

About Possibilities to Develop Educational Online Games With the Help Of Web Technologies

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Abstract: This article describes the possibilities of web technology to develop educational online games for young children. It covers the technical possibilities of the virtual games "Counting Together" and "Find the Number I Thought" designed by the author to form the first mathematical concepts in young children.

Keywords: virtual game, gadget, HTML5, CSS3 web technologies, Bootstrap 4, AOS libraries, JavaScript programming language.

Today, the times are rapidly evolving. The world is entering a completely new stage of technological development. Originally steam engines were created. Then came the period of electrification, then informatization. Now the era of digitization is beginning. We live in an age of large amounts of data and technologies based on them. The emergence and widespread use of digital technologies is radically changing the manufacturing sector and the global market. These changes are also affecting the education sector. The essence of the use of information technology in the educational process is taking on a new meaning.

By 2020, we are confident that we live in a "digital" world and are operating effectively enough: we have solved many life and professional issues online; we have mastered new technologies and devices; we used mixed learning elements based on the use of electronic content and distance learning technologies in the learning process with a pedagogical focus.

We have before us a large number of devices that expand the "digital environment" of modern man and his access to information resources. The ubiquitous use of digital devices and digital technologies has to some extent enhanced the skills of users to use information technology tools and

devices and has proven that such skills and competencies are needed.

The use of computers in education has already become commonplace. The features and capabilities of modern computers and software are constantly increasing. The computer's ability to express and process information in graphic images, video, sound, speech views allows children to create a new means of activity that is completely different from conventional games and toys.

Today's children, whose main activity is interacting with gadgets, prefer virtual games to moving games and toys. For the most part, their toys have become gadgets. Today, children and young people are satisfied with virtual games on gadgets. At first, parents are holding gadgets in the hands of their young children in order to pamper them. And then it becomes impossible to separate them from virtual games, to limit their interaction with gadgets.

Of course, high technology and tools are a great achievement of scientific and technological progress. In today's information and technology age, human life is unimaginable without them. That is why it is important that children keep up with the times and have the skills to use the capabilities of these technologies and tools. But on the other hand, how most children use gadgets, what virtual games they play, how the virtual games they play affect their psyche, upbringing, spirituality is out of control.

Control of this should, of course, be in the hands of the parents. Parents should select and select games for their children that are appropriate for their age and interests, to learn the basics of this or that fundamental science, to give the child spiritual nourishment, and to have educational value. It is

also important to pay attention to their duration when choosing games.

The virtual games that most children play today are long-term, continuous games that require a long period of continuous play (1 to 2 hours). Naturally, the child will not stop it until the game is over. As a result, the child interacts with the gadget for more than the norm, stays in the same rhythm for a long time, staring at the screen for a long time. This has a serious impact on the health of the child.

It is desirable that the games chosen for young children are staged, and the stages are short-lived. Through such games, the child can communicate with gadgets for a short time, distract him from the



1.a-picture.

1.b-picture.

Interface of the game “Counting Together”

The game "Find the number I thought" consists of 2 stages:

In step 1, the device (computer, tablet, or mobile phone) “thinks” a number from 1 to 20. The child tries to find the guessed number by guessing. The device (program) helps the child to respond to each guess by saying, "The number I think is more (less)" and focusing on finding the correct answer. Once the thought number is found, the device (program) applauds the child and informs them how many attempts the correct answer was made after (picture 2.a). This game helps the child to learn the meaning, definition of numbers and the relationship between them "big", "small", "equal".

In stage 2 of the game, the device (computer, tablet or mobile phone) "thinks" a number from 1 to 100.

game more often, and take frequent breaks during communication.

It is desirable that the games chosen for young children are staged, and the stages are short-lived. Through such games, the child can communicate with gadgets for a short time, distract him from the game more often, and take frequent breaks during communication.

Game 1, “Counting Together,” consists of three stages, in which one, one, two, and ten counting skills are developed in 10, 20, 100, and 1000 in the correct and reverse order (1.a. -picture and picture 1.b).



The child tries to find the thought number. The device responds to each of the child's assumptions with the following sentences: "The number I thought was more ... less" It helps by focusing on finding the answer.

When the thought number is found, the device (program) applauds the child and informs them how many attempts the correct answer was entered (picture 2.b). This game helps the child learn the content and execution of arithmetic operations: addition, multiplication, multiplication and division.



2.a-picture.



2.b- picture.

The interface of the game "Find the number I thought".

The duration of both play stages is short, attracting the child's attention with the attractiveness of the stimulus effects between the stages, the richness of the bright colors and the variety. Another important aspect of the game is that the game interface changes at every stage and in every stimulus section. In addition, stimulus effects are created using objects (muscles, flowers, flags) that move diagonally across the corners of the screen. This ensures that the child performs eye exercises at each stage interval. It helps prevent eye strain in children during play.

These computer games are tailored to the size of tablet and mobile phone screens, so you can play them on any gadget. Because the game is based on web technologies, it is necessary to play them online.

In short, the possibilities of today's information technology and tools are very wide, from them not only in the search, editing, storage and transmission of necessary information, or for entertainment purposes, but also in the educational process, learning the basics of serious and complex science can also be used effectively. This helps children to develop the skills to use information technology correctly, effectively and purposefully, to develop immunity to live in the age of information, technology and gadgets.

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