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USING DESIGN-BASED EDUCATIONAL TECHNOLOGY TO ENHANCE THE CREATIVE ABILITIES OF "TARBIYA" SUBJECT TEACHERS IN PROJECT DEVELOPMENT

Abstract: This article analyzes the potential of design-based educational technology and examines research conducted by scholars in this field. Additionally, it provides recommendations and suggestions for utilizing design-based educational technology to enhance the creative abilities of "Tarbiya" subject teachers in project development.

Keywords:pedagogy, design-based learning, information-educational environment, educational portals, websites, cloud services.

In today's world, general secondary education schools are equipped with modern information and communication technologies and connected to the global Internet network. Therefore, it is necessary to develop modern approaches for integrating information and communication technologies (ICT) into lesson planning and delivery.

This study advances the idea of enhancing the competency of "Tarbiya" subject teachers in lesson planning through ICT. The prioritization of design-based educational technology, along with the use of information-educational environments, educational portals, subject-specific websites, and cloud services, is emphasized. The integration of design-based educational technology with educational environments plays a crucial role in fostering students' learning motivation, developing creativity, and enhancing cognitive engagement.

A historical review of design-based educational technology reveals that it was initially proposed by J. Dewey. Subsequently, it has been conceptualized in pedagogical literature and educational history research under the term "project method." Throughout its evolution, the project method has been discussed in various conceptual contexts, highlighting its significance in educational practice[1]:

- **Labor Education** (K.M. Woodworth, N.K. Krupskaya, S.T. Shatsky);
- **Vocational Education** (N.E. Erganova, G.V. Rogova, F.M. Rabinovich);
- **Differentiated Education** (N.P. Guzik, E.A. Yunina, I.E. Unt);
- **Learner-Centered Education** (I.S. Yakimanskaya);
- **Collaborative Pedagogy** (V.F. Shatalov, V.A. Volkov, L.S. Vygotsky).

The emergence of the project-based learning method in education was necessitated by the socio-economic conditions that required a reassessment of traditional teaching methods. The demand for specialists to meet the evolving requirements of a new era emphasized the need to reform educational approaches and integrate innovative instructional strategies [1, 2, 3, 4].

In the 19th century, amidst global socio-political instability and rapid scientific and technological advancements, the education system underwent significant revisions. The restructuring of new

curricula was based on the principle of organizing learners' cognitive activities in the process of assimilating educational content, leading to the introduction of the project-based learning method. In 1929, the emergence of comprehensive project-based curricula, aimed at facilitating the acquisition of knowledge, skills, and competencies through educational and cognitive activities, was recognized as a significant milestone[1]

The latest phase in the development of the project-based method extends from 1965 to the present, as reflected in the works of scholars such as I. Bastion, B. Butmar, H. Gudens, G. Geisler, F. Frey, G. Kraut, and M. Kmoll in Germany. This period was marked by a reassessment of project-based learning and its broader application in education. According to researchers in the field of the history of pedagogy, this approach experienced a resurgence in Western European countries during the 1960s and 1970s. Similar to its initial rise in the early 20th century, project-based learning during this period was regarded as an alternative to traditional instructional methods such as lectures and seminars. It was also increasingly seen as an educational approach emphasizing interdisciplinary integration and socialization[1].

These issues, particularly the various interpretations of the project-based method in modern pedagogy, have been explored in the works of scholars such as E.S. Polat[5], V.N. Sternberg[6], R.N. Azarova [7], N.V. Borisova 777, B.V. Kuzov[7], and V.F. Sidorenko [8]

Specifically, E.S. Polat defines the project-based method as "a means of achieving didactic objectives through detailed elaboration," emphasizing that it involves the development of a problem (technology) that must ultimately lead to a tangible and concrete practical outcome. Furthermore, the scholar asserts that the project method can be regarded as an integrated pedagogical technology that encompasses various teaching methods, primarily creative combinations [5]

V.F. Sidorenko highlights that project-based learning is now viewed as "a defining stylistic feature of modern thinking and one of the most significant typological characteristics of contemporary culture, present in nearly all key aspects of human creative activity."[8].

