Theoretical Basis, Methods and Methods of Formation and Determination of Potential in the Educational System

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ABSTRACT

Information Technology to adequately study and formulate their thinking skills in this field. Because, as the day goes by, Information Systems, which are fundamental for information technology, are constantly developing and being enriched with various modes, technologies. This requires repeated study and a certain amount of time, if the potential for knowledge and skills learned in the school is not formed.

KEYWORDS: information technology, virtual laboratory, workshop, modeling packages, innovation, information, educational and methodical material, learning tools, multimedia

Аннотация

Информационные технологии позволяют адекватно изучить и сформулировать свои навыки мышления в этой области. Потому что с каждым днем информационные системы, которые являются фундаментальными для информационных технологий, постоянно развиваются и обогащаются различными способами, технологиями. Это требует многократного изучения и определенного количества времени, если потенциал знаний и умений, полученных в школе, не сформирован.

Ключевые слова:

информационные технологии, виртуальная лаборатория, практикум, модельные пакеты, инновация, информация, учебно-методические материалы, средства обучения, мультимедиа.

Annotatsiya:

Axborottexnologiyalaribusohadao'zfikrlashqobiliyatlariniyet arlidarajadao'rganishvashakllantirish. Chunki, kunsayinaxborottexnologiyalariuchunasosiybo'lganaxborotti zimlaridoimorivojlanib, turlirejimlar, texnologiyalarbilanboyibbormoqda. Buninguchunmaktabdao'rganilganbilimvamalakalarsalohiya tishakllanmaganbo'lsa,takrorano'rganishvama'lumvaqttalab etiladi.

Kalitso'zlar:

axborottexnologiyalari, virtual laboratoriya, seminar, modellashtirishpaketlari, innovatsiya, axborot, o'quv-uslubiy material, o'quvvositalari, multimedia.

I. Introduction

One of the main factors of the educational system and process is the expression from which the reader develops their thinking along with providing fundamental knowledge to the youth. Today, in the world, we can meet a huge number of, sinfual resources on the formation and identification of potential in a classified form. For example, testometrika.com, globalintelligentsia.com web portals can be accessed. These portals contain 11 types of testing issues, the most common method of testing is IQ testing. IQ (intelligence quotient), which means the stage of intelligence, the factor of the development of the mind, or intellektual potential[5].The study of the issues of radical reform of the education system, especially effective organization of educational processes in secondary schools and expansion of thinking skills of students in our republic are considered one of the important issues. Also in the world, knowledge of the IT industry, the electronic government system, the computer systems and services of society, the full-blooded and rational use of State interactive services are considered important indicators. For this purpose, it is one of the pressing issues in our republic that awaits the solution of the general secondary school students in the education of Information Technology to adequately study and formulate their thinking skills in this field. Because, as the day goes by, Information Systems, which are fundamental for information technology, are constantly developing and being enriched with various modes, technologies. This requires repeated study and a certain amount of time, if the potential for knowledge and skills learned in the school is not formed.

In information technology, there are a number of net methods for performing a certain specific task. For example, there are 7 different ways to launch a simple text editor. The question arises, Should students be taught these 7 methods in Information Technology Education in general secondary education system? Or do you want to launch a text editor with intellektual potential based on a specific knowledge and skills? Of course, the teaching of 7 methods in this matter limits the knowledge and opportunity of the student, and when changes in the Information System occur, it seems that knowledge and skills are not enough. If, on the basis of a certain knowledge and skill, the student is taught to perform this task by employing intellektual capacity, then in the future he will never stop.

One of the most complex processes in the educational system is the lesson. If we compare the lesson to the sun, the planets around it-these are the methods and means of teaching[3]. Similarly, there are also subjects and objects of the lesson, namely participants, tools, methods and methods of teaching, forms of teaching. Information Technology Education in general secondary education, that is, the subject of Computer Science and information technology, as well as other subjects, we cite the above-mentioned elements.

Computer Engineering is introduced into the spectrum of participants in the subject of Informatics and Information Technology, which means that there is an effect of the element in the subject. Computer technology can also be used in other subjects, but in it this technique enters the spectrum of tools. In this regard, the subject of Information Technology Education in secondary schools in general should take into account the position of computer technology in the teaching of Informatics and Information Technology. This can be the most necessary participant in the formation and determination of the intellektual potential of the developing learner.

II. Literature review

In the educational system, a lot of scientific and methodological research is being carried out on the formation of potential. These are done mainly due to the fact that each school subject and each subject has its own characteristics. The subjects and objects of the above lesson, that is, participants, supplies, as well as affect the choice of methods and methods.

The theory of Kettell-Horn-Carol is widely used in the world and is one of its own theories for the emergence of the psychosocial andididor of young people, the formation ofualual potential[7]. This theory gives a broader interpretation of the psychological theory of the structure of cognitive abilities of students, and at the same time it is aimed at developing the intellektual potential of the learner by combining the theory of three major theorists Raymond Kettell, John Horn and John Carols[10]. This theory has been proven to be important for people engaged in self-education based on the results of numerous methodological studies over the last years of the 20th century[8].

