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DESIGN OF TEST TASKS MATHEMATICS FOR ELEMENTARY SCHOOL MEANS OF ADOBE FLASH

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Abstract

In the article the urgency of creating test programs for primary schools. The possibility to create tests in mathematics for primary school with the use of Adobe Flash CS 3 Professional. Examples of tests open-and closed-tests with multiple choice that can be created in Adobe Flash. Due to the peculiarities Adobe Flash younger students are able to work with your favorite characters, argue with them, analyze mistakes.

Using the program Adobe Flash, primary school teachers and students of higher educational institutions will be able to simulate tests for younger pupils, taking into account specific class students and students the possibility of mastering educational material on a particular topic. Creation of copyright digital resources allows to take into account the physiological and psychological characteristics of students of a particular class, which will contribute to the educational process in elementary school.

Keywords: *mathematics, elementary school, test, Adobe Flash, Action Script.*

Introduction

Computer technology has become a new way of knowledge transfer that meet a quality learning content and the development of the child, allowing her curiosity to learn. It is a powerful tool to obtain child wide range of information, an effective means of increasing interest and motivation to learn. Note that school comes a new generation of children who live in the information, dynamic, emotional and tense environment [1]. Proved positive impact of a computer on the intellectual development of the student, parents interested in the modernization of school education [2].

An important part of the learning process in primary school is to control the knowledge and skills of students. The way it is organized, which aimed to significantly depends on the effectiveness of all training activities. In the process control are the advantages and disadvantages of knowledge and skills of elementary school students, making it possible to manage the educational process, improve the forms and methods of teaching [3]. Without the evaluation process of learning impossible: all should work the principle of feedback. It is important not only to organize control, but gradually and systematically implement it in every lesson [4]. Therefore, methods of intensive and continuous control of knowledge are essential components of modern information technology in education. Testing - the most important of these technologies. It is very important now to instill students cultural skills testing to make the process routine, which does not cause fear, but rather encourages them to further self-improvement [5].

An effective means of monitoring computer knowledge is a method of testing based on test technology that lets you extend the use of information technology in education, and optimize inspection learning students. Testing technologies intended to diagnose condition and problems of pupils at each stage of the study program material, but mostly for monitoring and evaluation of knowledge and skills.

A significant factor in the withdrawal of education to a new level is not only to ensure schools computers, hardware but also the development and implementation of quality educational software. Compulsory component of educational software is a task to monitor students' knowledge [6]. But

the environment is rarely used Adobe Flash to test students' knowledge. This is what determines the relevance of development of computer tests in an environment using Adobe Flash programming language Action Script.

Adobe Flash system as a means of designing tests in mathematics for elementary school

Adobe Flash system is a powerful tool for creating electronic educational resources for primary schools. This technology allows you to create not only the navigation, full-voiced cartoons and educational sites, but also educational software with a diverse array of interactive elements. Thanks to vector graphics. Flash technology fully meets the requirements of designers to tools to prepare the graphics [7]. Animated features are not limited to cartoon - you can animate everything, including also the navigation. But the main advantage of Flash-technology that converts the program from the ROM image editor into a powerful tool for creating electronic educational resources is the language Action Script, and work through which all the steps of software [8]. Action Script Scripting Language allows the developer full control of electronic educational resources using buttons, menus, options, scroll bars, perform calculations, to display any logical information. Features teachers who work with Adobe Flash, limited only by their imagination and knowledge and skills in the design of electronic educational resources. All listed features and benefits of Adobe Flash is perfect for the development of electronic educational resources designed for primary school pupils in the program Adobe Flash can create electronic textbooks and manuals, part of which is interactive table and visibility, educational computer models, teaching computer 'Books games and tasks that contribute to the formation of logical and algorithmic thinking [9].

Designing tests in mathematics for elementary school means Adobe Flash

The most common in primary school is the problem of the closed form (with a choice of one correct several suggested answers). Overseas closed mold tests as is common due to ease of processing automation. It is the task of the closed form is often identified with the tests altogether and subjected to unreasonable criticism. The main drawback of such problems is considered an opportunity to guess the correct answer. The probability of such a prediction can be reduced by selecting at least three answers. An important achievement of these objectives can be considered versatility of use.

The advantages of this type of problems:

- This type of tasks intuitive learners;
- Input responses required minimum of effort;
- Processing procedure is extremely simple answers.

