



OPPORTUNITIES OF DIGITAL TECHNOLOGIES IN DEVELOPING STUDENTS' INDEPENDENT LEARNING ACTIVITIES IN GEOGRAPHY LESSONS

G. O. Jiemuratova

Associate Professor of the Center for Pedagogical
Excellence of the Republic of Karakalpakstan

Abstract

This article analyzes the pedagogical possibilities of using digital technologies in developing students' independent learning activities during geography lessons. Methodological factors hindering students' independent learning are highlighted, and the importance of digital educational resources, interactive electronic tasks, and multimedia tools in overcoming them is substantiated.

Keywords: Geography education, independent learning activities, digital technologies, interactive electronic assignments, multimedia tools, iSpring Suite, geography lessons, independent study, interactive learning, e-learning resources.

Introduction

Today, scientific and technological progress and the digital transformation of society pose new challenges to the education system. In such conditions, the emerging strong competitive environment requires a radical modernization of the education sector. Special strategic attention is paid to establishing a competency-based approach in the education system, preparing students for social reality through the formation of vital and core competencies, and increasing the professional potential of teachers. In order to implement these tasks, the National Curriculum of the Republic of Uzbekistan also pays special attention to the widespread introduction of digital technologies in teaching geography:



Ensuring the integration of modern digital technologies and educational technologies, creating additional conditions for the development of the professional skills of teaching staff in this regard, creating a system for placing educational methodological complexes (innovative textbooks, methodological manuals for teachers, multimedia applications of textbooks) in the context of classes using a QR code in order to download and download electronic textbooks on geography to mobile communication tools; keeping students informed about additional interesting news in the form of text, audio, and video, as well as organizing distance learning tools based on modern information and communication technologies; placing educational and methodological complexes and electronic learning resources developed in geography into an electronic library system that enables remote access, increasing the usability of these resources, gradually expanding the share of digital content in the educational process, creating electronic literature, and establishing a system for posting notifications about e-resources using QR codes to allow easy downloading to mobile devices[1].

The implementation of these tasks primarily requires the effective organization of students' independent educational activities. Especially in geography, the development of these skills plays an important role in strengthening the scientific thinking and analytical views of students. Unfortunately, in many schools today, students are limited to the level of memorizing ready-made knowledge.

The development of students' independent learning activities in general education schools is considered one of the priority tasks of modern education. However, pedagogical practice shows that in many lessons, students still participate as passive recipients of knowledge. This is due to the insufficient use of problem-based tasks that stimulate students' independent and critical thinking, as well as the use of digital educational resources. The results of pedagogical observations show that this situation arises primarily under the influence of factors related to the methodology of lesson organization. Among them, the following factors directly related to the methodology of lesson organization are of particular importance:

- Advantages of traditional teaching methods: the teacher's activity occupies a leading position in lessons, with the primary focus on the presentation of ready-



made knowledge. As a result, students' activity in the process of independent research and knowledge acquisition is limited.

Insufficient use of problem-based and heuristic tasks: lessons primarily use reproductive questions, with less space allocated to tasks that develop students' analytical, critical, and creative thinking.

- Inefficient organization of lesson time: the main part of the lesson is spent on explaining the new topic, and not enough time is allocated for students to work independently based on digital educational resources, interactive tools, and practical assignments.

Addressing the aforementioned methodological problems requires the implementation of modern pedagogical approaches into the educational process. In particular, we know that the issues of organizing students' independent work and the effective use of digital environments are widely covered in international pedagogical research. In particular, in the theory of independent learning, Malcolm Knowles interprets the student as an active subject of their own educational activity. According to the scholar, in the process of independent learning, the student identifies their educational needs, sets goals, selects appropriate resources, develops a learning strategy, and independently evaluates the results of their mastery. Thus, the use of digital technologies in modern lessons creates a favorable educational environment for students to independently implement these stages [2].

These theoretical principles of independent learning were subsequently further developed by international educational organizations in accordance with the digital educational environment. UNESCO's conceptual approaches to the transformation of digital education emphasize that the student is at the center of education, and digital technologies serve their independent research, work with various information sources, and continue education outside the classroom [3].