Kettell-Horn-Carol's theory is two, Kettell-Horn's theory of flexibility and cognitive detection intelligence is Carol's theory of three levels of Cognitive Ability[2]. Both theories have close similarities, which helped to combine these theories among themselves. Method for the formation of multi-intellectual capacity based on the analysis of scientific and applied works, the definition of flexibility and knowledge intellekt is divided into:

Flexible intelligence includes the following abilities and qualities:
1. To learn.
2. Mavhum (abstract) thinking ability.
3. Ability to interact, find and identify laws, systematize information obtained, analyze and process new knowledge.
4. Ability to adapt to new conditions, flexibility.
5. Deductive and inductive thinking ability.
6. Ability to solve problems encountered for the first time
7. Use new approaches to solving problems that were previously obvious.
8. Ability to remember. In most cases, flexibility is important for Intel's level of development.

The period of development of most of these skills and qualities rises to the highest peak of school age in general secondary education. After that, its level begins to gradually decrease[5].

Intelligence of knowledge detection (BAI) is a method and method of determining the previously accumulated knowledge and skills, ability to apply. BAI is responsible for the knowledge and skills that remain in the long-term memory that engages flexible intelligence and uses it in practice. It includes the following:
1. Words related to the sphere (dictionary).
2. Ability to solve problems by methods previously known and tested in the experiment.
3. The basis of general knowledge (interdependence of subjects and fundamental subjects), knowledge of the field.

According to scientists, the level of BAI in different and different areas is different. For example, taking the use of Information Technology, a programmer, a system administrator, can be useful.

Bai's commitment to flexibility is that the faster it learns, the more knowledge and knowledge it can be acquired, the more knowledge capacity andualual capacity it will have.

The Nobel Prize winner, James Heckman, professor at the University of Chicago (James Heckman), argues that economic systems are related to human abilities and skills (human skills) [4]. According to the scientist, any large economy is based on the development of skills, knowledge, abilities and skills of citizens. According to the scientist's account, at least 13 percent of the costs incurred for early education will "return to society"in the future. The development of social skills in children from an early age along with cognitive abilities leads to the emergence of citizens who will benefit society in the future.

According to Uzbek scientists, the socio-psychological factors of the formation of independent thinking, creative abilities in the students form and determine the peculiarities of intellectual potential through independent thinking, formation of creative thinking through interactive educational methods that motivate independent thinking, as well as cognitive approaches in the educational process[3]. Based on the above, it is necessary to pay great attention to cognitive abilities in secondary schools in general. Especially today, within the framework of e-government, every graduate of the school is in a certain sense a requirement for a period of determining flexibility and knowledge within the framework of Information Technology Education, focusing on the content and process of education on cognitive abilities.

Igor Boltovnin believes that the levels of cognitive abilities are different, and Carroll put forward the idea of three cognitive stages [2]:

III. Analysis

First level: limited abilities. This is the exact capabilities of the cognitive phase and its basis and the main component.
1. Speed of speech, knowledge of grammar and vocabulary, ability to learn foreign languages, ability to listen and communicate.
2. The speed of reading, the ability to understand and master what has been read, the speed of writing and the ability to decrypt.
3. Mathematical knowledge.

4. The ability to deduce and inductively think, to correctly build a logical sequence of thoughts.
5. Speed of memory and the ability to remember.
6. Speed of thinking and finding quick rules, originality
7. Ability to recall heard information, ability to recognize and localize algorithm execution for an event, event.
8. Ability to see visually, the level of development of visual memory, the ability to think and think based on visual objects.

Second level: extensive skills. These include:
1. Cognitive achievements: prior experience, ability to think based on results, ability to practice prior knowledge.
2. Ability to read and write.
3. Ability to master quantitative concepts and perform actions with numbers
4. Ability to explain.
5. Fast memory and long storage life of esga.
6. Long-term memory and the ability to retrieve information from it.
7. Ability to process, understand and perceive in the process of hearing.
8. Visual processing capability.
9. Ability to perform some tasks automatically.

Third level:
general intelligence. General intellektual ability is the level of interrelation between broad abilities.A lot of scientific and methodological research has been carried out in the world aimed at shaping and developing potential, and they are based on various theories. There are also many ways to develop intelligence and thinking in the world community. Today, in monitoring the development of the world in this direction, it is possible to find trainings, seminars, training programs, Online Courses by foreign specialists in the global networks of the internet. There are more known methods in these systems - solving logical problems and puzzles, finding tests, playing chess and so on. But the market of services in the field of intelligence is developing rapidly and is complemented by innovative technologies. For example, after the Second World hit, Japan in the fast pictures with its most effective approach was among the developed countries. One of the main reasons for this is the result of a wide opening to scientific, methodological research devoted to the formation and determination of intellektual potential among schoolchildren, students, young people. This method is called the Japanese intellekt system of development. The system was proposed by a Japanese scientist - Professor, Doctor of Medical Sciences and a tomography specialist named Ruta Kavashima. They have been studying the stimulation of the human brain for more than twenty years, and in 2003 year "train the mind. He published scientific works" Japanese system for the development of intelligence and memory","," Japanese system for the development of intelligence". These scientists first determined how effectively the person's mind works at the moment, and secondly, a lot of simple exercises for the development and development of thinking, intelligence and memory in it, in the third. he put forward an idea that included special methods to evaluate the ability from time to time.

