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## METHODOLOGY OF USING ELECTRONIC EDUCATIONAL RESOURCES IN DEVELOPING INDEPENDENT LEARNING COMPETENCIES OF “TEMURBEKLAR MAKTABI” STUDENTS

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### Abstract

This article explores the methodology of using electronic educational resources to develop independent learning competencies among students of “Temurbeklar maktabi”. The study focuses on the effective integration of digital learning environments, fostering self-directed learning, self-regulation, and reflective thinking. Methodological recommendations are provided for the use of digital platforms such as Moodle, Google Classroom, and EduPage to enhance students’ learning activity and develop their independent work competencies.

**Keywords:** “Temurbeklar maktabi”, electronic educational resources, independent learning competence, digital learning environment, methodology, innovative educational technologies.

### Introduction

Information technologies and electronic systems are the main means of launching, managing and using electronic educational resources created on the basis of software technologies. The following information technologies and electronic systems are widely used in communication with electronic educational resources created on the basis of software technologies: computer, web camera, video camera, multimedia tools, video projector, fax modem, telephone, computer networks, telecommunication tools, satellite communication systems,



data storage and their management systems, artificial intelligence systems, Internet, e-mail, teleconference, video conference, chat, forums, as well as innovative pedagogical technologies, various traditional and non-traditional teaching methods, distance learning technologies, etc [1].

In developing the methodology for utilizing the electronic resource designed to enhance the independent learning competencies of students at the “Temurbeklar maktabi” military academic lyceum through electronic educational tools, the following tasks are carried out.

- ✓ organizing both individual (independent, project-based) and collaborative (team-based) activities of “*Temurbeklar maktabi*” military academic lyceum students through electronic educational resources;
- ✓ designing and organizing communication processes of educational significance, including interdisciplinary interactions;
- ✓ developing and fostering critical thinking through the use of electronic educational resources in the process of searching for and selecting information;
- ✓ integrating the virtual and real worlds in accordance with educational objectives and supporting the development of students’ worldview at the “*Temurbeklar maktabi*” military academic lyceum through electronic educational resources;
- ✓ teaching “*Temurbeklar maktabi*” military academic lyceum students to work collaboratively with teachers in a continuously constructive manner through electronic educational resources.

An electronic resource aimed at developing the independent learning competencies of “*Temurbeklar maktabi*” military academic lyceum students has been created using the example of the subject of mathematics.

Each of the organizers of the “Textbooks” section has a separate page. On each page, the collection of literature, manuals, and tests is enriched with new educational literature so that the student can independently master the subject and obtain the necessary new information. The literature is arranged in sections in an orderly manner so that it is convenient for the student to use and easy to find.

The “Lectures” section is divided into the 1st stage and 2nd stage categories.

In the first stage category, lectures on all topics taught to first-stage students in Algebra and Geometry, as well as diagnostic test questions and independent



assignments for these lectures, are placed for students studying at the 1st stage according to the calendar subject plan approved by the military academic lyceums of the “Temurbeklar maktabi”. The student has the opportunity to independently read, master, develop and download all lectures, independent assignments, and diagnostic test questions.

In the second stage category, lectures and independent assignments on all topics taught to second-stage students in Algebra and Geometry according to the calendar subject plan approved by the military academic lyceums of the “Temurbeklar maktabi” are placed for students studying at the second stage. The student has the opportunity to independently study, master and download all lectures and independent assignments.

The assignments for independent work given to students are arranged in the order indicated in the approved schedule for Algebra and Geometry by the “Temurbeklar maktabi” military academic lyceum. The student can go to the independent work section, select from the list of independent work, and download the assignment file.

