

PEDAGOGICAL SOFTWARE FOR THE USE OF DIDACTIC GAMES TO DETERMINE THE LEVEL OF MENTAL COGNITION

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Abstract

This article describes methods of effective use of didactic game technologies in determining the level of mental cognition by creating an informative educational environment using innovative methods in the organization of classes in secondary schools, methods of applying pedagogical software and web-quantum technologies in educational processes.

Keywords: Quest, Web-quest, Educational WebQuest, joyteka, online quiz, jeopardy labs, interactive lesson, project-based education.

Introduction

Now, in the context of global globalization, special attention is paid to the development of education, the organization of lessons in accordance with the requirements of modern times, and the upbringing of a harmonious individual. Education of modern youth in accordance with the requirements of the time remains an urgent problem. The organization of lessons at school on the basis of a new approach, the use of innovative technologies, and for this school teachers need to constantly work on their own and continuously develop their professional activities on the basis of new ideas.

In particular, the Decree of Uzbekistan on measures to develop the fields of education and science in the new period of development sets out the priority tasks such as "Creating the necessary conditions for systematically improving the professional skills and effectiveness of pedagogical personnel, improving the advanced training system on the basis of the principle of lifelong learning". In this regard, the development of scientific methodological proposals and recommendations for the development of design competence of school teachers on the basis of Kvest technology in the system of continuous professional development, the development of scientific methodological proposals and recommendations for the development of design competence determines the relevance of the research topic.

Literature review and methods

Research on the theory and practice of continuous professional development of teachers abroad, methods of improving the professional skills of teachers: M.T.Tatto, F.Vogt, M.Rogalla, K.Zeichner, P.F.Conway, M.Cochran-Smith; research on the methodology of lesson design: R.Holubová, Katherine Flatt; research on the problems of using "Kquest" and "Web-quest" technologies in teaching subjects: Tuzun Hakan, Sui Yuen. We concluded that Quest technology is a playful training technology designed to increase the effectiveness of classes based on various teaching tools. That is, one interpretation of role-playing games. It is a type of informational, problem-oriented tasks of individual or group training aimed at formation [3]. This is the development of independent activity of the student, the development

of search and research skills in the process of mastering, researching, processing and presenting the subject teaching materials.

The purpose of using the Quest technology in the classroom is to study in order to obtain the necessary information on a particular issue, topic, problem and its further processing, while developing skills of analysis and synthesis of information at the highest stage of the taxonomy of Blum, with the development of assessment skills with reasonable use.

The student will also have the opportunity to independently choose the training material, analyze the information obtained, and learn to make decisions independently. At the same time, quantum technology has the following educational value: it nurtures personal responsibility; forms a culture of interpersonal relationships and tolerance; promotes self-awareness and development [2]. In this regard, new approaches to developing the competence of school teachers based on Kquest technology should be developed in the system of continuous professional development. This helps the learner to develop creative thinking, develop skills through the rational use of training time, and develop cognitive competence.

The formation of lesson scenarios and lesson developments of teachers of computer science and information technology based on Quest technology helps students develop their competencies such as compiling project work on the basis of innovative technologies, forming problem situations and discussing solutions with a group.

The Web Quest is a query-based lesson in which all the information students are working on is taken from the Internet. They can be created using a variety of programs, including a simple text editor that includes links to websites.

"Educational WebQuest is an online site that works when students complete a specific educational task. Such web quests are designed to integrate the Internet into various disciplines in the educational process. They cover a particular problem, an educational subject, a topic, and can be interdisciplinary, interprofessional.

The web-quest model was first proposed in 1995 by Bernie Dodge, a professor at the University of San Diego. Educators around the world are using this technology as one of the most successful ways to use the internet in the classroom. This model is most commonly used in Brazil, Spain, China, Australia, the Netherlands and the Americas.

There are two types of web quests: short-term and long-term.

Short-term web-quests will be designed for one to three lessons, to deepen and integrate knowledge, long-term Web-quests can be for a semester or academic year, half-academic year to deepen and change students' knowledge.