According to the modern interpretations of R.N. Azarova, N.V. Borisova, and B.V. Kuzov, the term "project-based method" encompasses students' creative work within a specific subject area and integrates various teaching methodologies. They emphasize the integrative nature and capabilities of the project-based method[7]

V.N. Sternberg argues that research aimed at developing the "activity-based school" is reflected in teaching methods. He asserts that the project-based method enables the establishment of new forms of creative interactions among students, teachers, and the learning material. Through this approach, students actively engage with the surrounding world, solve cognitively stimulating problems, and are encouraged to take independent steps toward mastering new educational content. Teachers, in turn, create conditions for meaningful and effective interactions among students, their peers, and the materials they are studying. The project-based method inherently redefines the role of the teacher—not as a lecturer standing in front of the class but as a facilitator of the educational communication space, supporting both individual and group learning processes. Furthermore, this method is evolving into an essential pedagogical tool that

helps students perceive learning as an interactive process, where comprehension of ideas, exchange of thoughts, and engagement with peers emerge naturally [6]

A review of the literature indicates that in domestic pedagogy, the "project-based method" is regarded as a comprehensive technology that can function independently or integrate with other creative methodologies. Various terms are used in pedagogical and methodological literature, such as "project method" and "project technology." Most sources continue to use the term "project-based method" due to its long-established application. At the same time, the concept of "pedagogical project" refers explicitly to project development within the field of pedagogy.

Currently, pedagogical literature presents multiple interpretations of the term "project," which may include the following elements:

- The presence of a specific social target audience (client);

- The existence of a socially or personally significant problem or task;

- The independent and individualized nature of the student's work;

- The inherently subjective character of the project (i.e., it is not confined to a single academic discipline).

All these considerations lead to the conclusion that the "project-based method" should not be perceived in a narrow didactic sense as a standalone teaching method but rather in a broader context as a comprehensive pedagogical approach.

When discussing project-based technologies and considering the essence of the concept of "project," we understand it as a method of organizing students' educational and cognitive activities to achieve a documented outcome in any form (material, text, etc.).

Modern research demonstrates that project-based technologies are widely applied across various disciplines in education, in almost any subject, to enhance learning motivation, stimulate cognitive interest, foster creativity, and more. Researchers and educators involved in the development and practical implementation of project-based technologies unanimously agree that such an approach offers extensive pedagogical potential. It facilitates a deeper understanding of program material, enables students to plan their own learning activities, and contributes to the development of practical skills and competencies.

The essence of project-based learning technology lies in the organized stimulation of students' independent cognitive activity. It involves the teacher's project-based approach to solving practical, application-oriented problems, which often require integrating knowledge from multiple disciplines. Consequently, the distinctive feature of using project-based educational technology in teaching the subject "Upbringing" (Tarbiya) is its focus on fostering students' moral and ethical development. Engaging in project-based assignments allows the "Upbringing" teacher to create an environment conducive to genuine creativity.

Therefore, the application of project-based educational technology in teaching "Upbringing" in general secondary schools is of significant importance. The content of this subject aligns closely with the principles of project-based learning, allowing for integration with multiple academic disciplines, consolidation of scientific knowledge, establishment of logical cause-and-effect relationships, formulation of inquiries, and practical application. Currently, project-based

learning technology is regarded as an educational system aimed at the acquisition of knowledge and skills through a step-by-step process of planning and executing increasingly complex practical tasks—projects.

Thus, project-based learning technology possesses the following characteristics:

- Directing students' attention to the practical significance of acquired knowledge,
- Developing personal interest in mastering the subject matter through the necessity of solving project-related tasks,
- Enabling cognitive activities to extend beyond a single discipline, allowing for cross-subject integration,
- Fostering an awareness of the significance and necessity of interdisciplinary knowledge through the process of completing project assignments.

The objectives of project-based learning are multidimensional and can be expressed through the following key positions: fostering each participant's self-confidence in their ability to engage in self-education within a project-based learning framework. This goal is achieved by creating a "successful experience" that enables students to feel valued, self-assured, capable of completing project tasks, and aware of their potential and contributions to the overall project outcome.

Additionally, project-based learning emphasizes the significance of collaborative work in achieving results, highlighting the role of cooperation and joint activities in completing creative tasks. This, in turn, contributes to the development of students' communicative competencies. Another crucial objective is cultivating research skills, including problem identification and analysis of problematic situations, searching for and selecting relevant information, conducting observations, analyzing and synthesizing observational data, constructing and testing hypotheses, and drawing appropriate conclusions based on project outcomes.

The fundamental didactic principles of project-based learning technology are as follows:

The learning process is structured not according to the logic of the discipline but according to the logic of activities that hold personal significance for students, thereby enhancing their motivation to acquire knowledge.

Individual pacing in project work ensures that each student reaches their optimal level of development.

A comprehensive approach to developing educational projects that foster students' cognitive abilities and intellectual capacities.