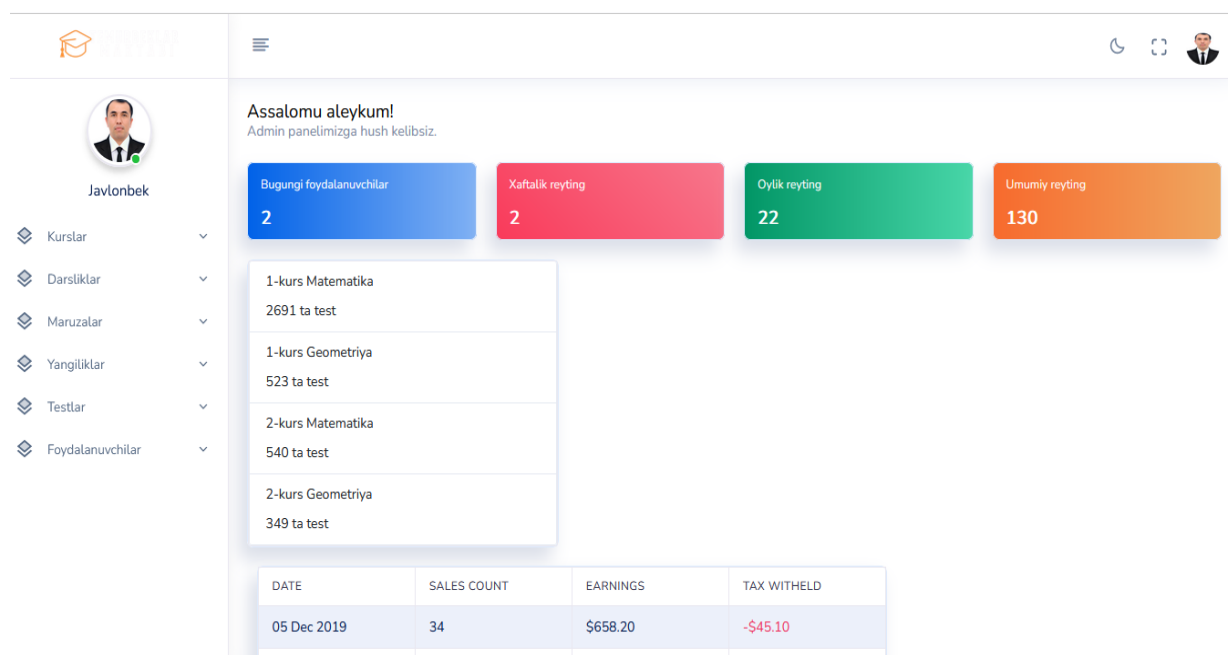
One of the main sections of the electronic resource that develops the independent work competencies of students of the “Temurbeklar maktabi” military academic lyceum, created on the basis of software technologies, is the "Tests" section. This section is directly linked to the sequence of topics in the "Lectures" section.

In order for the student to check his knowledge of the topic he has chosen, 20 test questions are presented to him using the Random program from the test collection on this topic. The student is given 40 minutes to work on the test questions presented. As soon as the student completes the test, an analysis of the test he has completed is displayed, that is, the test questions that the student has completed incorrectly are displayed. If the student works out more than 60% of the test questions correctly, he will receive a message that he has mastered the topic.

The electronic resource, created for the teacher to develop the competencies of independent work of students of the “Temurbeklar maktabi” military academic lyceum, allows you to monitor students, monitor the status of independent tasks, conduct and analyze intermediate and final control tests, monitor student activity when using the electronic resource, regularly monitor student mastery indicators,



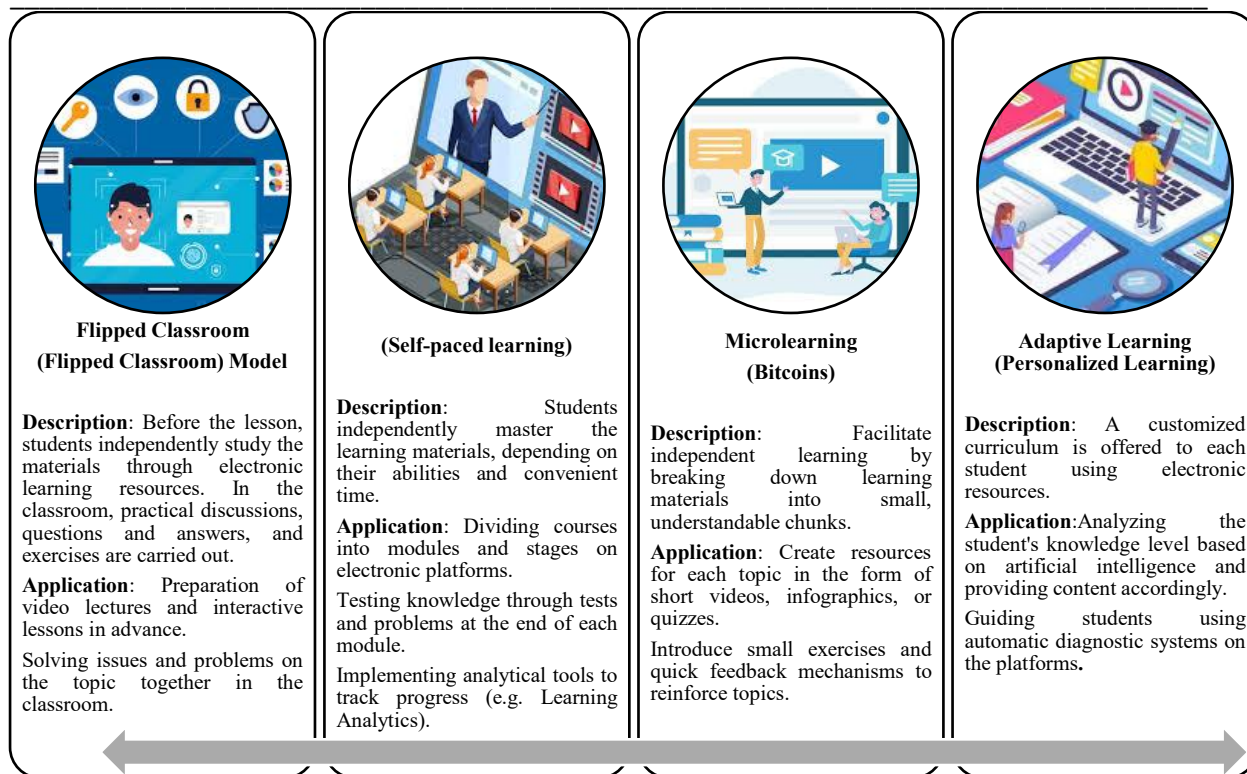
and post literature, test questions, independent tasks, news, and reports to the electronic resource (Figure 3).