Ryuta Kavashima in his studies concluded that when a person solves arithmetic problems and solves them for a while, the brain demonstrates maximum activity. He also determined that reading aloud would give good results. However, he decides to pay special attention to mathematical problems, as a result of which his research results and scientific Monographs are created, which offer a lot of arithmetic assignments, exercises.

IV. Discussion
The approach of kavashima consists of two stages:
1. Encourages the reader to pass the main tests. This allows you to determine the initial starting point – the current level of knowledge. During this test, it is required to perform several exercises. Among them, for example, a loud counting test from 1 to 120, a word memorization test in two minutes, and so on. After completing the tasks, the results are recorded.
2. The reader goes to the theoretical and practical source and begins to solve the main arithmetic problems. It is necessary to study every day, having completed all the assignments that are set.

This method exists today not only in Japan, but also throughout the world and has its own methods, for example, there are theories developed on the basis of Kores, Chinese, American, European, Russian approaches.

In addition to such approach theories, there are game technologies, theories, methods and methods that are based on logic, focusing on the formation and determination of intellekt.

Games on logic and thought have been used for a long time in pedagogy for the purpose of teaching, for example, role-playing in historical sciences, in Computer Science and Information Technology F.It is reflected in the works of murodova. Tirishga develop useful skills through the game based on their results and developed separate lessons and even training cards based on the full. In contrast to these, logical games can be accessed from ancient chess to modern flexible platforms that students will like, with applications that include a variety of functions, head-strings and puzzles. Their undoubted advantage is that sometimes they are equal in appearance, usefulness, introversion and excitement with famous people. Today, even without leaving home, every reader connected to the Internet can formulate and determine their own intellektual potential by solving several puzzles in their spare time or by finding several puzzles.

V. Conclusion
However, it is necessary to have such a goal, that is, educational games, with the help of which students should be able to study the theoretical, practical knowledge and skills of the corresponding subject and sharpen the mind. In general, logical games are an excellent educational strategy that will help to encourage reading. To them it is possible to add the following games:

The term gamification (gamification) was translated from English into Russian in 2019 year and is a theory of games having its place in world society. In order to increase the level of participation in the Bunda and solve tasks, it is aimed at the use of game modes and playing style in non-game situations. Gamification methods seek to influence a person's natural predisposition to competition, achievements and self-expression. The principle is that games are common in marketing and online shopping

centers to attract and retain customers. Gamification of the educational process is also a progressive direction in the education of the XXI century. It covers not only classical education, but also educational programs and online courses. For example, Microsoft has released Ribbon Hero 2 as an assistant product for its office suite. The game was created to help users learn how to use MS Office applications effectively and has become one of the most popular Microsoft Labs projects. The well-known MOOC educational portal HanAcademy is also implementing a wide range of games in its programs. The New York Department of Education is successfully implementing the idea of the Quest to learn School, where the entire learning process passes through the games.

It can be argued that logical ,ualual and other games are not only important in the process of teaching students. They are widely used in training for adults to improve skills and efficiency, in seminars, because they allow them to see the practical benefits of the knowledge gained immediately. Even schoolchildren are often checked for resumes under certain conditions, and in order to know if there are any specified analytical abilities, the HR-manager is assigned the task of finding a riddle or puzzle.

It's hard to believe, but adults often can not do what the child can do in a few minutes. Therefore, not only for professional development, but also for self-development in general, the solution of the simplest tasks on logic and reasoning plays an important role. It helps to form useful skills such as memory, attention, verbal counting and develop creative abilities .tirishga

Online games are a set of logical games that offer some games, tasks and tasks that are performed as online flash applications, and in addition to being convenient, they also teach different ages and different skills. For example, the puzzle" six frogs " - the basis of this program is a mathematical puzzle about six very well-known frogs. This online flash game may seem simple and easy to read, but when they try to fulfill the condition, they usually change their mind. According to the analysis, a person with an average IQ (100-110 points) should find the answer in 3 minutes. Its goal is to develop intellectual capacity, logical thinking, verbal counting skills, which can be counted in many such online games.

In addition to computer-oriented game technologies, there are some games dedicated to finding puzzles, they can also be used in traditional ways. Despite the information age, many logical and puzzle games are effective and interesting for fans. This is due to the fact that some of them did not receive high-quality analogues in the form of computer programs, while others are much more interesting and pleasant to play, communicate and experience "live".

In order to increase and determine the potential of students, it is necessary to pay attention mainly to the content of science taught in the school, as well as to choose IQ instruments based on this content. Therefore, it is necessary to study the content and current state of Information Technology Education in secondary schools on the basis of analytical and critical, modern requirements.

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