(Slide program Microsoft Office PowerPoint)

In tests of this type necessarily present the following components: frame title e page staff with questions and final frame where the student is graded (fig. 1). Appointment frames similar to Adobe Flash slideshow program in Microsoft Office PowerPoint.

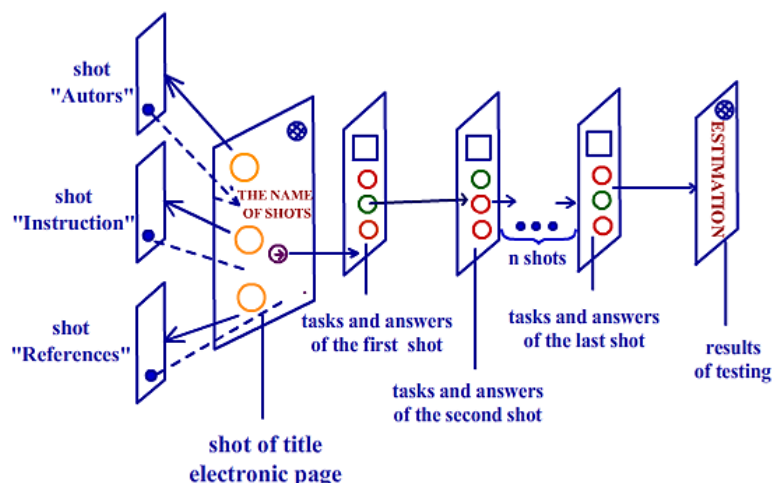


Fig. 1. Schematic representation of the test with the choice of a correct answer from several offered.

In this diagram circles labeled navigation buttons and buttons with the right (shaded in green) and incorrect answers (shaded in red). Images, square marked tasks must fulfill student.

In the frame of the title page should email the information to locate the user (frame "Instruction"). Do I need to create shots "Authors" and "used resources" teacher decides for himself. In the frame of the title page Email necessarily should be a button to jump to the first question (Fig. 1). The number of questions is planning teacher. This is usually 10 - 12 questions. Each shot must be placed task and at least three answers, one of which is correct. By selecting one of the answers, the student necessarily moves to the next question (fig. 1, fig. 2). So, in the Actions box to each button, located circle right or wrong answers, you must enter the code that makes it possible to trace the correct answers and make the transition to the next frame. Answering the last question, the student moves to the last frame, called "test results". In this frame all results are processed using slave code by which younger student receives appropriate assessment. Only in this scene is a button "Exit" (Fig. 1).

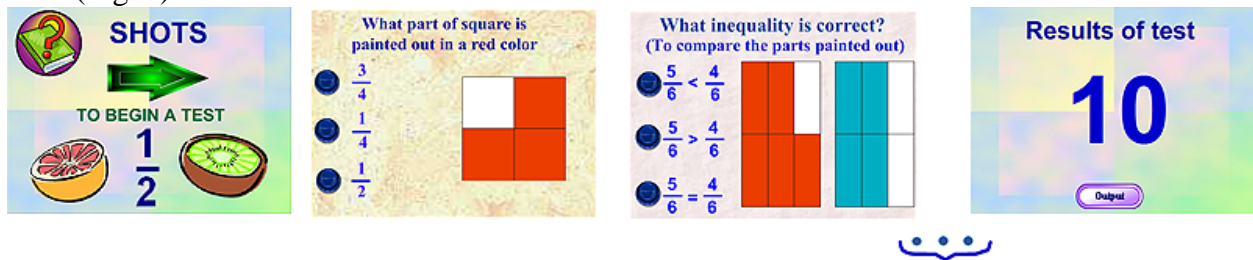


Fig. Example 2. Test with a choice of one correct answer from several offered.

The next type of tests - a task with an open (free) choice answers. If the job with multiple choice answers can be criticized for the chance of guessing the correct answer, in this case a guessing excluded because the space for the answer was an answer to dial from the keyboard. The purpose of this type may have a different complexity. The first subtype tasks - with the restriction of reply on the number and type in characters. It is important to exclude verbosity and ambiguity in the answers that can uniquely identify the correct execution of tasks and to automate the checking answers.

Tests of free choice answers provide input responses from the keyboard (fig. 3, fig. 4).

The advantages of this type of tests:

- The minimum probability of guessing;
- Methodically valuable independent formulation of answers.