The practical effectiveness of these conceptual approaches has also been confirmed in OECD research. OECD research also shows that digital technologies do not automatically improve the quality of education; their effectiveness is manifested only when applied with a pedagogical goal in mind. Therefore, the use of interactive maps, virtual laboratories, electronic platforms, and digital tasks in geography lessons should be organized not only as a



technology implementation but also as a didactic tool that serves to develop students' independent learning activities [4]. The implementation of theoretical approaches into practice requires the teacher not only to use technology but also to design it methodologically correctly. However, the process of implementing this approach into educational practice is complicated by a number of methodological and psychological factors. This is because it is natural that any innovative changes in the education system initially encounter certain psychological resistance, and many educators do not want to abandon the traditional and relatively "easy" teaching methods they are used to. One of the main reasons for the need for such changes is the changing educational needs and learning characteristics of modern students.

The cognitive (knowledge) needs of today's 21st-century students are completely different, and engaging them in lessons and fostering interest in science is becoming an increasingly complex pedagogical problem. In most cases, educators simply accept the problem as a fact, attributing students' passivity to external factors such as children's lack of reading, smartphone addiction, or parental neglect. However, the task of a modern teacher is not simply to justify these negative factors, but to seek methodological solutions to the questions "How can a child be interested in the lesson?" and "What should be done to attract their attention?" based on existing realities. It is at this point of research that the importance of digital technologies directing students' digital interests in daily life toward educational goals is incomparable. This approach, designed in a digital environment, serves to systematically develop not just factual knowledge, but the most important 4K skills of the 21st century (Creativity, Critical Thinking, Collaboration-Teamwork, Communication). In implementing these tasks, modern digital educational platforms and electronic resources create important methodological opportunities for teachers.

Information technologies used in teaching disciplines require knowledge of technologies for the creation and processing of technical and traditional tools, the creation of personal electronic educational resources, the planning of e-learning courses for disciplines, student knowledge assessment systems, Internet technologies, the use of distance learning technologies and methods for its organization, video conferencing, and the organization of online open courses



(Coursera, edX, Khan Academy, MIT Open Ware Course) [5]. Therefore, the issue of the quality of electronic resources used in the educational process and their methodological use is of particular importance.

The digital transformation of the education system requires the widespread implementation of electronic educational resources that serve to effectively organize students' independent work. Digital technologies create convenient opportunities for students to independently study educational materials, complete interactive tasks, and monitor their knowledge. However, since most e-learning resources used in pedagogical practice are not flexible and are created by professional programmers, teachers do not have the opportunity to quickly edit them based on updates to the content of the subject or enrich them with new tasks. Therefore, one of the current methodological tasks is for the teacher to independently develop interactive electronic tasks and educational resources using tools that do not require special programming skills, as well as to adapt them to independent activity.

The use of ready-made electronic resources alone is insufficient for the effective organization of students' educational activities. The educator must be able to independently develop interactive tasks aimed at independent research, analysis, decision-making, and assessing their knowledge, based on their age, level of preparation, and the content of the topic [6]. In this regard, the iSpring Suite program was selected as part of the study. This platform not only allows for the creation of interactive electronic tasks, tests, and multimedia resources based on the PowerPoint environment but also serves to adapt them to students' independent learning activities. Electronic tasks developed using the program encourage students to independently search for information, analyze geographical objects, work with interactive maps, solve problem situations, and independently monitor their knowledge rather than mastering ready-made information. Although the availability of ready-made electronic resources supports the educational process, it is not always possible to adapt their content to specific lesson objectives. That's why. In this study, iSpring Suite was chosen not as a digital educational tool, but as a methodological tool that serves to organize students' independent learning activities. A distinctive advantage of this platform is that it allows for the comprehensive use of the visual capabilities of



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the PowerPoint program familiar to all educators, the easy integration of audio and video materials into the lesson script, and the addition of advanced testers and assignments. Most importantly, ready-made resources can be accessed through computers and mobile devices. This creates conditions for them to continue their independent educational activities outside of classes.