A feature of educational web quests is that some or all of the information will be located on different websites for students to work independently or in groups. As a result of working with the Web-Quest, it is possible to publish students' work on the Internet in the form of web pages and web sites.

Using information educational platforms in order to use time and methods in the organization of an interactive lesson environment is much more interesting and in a short time it is more convenient for students to assess their knowledge, skills and competencies.

An example of such platform is *joyteka.com* online learning platform. The teacher will be able to draw students' attention to the content of the lesson, conduct mini-studies in small groups, independently find solutions to questions and tasks, develop the skills to find solutions to problem situations.

Joyteka is a platform for teachers. The team and founders of Joyteka aim to organize their learning process to the smallest detail in the educational processes with students in the development of this didactic play platform, and emphasize that the purpose of each service is to solve a specific problem.

The creators of the Joyteka.com platform are brothers Novikov Maxim Yurievich (candidate of pedagogical sciences, laureate of the competition "Teacher of the Year of Russia-2018") and Novikova Tatyana Yurievna (teacher, specialist in the direction of "Graphic Design"). This "Web-quest" tutorial game has 46 different "escape" rooms by loading tasks on any theme and controlling the game settings, while the rooms on the new themes are constantly added and the platform is automatically updated.

Web-Quest is a new tool of using modern educational technologies to create a lesson aimed at participating students and stimulate their critical thinking. This will enable students to conduct research and meaningfully organize the learning process for students and their creator teachers.

Web-quest design involves wise planning of learners' time, which focuses on using information rather than finding it.

Web-Quest contributes:

- ✓ search for information on the Internet where the teacher instructs students;
- ✓ data analysis
- ✓ generalization;
- ✓ development of students' thinking at the assessment stage;
- ✓ development of students' computer skills and increase their vocabulary;
- ✓ to encourage students to learn independently of the teacher.









The State Educational Standard for the organization of extracurricular activities of students provides for the development of project and research activities of modern students, as well as a greater focus.

In the process of project activity, the person who knows not only to act in accordance with the model, but also independently receives the necessary information from the most sources, knows how to analyze it, develop hypotheses, draw models, experiments and conclusions, and make decisions in difficult situations.

The use of project-based education in the effective organization of lessonwork has great advantages: First, it contributes to the successful socialization of graduates by creating an adequate information environment where students can learn to act independently.

Second, exposing students to the relevance, liveliness and visuals of small research topics during classroom activities will enable them to support an activity-based approach at all stages of the learning process.

Thirdly, pupils will acquire research skills, which will include the following steps:

-  tadqiqot muammosini aniqlash
-  maqsad va vazifalarni belgilash
-  ma'lumotlarni yig'ish va qayta ishlash usullarini aniqlash
-  qo'shimcha ma'lumot qidirish
-  yangi faktlarni tahlil qilish
-  umumlashtirish
-  olingan natijalarni muhokama qilish
-  tadqiqot muammosini tanlash va kichik guruhlar o'rtasida muayyan muammoni hal qilish

The learners are drawn from their own level of interest and preparation.

Results and analyses

One of the forms of project activity is an educational web-quest. This is an Internet site where students perform a specific learning task, and such web-quests are being developed in order to integrate the Internet into different levels of education in the educational process as much as possible. They cover a particular problem, an educational subject, a topic, and can be interdisciplinary.

A feature of educational web-quests is that, for independent or group work of learners, some or all of the information will be located on different websites.

In addition, the result of working with the web quest is to publish the readers' work in the form of web pages and websites. Before dividing students into groups, the whole class will get acquainted with the general information on the topic being studied and will be moved to solving the project problem of the topic.

The teacher selects Internet resources related to the topic and classifies them so that each group is familiar with only one problematic aspect of the topic.

During the discussion, all students learn from each other all sides of the problem being discussed.

In such a discussion, readers should express their opinions, draw conclusions, predict the next possible course of action (if any).

When solving a web quest by studying the material and discussing it, students must answer one general question of a controversial nature. The basis of the web-quest is the work of students individually or in groups to solve a given problem using the Internet resources prepared by the teacher.

In the web quest, students collect data, analyze, summarize, draw conclusions, form and defend their point of view, not simply looking for information, but working on the task.

