

DESIGNING THE PROCESS OF TEACHING STUDENTS ABOUT BIRDS BASED ON DIGITAL EDUCATIONAL TECHNOLOGIES

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Annotation: A system of theoretical and practical educational programs is being created for the extensive and effective use of computers in various disciplines taught in the educational process. In our opinion, it is appropriate to focus on the design and implementation of tasks in the organization of lessons. Because improving students' skills in working with computers and their applications is one of the most pressing issues today. It is important for students to have the skills to work with modern information and communication tools, to be informed about events taking place in the world, and to further enrich their knowledge.

Keywords: bird class teaching, digital educational technologies, design, lesson development,

Designing the process of teaching birds class to students based on digital educational technologies is one of the important directions of modern educational methodology. In order to effectively organize this process, the following main stages should be taken into account.

1. Determining the goals and objectives of the design

Description: At the initial stage of the design process, specific goals are set that students should achieve during the educational process. The main task is to increase the level of knowledge of students, develop practical skills, and form independent learning competencies.

Practical application: Using cloud platforms such as Google Classroom and Microsoft Teams, educational projects are developed and planned that are consistent with the expected results of students.

2. Selecting and optimizing educational content

Description: It is important to correctly select educational content provided through cloud technologies and adapt it for mobile devices. This allows students to use educational materials at any time and place.

Practical application: Video lessons, electronic learning materials and digital textbooks are hosted in the cloud environment and presented in a format suitable for mobile devices.

3. Creating an interactive learning environment

Description: An interactive learning environment is created to increase the effectiveness of the independent learning process. This encourages students to actively participate and develops self-control skills.



Practical application: Interactive tests, problem situations and practical exercises are organized on cloud platforms. Game tests and assessments are carried out using tools such as Quizlet and Kahoot.

4. Remote monitoring and analysis

Description: Regular monitoring and analysis of students' knowledge acquisition is an integral part of the educational process. Cloud technologies allow this process to be automated.

Practical application: Teachers monitor student activity, identify problems and provide individual assistance using analytical tools such as Google Analytics and Microsoft Power BI.

5. Feedback and Assessment

Description: Evaluating the work done by students and establishing effective feedback with them increases the quality of independent learning.

Practical application: Assignments are checked, evaluated and detailed comments are given to the student through Google Forms, Microsoft Teams, Moodle platforms.

6. Analysis and improvement of results

Description: The knowledge and skills acquired by students are constantly analyzed and the educational process is improved. Practical application: At the end of each project, the learning process is reviewed based on the feedback of students and teachers, and modern methods are introduced.

7. Creating a cooperative learning environment Description: Cloud technologies serve to develop students' teamwork and collaborative learning skills.

Practical application: Group projects are carried out through Google Docs, Microsoft OneDrive, documents are worked on together, and knowledge is exchanged.

Goals and objectives of student independent work

The main goal of student independent work is to form the knowledge, skills and competencies necessary for students to independently complete specific educational tasks under the guidance and supervision of a teacher.

Main tasks:

- independently master new knowledge;
- finding and effectively using the necessary information;
- rational use of information sources and resources;
- working with traditional and electronic educational literature;



-purposeful use of the Internet;

-identifying optimal solutions to the given tasks.

Organizational forms of student independent work

Independent work is organized in the following forms:

independent mastery of theoretical topics;

composing scientific crosswords and creative tasks;

performing various types of homework;

preparing for practical and laboratory exercises.

Information provision

Students are provided with textbooks, educational and methodological manuals, popular scientific publications, Internet resources, and sample works for

independent work[2]. The university administration creates the necessary conditions for the effective use of computer equipment and the Internet.

Conditions for implementing independent work

Independent work:

1. in the classroom;
2. during extracurricular consultations with the teacher;
3. is carried out in information resource centers, at home or in departments.

Tests, exercises, and control tasks are mainly completed independently, and the results are analyzed and evaluated in classroom sessions.

Types of independent work

-practical and laboratory work;

-working with educational literature;

-preparing a lecture;

-using distance learning technologies;

-doing homework;



-preparing for tests and control work.

In conclusion, independent learning organized on the basis of digital and distance learning technologies develops students' creative thinking, consolidates knowledge and effectively prepares them for future professional activities[4].

1. Relevance of the project

In biology, the topic of the class of birds includes many visual and dynamic processes. It is difficult to fully imagine these processes in traditional lessons. With the help of digital educational technologies, students will have an increased

opportunity to develop visual perception, independent learning, analytical thinking and digital competencies[1].

2. Purpose of the project

To develop an effective, interactive and student-centered educational model based on modern digital methods in teaching the topic of the class of birds.

3. Project Objectives

- Selecting appropriate digital platforms for teaching the birds class
- Designing the lesson process based on accurate digital methods
- Creating a digital assessment system for students' knowledge
- Developing digital tasks that support independent learning

4. Teaching format. Blended learning, Combination of distance and in-class digital learning

5. DIGITAL METHODS used in the project

5.1. Virtual laboratory method. Tools: Labster, BioDigital Human, 3D Biology Apps

Implementation: Students study the internal structure of birds in 3D format, analyze the skeleton, respiratory and circulatory systems in a virtual environment.

Result: Abstract concepts are clearly visualized, The experiment is safe and infinitely repeatable

5.2. Interactive video analysis method. Tools: Edpuzzle, H5P, YouTube interactive tests. Implementation: Questions are embedded in videos on the flight mechanism, migration and nutrition of birds.

Result: Active learning instead of passive viewing, Control of student attention.

5.3. Gamified digital test method



Tools: Kahoot, Quizizz, Wordwall

Implementation: Digital quizzes are held at the end of the topic, a rating and scoring system is introduced.

Result: Motivation increases, Rapid assessment is carried out

5.4. Digital Project-Based Learning

Tools: Canva, Google Slides, Padlet[6]

Implementation: Students create a digital presentation or infographic on the topic “Red Book Birds”.

Result: Creative thinking develops Digital literacy increases

5.5. Individual learning method based on artificial intelligence

Tools: ChatGPT, AI Tutor, Adaptive learning platforms

Implementation: Student questions are given individual explanations and additional tasks through AI.

Result: Individual approach is provided, Independent learning is strengthened

6. Assessment system (digital) Formative assessment via Google Forms, Summative assessment via LMS (Moodle), Electronic portfolios (Padlet, Drive)

7. Expected results

- The topic of the bird class is mastered in a deep and interesting way
- Digital competencies are formed in students
- The quality and efficiency of education increases

In conclusion, we recommend using the cloud-based learning environment (at the global network address <https://Teachingbirds.uz>) created within the framework of the research in organizing the teaching of the bird class for students. This cloud-based learning environment is intended for open use. It contains electronic educational resources (presentations, video lectures, videos, video laboratories, self-assessment materials) on the subject of teaching methods for birds, which are important because they were created on the basis of the sanitary and hygienic rules of the Republic of Uzbekistan and the principles proposed by researchers.

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