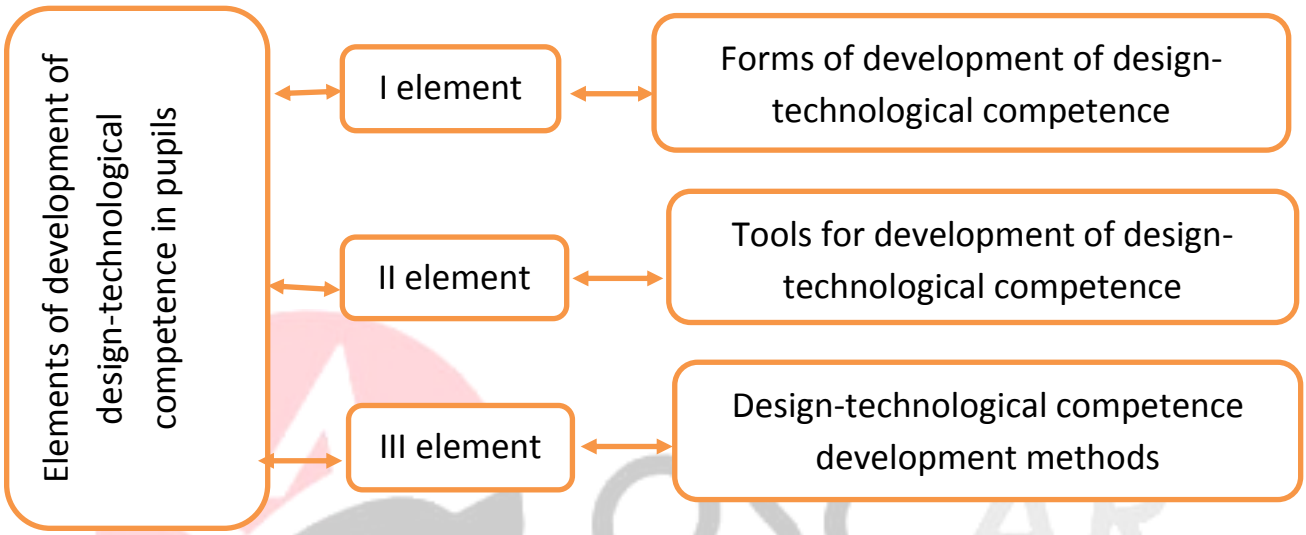

Figure 1. Elements of development of pupils' design-technological competence in technology lessons

Element I. Forms of development of design-technological competence are organized in class and extracurricular activities. In this case, the lessons are organized directly in the classrooms, in the practical training rooms of the technology clubs, and in the training workshops of the secondary school.

Element II. Tools for development of design-technological competence - innovative technology (Gemini CAD) designed for garment production enterprises is used to develop pupils' design-technological competence through the transformation system in technology classes. SMART technology (mobile application) and problem-based video assignments serve as tools that deliver Gemini CAD software to pupils.

Element III. Design-technological competence development methods - through the system of transforming interactive teaching methods such as "Project", "Buddying" (Atelier) based on the rules of virtual reality, educational technologies are used to organize, manage and determine the results of the development of design-technological competence in pupils.

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In the development of pupils' design-technological competence, the mobile application and problematic video tasks are stored on their mobile phones in extracurricular activities, in practical training rooms of technology clubs, general secondary schools. It can be used in educational workshops, computer classrooms, at home, and in school libraries. The mobile application provides pupils with theoretical and practical exercises for the formation of creativity, project activity skills, video lessons for self-education, and self-confidence in design and technological activities. Educational tasks and test tasks for development of mobility, communication, reflection, as well as development of competencies in the process of preparation for design-technological activity, several tasks are given in the applications.

The project method consists of the stages of information gathering, planning, decision-making, implementation, verification and conclusion. This includes pupils choosing a problem, identifying possible information, finding solutions to problems, choosing the most appropriate one, and making a reasonable plan of action to implement the project. The final result is reported orally, through a presentation of materials, or in one of the written forms in the form of a project. When performing the project method, pupils will be able to create an independent plan for each work, organize and implement it.

In the Buddying (Atelier) method, pupils are divided into the roles of specialists performing various tasks (designer, constructor, technologist and customer) and create an atelier environment. That is, pupils perform role-playing activities according to the assigned tasks. Through the workshop method, there is an opportunity to prepare pupils for future work, to imagine themselves in a production environment. As a result, they reflect the real situation. This will give pupils the opportunity to reflect these professions and increase their interest in tailoring. At the same time, he is ready for difficulties and problematic situations in his work. All these methods are focused on practical activities and develop pupils' creativity, creative thinking, design-technological competencies, etc.

The teacher develops a criterion for evaluating pupils' knowledge, and based on the results, a conclusion is made about the development of design-technological competencies among schoolchildren according to state educational standards. Based on the current conditions, in the course of the pupils' practical work, it is possible to creatively solve this or that technical solution and create an item or improve it during the production process.

CONCLUSION

In conclusion, it can be said that digital transformation has penetrated into every field, as well as in the field of education. In our republic, the textbooks of general

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secondary schools are gradually being taught using digital technologies. As an example, we can say working with QR code. Continuous improvement is the demand of today's time, and not only higher education, but also the curricula of general secondary schools require teaching with full digital transformation. Teaching with digital transformations, general secondary education schools serve to comprehensively form the student and develop competencies necessary for the chosen profession.

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