The creative process of modifying information from various sources helps to develop thinking and forms the basis for solid knowledge.

Web quests are best suited for work in small groups, but there are also Web quests designed for individual learners.

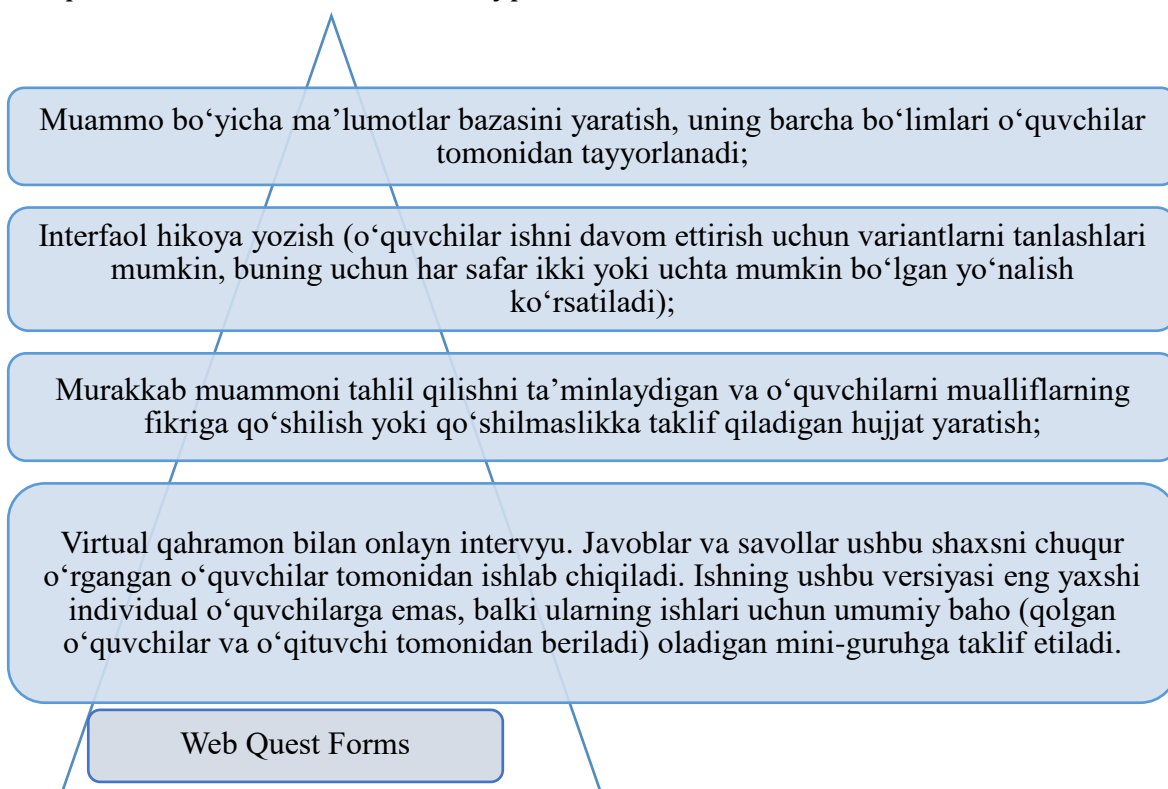
The effective use of today's modern digital technologies in the classroom plays an important role in the development of the four most important competencies of students: creative, collaborative, communicative, and critical thinking, through the effective use of didactic games.

Such PDVs can be widely used in the classroom, such as a project-based joyteka.com online educational didactic game creation platform.

Joyteka.com is an learning platform. It is a platform that creates and organizes five online services, individual assignments, and didactic games to be used in the educational process. Creating a lesson for students in an engaging online environment can be used as a tool of interest in science through interactive methods.