Deep and conscious mastery of fundamental knowledge is achieved through solving diverse cognitive and research tasks within the project and applying the acquired knowledge in practical contexts.

To implement project-based learning in the educational process, it is essential to recognize that projects can take various forms, each defined by specific typological characteristics. These characteristics include the dominant type of activity within the project, the thematic-content domain, the nature of project coordination, the number of participants, and the project's duration. Based on these typological characteristics, the primary project categories include:

Research projects – focused on investigating specific issues and formulating scientific conclusions.

Creative projects – aimed at producing original and artistic outputs.

Role-playing (simulation) projects – involving the adoption of different perspectives or characters.

Exploratory and indicative (informational) projects – centered on gathering and presenting data.

Practical and indicative projects – focused on solving real-world problems and generating applicable results.

The characteristics of each type of project-based learning are as follows:

a) Research Projects

b)

This type of project is almost entirely based on the logic of scientific research. The development of such a project requires: defining and formulating the research problem; identifying the subject and object of the study; distributing research tasks at each stage; selecting appropriate research methods; searching for and analyzing information sources; proposing hypotheses to address the identified issue; developing methods for problem-solving, particularly experimental approaches; discussing results; drawing conclusions; identifying new problems that emerge during the research process and determining future research directions.

b) Creative Projects

These projects require students to design outputs in formats such as video scripts, dramatizations, albums, diaries, and others. Unlike research projects, they do not adhere to a strict scientific structure. The collaborative work of students in these projects is shaped by the format in which the project outcome is presented.

c) Role-playing (Simulation) Projects

In such projects, role-playing serves as the primary activity. The structure of the activity is determined by the rules of role adoption established by the project participants.

d) Exploratory and Indicative (Informational) Projects

These projects focus on searching for and collecting information about a particular object. They are often employed in studying topics such as natural territorial complexes, socio-economic systems, and global or regional issues from an educational perspective, particularly in subjects like moral education. These projects require a well-structured framework, systematic adjustment of participants' activities in the process of searching and processing information, and appropriate formats for presenting the collected data. The key components include:

- **Project objectives** – its relevance and alignment with the content of the subject being studied, such as moral education.
- **Sources of information** – literary, electronic, cartographic materials, mass media, encyclopedias, surveys, interviews, etc.
- **Processing information** – analysis, classification, generalization, comparison, and formulation of well-reasoned conclusions.
- **Project outcomes** – reports, diaries, maps, presentations, videos.
- **Presentation** – defense, discussions, demonstrations.

Guided projects often serve as components of research projects and involve the following stages: determining the subject and direction of information retrieval, selecting search stages with interim results, updating initial search directions if necessary, continuing further information search, analyzing new data, synthesizing all gathered information, drawing conclusions, and presenting results (with external evaluation where applicable).

e) Practical and Indicative Projects

These projects are distinguished by their clearly defined final outcome. From the perspective of moral education, such projects are significant because they are oriented toward students' personal

development. The structure of project-based activity in this category must include recommendations for modifying or improving the object of study. These projects require a well-thought-out framework, active participation of students in various project-related activities, well-founded conclusions, structured project planning, outcome presentation, and practical applications of the project results.

For teachers of moral education, utilizing **practical and indicative projects** is highly recommended as they facilitate professional competence in project-based instruction. Through such projects, educational institutions and teacher training centers can foster productive collaboration between instructors and trainees. As a result, moral education teachers experience a sense of fulfillment in their profession. The process of working on projects enables teachers to effectively use various sources and digital tools, plan and organize their activities, and gain a sense of achievement.

Training in project-based learning enhances teachers' ability for continuous professional development, self-directed learning, critical analysis, and independent conclusion-making. In this process, instructors in teacher training centers play a crucial role in creating an environment conducive to personal and professional growth, learning, and moral education while also assuming leadership and guiding responsibilities.

Given the significance of project-based education in enhancing instructional methods, **increasing the creative competence of moral education teachers in project development** is essential. Enhancing their project-based skills enables the integration of modern educational tools into lessons. The following digital environments are recommended for educational applications:

- **Prezi** – for developing presentations related to moral education.
- **Canvas and PlayPosit** – for creating video lessons and educational video content.
- **Online Test Pad and iSpring** – for designing online standardized and non-standardized tests.
- **Hot Potatoes** – for developing crossword puzzles.
- **Explain Everything** – as an interactive whiteboard tool.
- ClassFlow – for organizing quizzes.
- **Kahoot!** – for designing educational tools aimed at fostering moral education and logical reasoning.

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