To demonstrate the practical application of the proposed methodological approach, a set of electronic tasks aimed at developing students' practical application of knowledge was developed using the iSpring Suite software. As an example, the topic "Journey to the Australian Continent!" was chosen for the 7th-grade course "Physical Geography of Continents and Oceans." Electronic resources created on this topic serve to organize students' independent educational activities during the lesson process and during extracurricular time. The electronic task set was designed based on the principle of supporting students' independent search, analysis, and practical application of knowledge rather than the acquisition of ready-made knowledge. During the development of tasks, special attention was paid to the gradual involvement of students in independent activity, the development of their geographical thinking, and the creation of opportunities for independent monitoring of mastery results. This electronic resource includes interactive maps, multimedia materials, videos, animations, test tasks, and practical exercises. These elements allow students to observe geographical objects, compare them, analyze information, find solutions to problem situations, and evaluate their knowledge. At the same time, the tasks develop students' skills in working with additional electronic resources, rather than being limited to the textbook. The interactive capabilities of the iSpring Suite platform ensure the sequential mastery of educational materials, immediate feedback, and automatic evaluation of results. This supports the student's process of independent planning, execution, and control of their educational activities. As a result, digital technology in this study appears not only as a means of presenting information but also as a methodological tool for organizing students' independent educational activities. The electronic tasks were designed based on the following sequence. For example: (1-picture)



An interactive task developed on the topic "Journey to the Australian continent!" This task serves to involve participants in the educational process independently in the topic and to create motivation for further activity. (2-picture)



Sample interactive test task developed on the topic "Journey to the Australian continent!" This task serves to develop students' skills in independent verification of geographical knowledge, analytical thinking, and self-assessment. (3- picture)



Sample interactive map assignment developed on the topic "Journey to the Australian continent!" This task was designed using Drag-and-Drop technology. This method encourages students to analyze objects and place them correctly according to their geographical features, which serves to activate independent learning activities. When the task is completed correctly, a combination of words that stimulate and activate the student's subjectivity appears in a pop-up window on the screen. Each educator, based on their work experience, can use encouraging phrases such as "Bravo!," "Good!," "Excellent!," etc. Conversely, if an incorrect answer is recorded, the system provides guiding instructions such as "Think about it," "You made a mistake," "It is recommended to retake the topic" to encourage the student to reactive activity. The technological advantage of the latest versions of the software is that, in addition to static text, it is now possible to include various characters, visual emotions, and sound content in feedback windows. In this project, it was decided to visualize feedback windows through the corresponding emotional states of the interactive characters (smile, reflection, surprise). (4-picture)



Furthermore, the platform allows for the creation of not only control tasks but also didactic elements that prepare the student for new activities. The functionality of the platform also allows for the inclusion of special information slides in the lesson content. These slides serve as a didactic bridge for the student to recall fundamental basic knowledge of the topics covered, review key terms, and activate visual memory before directly starting to complete the tasks. Thus, the methodologically correct design of digital technologies in geography lessons is one of the effective means of organizing and developing students' independent educational activities.

During the study, a digital methodological approach aimed at developing students' independent learning activities in geography lessons was developed, and a set of interactive electronic tasks based on the iSpring Suite platform was created as a means of its practical implementation. This complex was designed based on the topic "Journey to the Australian Continent!" from the 7th-grade "Physical Geography of Continents and Oceans" course and is aimed at supporting students' independent learning, information search, analysis, work with geographical objects, and self-assessment skills.

Research results have shown that digital technologies do not increase educational effectiveness by themselves. Their effectiveness is manifested primarily when applied as a methodological solution designed in accordance with the pedagogical goal. From this perspective, the development of interactive tasks as a didactic tool that serves the gradual organization of students' independent educational activities is of great methodological importance.

The choice of the iSpring Suite platform in the study is explained by its integration with the PowerPoint environment, the fact that it does not require special programming skills, and the ability to create interactive tests, Drag-and-Drop tasks, multimedia elements, and fast feedback. This platform allows the



teacher not only to use ready-made electronic resources but also to independently develop interactive educational materials corresponding to the content of the subject and adapt them to the educational process.

The methodological advantage identified during the study is that interactive electronic tasks serve to transform the student from a passive participant acquiring ready-made knowledge into an active subject capable of independent research, analysis, decision-making, and evaluation of their own educational results. Furthermore, such an approach creates favorable pedagogical conditions for developing 4K competencies in geography education, ensuring continuity between classroom and extracurricular educational activities, and increasing students' learning motivation.

In future research, it is advisable to evaluate the effectiveness of this methodological approach in various classes and topics based on experimental research, develop adaptive electronic tasks enriched with artificial intelligence elements, and improve the criteria for diagnosing students' independent learning activities in geography education.

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