Disadvantages keyboard input:

- Difficulty parsing response;
- Inability in some cases to provide input pupil of partially correct.

Said task type is most effective when testing different kinds of terms, dates, constants. But some of these problems can be avoided if only enter numeric values (fig. 3). If necessary, enter text information in the frame "Manual" should give examples using sample answers.



Fig. 3. Example test of free choice answers.

Technology of this type of test is somewhat different from the previous one. In each frame, where the student has to type the answer to schedule field for input from the keyboard button and go

to the next frame with the task. It is to this button, you must enter the code (script) that allows the student to not only go to the next question, but also monitors the correct answers younger student.

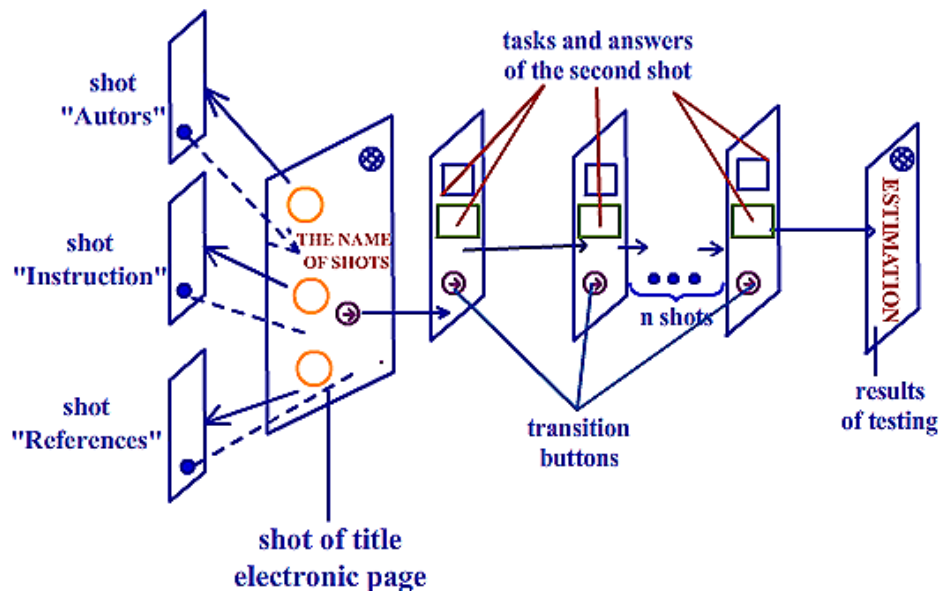


Fig. 4. Schematic representation of the free choice test answers.

As in the previous test by answering the last question, the student moves on to the next frame, where all results are processed using slave scripts and get a score.

Often used in elementary school with multiple choice task (with a choice of several correct answers of a number of proposed). For these tasks usually need more detailed instructions, because the procedure of execution and processing can vary significantly. The task of this type should be allocated in a separate group and possibly used as benchmarks for current control of knowledge and skills of students (fig. 5).

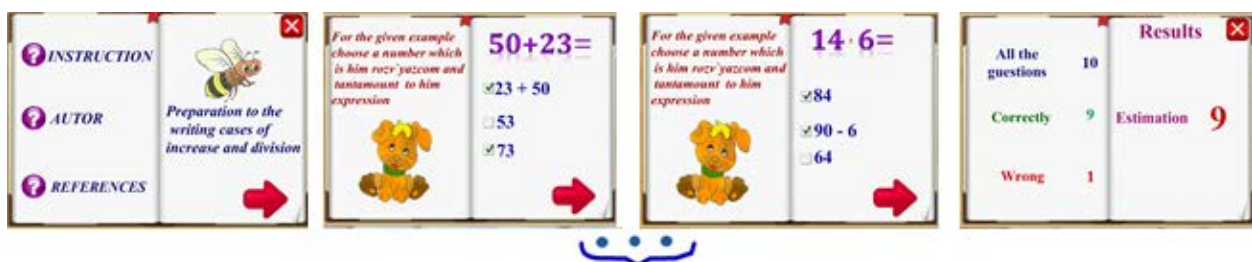


Fig. 5. Sample test with multiple choice answers.

The advantages of this type:

- This type of tasks is informative;
- Makes it possible to consider partially correct answers.

Disadvantages of multiple selection:

- A significant probability of guessing the correct answer.