**Figure 3. Appearance of the “Teacher” panel of the electronic educational resource**

Demonstrativeness is of great importance in lecture classes in the subjects “Algebra” and “Geometry”. Therefore, it is necessary to achieve widespread use of electronic textbooks, electronic stands and presentation materials in lecture classes.

There are a number of methodologies and approaches to implementing independent learning for students of the Temurbeklar Maktabi Military academic lyceum through electronic educational resources. The following methodologies were used to organize independent work on the electronic educational resource we provided during the study and these methods were put into practice (Figure 4).



**Figure 4. Methods used in electronic educational resources**

Based on the methodology for developing independent work competencies of students of the "Temurbeklar maktabi" military academic lyceum, developments, independent work assignments, and educational and methodological complexes were created for theoretical and practical exercises using electronic educational resources. Practical issues of using the created educational and methodological materials in electronic educational resources were recommended. At the same time, the foundations of independent learning were created and put into practice using electronic educational resources created on the basis of web technologies. The created electronic educational resource contains multimedia information resources that can be used in teaching the subjects "Algebra" and "Geometry". The issue of developing the competence of independent work of students of the "Temurbeklar maktabi" military academic lyceum through electronic educational resources and improving their methodological support was considered, including the use of electronic educational resources created based on web technologies during the lesson and outside the lesson.





The possibilities of creating electronic educational resources for the development of independent work competencies of students of the “Temurbeklar maktabi” military academic lyceum were considered. A model for developing students' independent work competencies using electronic educational resources was developed, a methodology for the effective use of the created electronic educational resources, independent use of didactic materials, self-management, work on independent topics, self-control and on this basis for developing students' independent work competencies was developed and put into practice.

## **REFERENCES**

1. Abdullayeva B.C. 3D tizimli interaktiv axborot ta'lim resurslaridan foydalanishning didaktik imkoniyatlari. Toshkent davlat pedagogika universiteti ilmiy axborotlari. Toshkent – 2021. 10-son. -241 b.
2. Begimqulov U.Sh. Pedagogik ta'limda zamonaviy texnologiyalar // Pedagogik ta'lim. – Toshkent: 2005. – №. 6. – B. 15-17.
3. Jan Olsson. GeoGebra, Enhancing Creative Mathematical Reasoning. Institutionen för tillämpad utbildningsvetenskap. Umeå 2017. Responsible publisher under swedish law: the Dean of the Medical Faculty. This work is protected by the Swedish Copyright Legislation (Act 1960:729). ISBN: 978-91-7601-697-8. ISSN: 1650-8858.
4. Jumayev J.A. “Elektron ta'lim resurslari “Temurbeklar maktabi” o'quvchilarining mustaqil ishlash kompetensiyalarini rivojlantirish vositasi sifatida” Жамият ва инноватсиялар – Общество и инноватсии – Society and innovations Special Issue – 10 (2024) / ISSN 2181-1415.
5. Mamarajabov. M.E. Informatika o'qitish metodikasi, Toshkent – 2023.