Joyteka is designed for different forms of learning:

- ✓ lesson in the classroom;
- ✓ provide fun homework;
- ✓ help organize classroom or extracurricular activities in a non-standard way;
- ✓ students' motivation increases through games and interactive technologies;
- ✓ Joyteka works online and can be accessed and used from any device.
- ✓ Web-quest formats can also be of all types:



Features of web-quests:

- ✓ The web quest contains an "idea" that allows students to maintain interest in the work being done at all its stages. Such an "idea" can be a complex plot, a detective story, a "treasure hunt" or any other activity in the form of a game.
- ✓ The web-quest contains materials appropriate to the age category and ability of the students. The network's wealth of information provides a great way to provide resources and the opportunity to fully participate in teamwork with students of different ability levels;
- ✓ Completing a web-quest task involves a joint activity. Students' assessment of the team member's contribution to the overall work is also a good motivating factor;
- ✓ Various multimedia source formats, such as photographs, maps, animation, video, and sounds, are used as material in the web quest. It's no secret that visual memory helps them absorb information better, so using the network's visual resources is another way to keep readers engaged;
- ✓ Navigation through the sections of the web quarter needs to be intuitive, with readers having to navigate from one place to another easily. This is one of the reasons Web quests are created as web pages.
- ✓ The web-kvest is developed taking into account the integration of the studied topic with other types of educational materials;
- ✓ Web-Quest contains a built-in evaluation mechanism. The assessment gives students an idea of how the work should be done.

Types of services in Joyteka



Xonalar bolalarni darsga qiziqtirishga va qiziqtirishga, ijodkorlik va mantiqni rivojlantirishga yordam beradi.



Videolari vazifa talabani yangi mavzuni ayni paytda qanday o'rganishini tekshirish imkoniyatini beradi.



Sinov mavzu bo'yicha bilimlarni nazorat qilishga yordam beradi



Shartlar bilan o'yin atamalarini eslab qolishga hissa qo'shadi va qora taxtaga borish qo'rquvini kamaytiradi, jamoani yaqinlashtiradi.



Viktorina butun dunyo bo'ylab bir nechta mavzularni takrorlashga yordam berish, jamoada muloqot va o'zaro ta'sir ko'nikmalarini oshirish.



Matni qidirish talabani javoblariga ko'ra individual shoxobchali uchastka yaratish imkonini

A Joyteka.com educational-style game platform based on WebQuest technology, it is possible to load tasks on any theme and control game settings. There are 46 escape rooms, and rooms with new themes are constantly being created and updated online.

The concept of escape rooms.

1. Players enter a virtual room where they have to escape. To get out of the room, you need to find and solve all the tasks. The game plan is formulated in advance: you load tasks and tasks, and they are automatically distributed around the room.
2. Our task as a designer is to think about the design of the room and draw up a game plan.
3. As an author of the activity, your task – tasks for any topic are selected and loaded.
4. The task of the players is to find all the tasks and enter the corresponding answer to them. Then the door opens and the task is done.

The following images illustrate the escape room and the sequence in which the tasks are performed:



Figure 1

Available rooms:

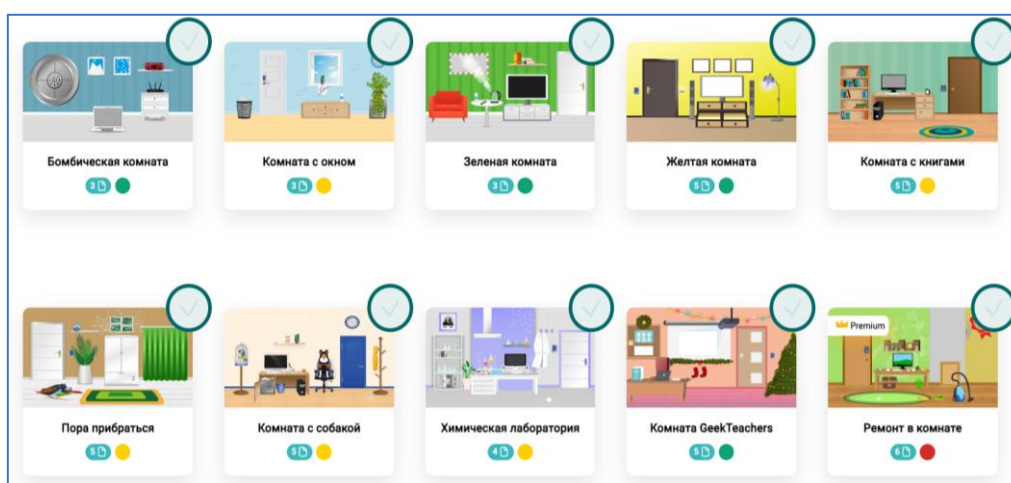


Figure 2

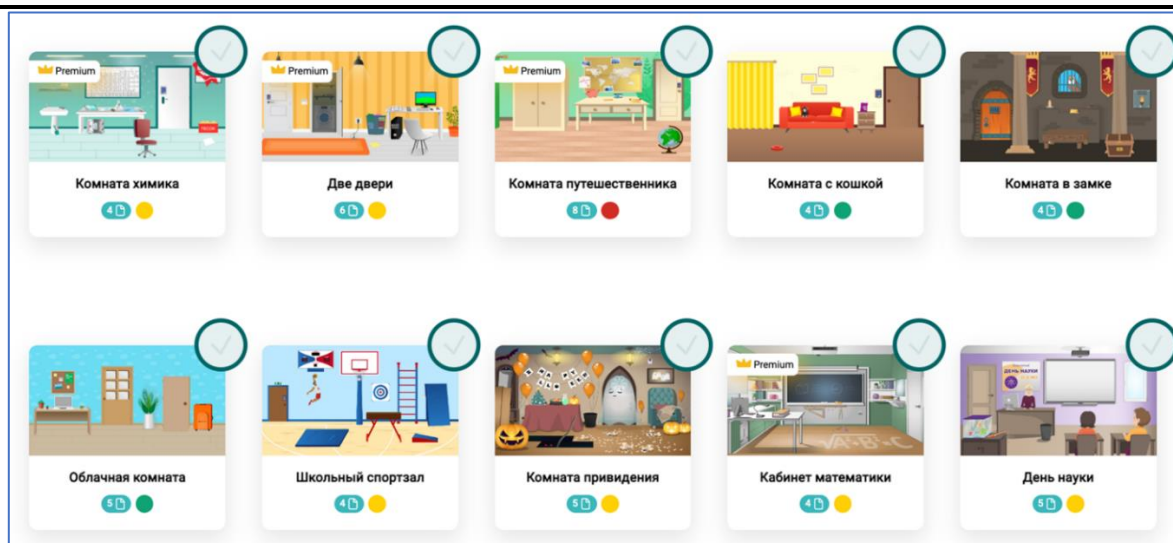


Figure 3

Advantages of using escape rooms.

- ✓ Use for distance and face-to-face education:
 - any modern gadget and the Internet is suitable for working with web quests;
 - can be given as homework, with students during class or using the quarters as needed;
 - There are no restrictions on the time it takes to complete tasks.
- ✓ Involvement in the educational process:
 - The use of web quests in classrooms provides an increase in interest in the sciences;
 - Students become attentive, their interest is piqued, and they remember material better.
- ✓ All students in the class can easily understand how the task can be completed:
 - To prepare such a course no special knowledge and skills are required;
 - When it becomes time-consuming, it takes from 2 to 10 minutes.

Conclusion

Didactic games in an informed educational environment ensure the activity of students and students in the classroom. Although not able to provide new scientific theoretical knowledge, the interest of the younger generation in the classroom teaches the ability to think, analyze and synthesize, develop their abilities and talents, oral and written speech, teach independent thinking.

Quest technology is not only designed to improve the perception of learning material or contribute to a child's moral development as an individual, but it can also stimulate children's mental and ethical development. Moreover, in the pronoun of such a technique, there are two rules that are mutually exclusive, albeit strange, have a double meaning: it teaches to look for the right logical reasoning and to use non-standard methods to solve the problem [4].

It should force readers to search more on the basis of facts, to study the relationships of objects and events, to separate real knowledge from falsehood, to analyze cause-and-effect relationships in the surrounding universe.

Another opportunity of Quest technology is its ability to leverage interdisciplinary connectivity. Through the use of Quest technology, all participants actively interact with each other, develop their various skills and competencies in order to solve problems during the organization of the training [5].

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