Technology of this type of test is somewhat different from the previous two. Each student has a frame select multiple answers from three, four or five proposed. For this purpose, each frame must be placed Check Box button and the button move to the next frame with the task (fig. 6). Use conversion is carried out only by personnel transition and processing of test results by using codes that are entered for each frame. Using these codes and tracked students' answers, unlike the two previous tests, results processing is carried out not in the last frame, where the student is graded and each frame conclusions about the accuracy of the responses of younger pupils, where there is reference to the field with the number of correct answers.

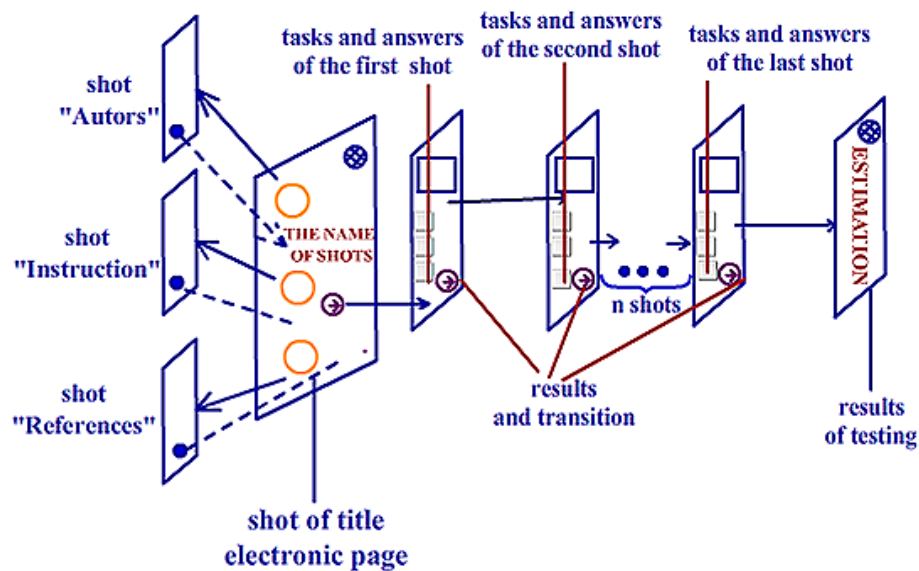


Fig. 6. Schematic representation of test with multiple choice answers.

To lower the probability of guessing in tests with a choice of one correct answer and tests with multiple choice answers can schedule more options for answers, but it should be noted that the student costs to perform such tests more time.

When you create tests of any kind, primary school teacher shall comply with the following requirements:

1. In a test should be clearly defined theme and purpose, a certain time of the meeting.
2. The testing process should be given in the form of an unambiguous algorithm (filling in gaps, answer choices from the options, etc.).
3. The task should be to think so that they are easy to read, were independent. They should not repeat the wording given in the textbook.
4. The answers must not contain ambiguity.
5. Avoid cumbersome calculations while performing student test task.
6. Tests that suggest a selection of the proposed answers should include three to five answers, selected as possible so that they were considered the most typical mistakes in this case.
7. Raising questions and offered answers should be possible to exclude the possibility of guessing the answer.

Conclusions

Creating tests in Adobe Flash program contributes to the improvement of professional skills of teachers and helps to realize individual approach to educational trajectory of each student, to focus attention on those issues that the students absorbed the worst of the class, according to students. Application tests for mathematics lessons in primary school, created in Adobe Flash, strengthens the role and place of test technology in teaching primary school children math. Using tests can enrich the learning process, complementing its diverse possibilities of computer technology and makes it more interesting and attractive for students.

Tests created by means of Adobe Flash, contribute to the formation of positive motives for learning, how independent learning activities, development of memory, attention, thought, creativity, and emotional sphere of personality traits such as hard work, diligence, independence and accuracy.

The use of computer tests enables the teacher to get information about the achievements of their students to determine their dynamics and the level of personal qualities of children and the degree of assimilation of program material. Tests help teachers assess their achievements, find flaws and errors in its educational activities.

The implementation of innovative technologies in mathematics lessons in primary school using tests to monitor students' knowledge will be more effective if primary school teacher will take into account age and individual characteristics of primary school children and their level of learning. From elementary school teacher required "reasonable care" of the child, promoting his personality and individuality in terms of the information society.

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