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# DETERMINING THE QUALITY OF COMPUTER TESTS TODAY

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## INTRODUCTION

Since the beginning of the 21st century, computers have been widely used in educational testing. A special direction in pedagogical innovations has appeared - computer testing, in which the presentation of tests, evaluation of student results and giving them results is carried out using a personal computer. The test creation phase can proceed technologically in various ways, including by entering blank tests into the computer. To date, there are many publications on computer testing, and software and tools have been developed for creating and presenting tests. What is the test? The test is a control task in the form of choosing the correct one from the given alternative answers. The control tests, which are created for the academic subject, are composed of four different elements, similar to other educational assignments; content, purpose, function, method.

The Decision of the Cabinet of Ministers of the Republic of Uzbekistan dated February 5, 1993 "On admission of students to higher educational institutions of the Republic of Uzbekistan by the test method" was the first among the CIS countries to use the test widely. opened the way. The test method, which has a strong place in world pedagogy and psychology, is being rapidly applied in the education system of our country. The functioning of the Republican State Test Center is a clear evidence that test science has risen to the level of a matter of national importance in our country.

### Determining the quality of computer tests.

The mock test is conducted in groups of students for which this test is structured or similar. To process the test results, an m * n matrix is built, where m is the number of tasks in the test, n is the number of subjects. The matrix does not represent tasks where there is no answer or where all the answers are correct . If there are many missing tasks, the test is corrected and retested. Using the matrix, the characteristics of each task are determined: the ratio of correct and incorrect answers, dispersion and standard deviation, as well as the characteristics of the quality of the entire test: reliability, validity, discriminating ability.

When interpreting test results, you can use the following types of scales (in increasing complexity): nominative (names), ordinal, interval and proportional (ratio). The use of an interval scale is one of the requirements for ensuring the effectiveness of the test (at the same time, the classic five-point knowledge assessment system belongs to the simplest of the listed scales). The relative scale (Figure 1.1) allows you to compare test scores obtained by different tests and does not depend on the number of tasks. There are different ways to transfer test scores to a five-point system, one of which is shown in Table 1.2 (the margin between the intervals is in favor of the student).

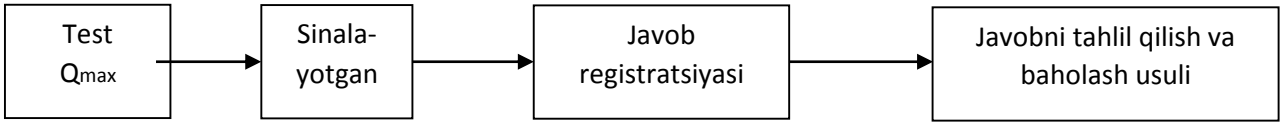


Figure 1.1. Evaluation of test results on a relative scale.

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Table 1.2.

| Grades in a five-point system | | Test scores (at qmax=20) | |
|---|---|---|---|
| Grade | Relative value | Relative value | Account |
| Excellent - 5 | 5/5=1 | 1=20/20 | 18-20 |
| Good - 4 | 4/5=0.8 | 0.8=16/20 | 14-17 |
| Satisfactory - 3 | 3/5=0.6 | 0.6=12/20 | 10-13 |
| Unsatisfied - 2 | 2/5=0.4 | 0.4=8/20 | 0-9 |

Test the results again work different purposes done increase possible : test and test of assignments features determination , test of objects features identification , professional activity success prophecy to do and others

Mostly , the test the results again at work they are hidden structural to the analysis appeal they do , his main Mother of God hidden of adjectives external appearance is to determine . Hidden structural analysis of theory from the results one this Rash is a model . Rasch model is universal and each how o ' sish process describes this on the ground initial stage vibration forces strong and dumping forces is weak . From turning after curve line fullness mode includes , this on the ground restrictive forces movement do it starts The Rasch model allows describing the whole family of curved objects and the whole family of curved test tasks

The concept of "test system" includes two semantic loads [1]:

- First , it is a set of test materials and their application methodology and technology. In this sense, test systems are used in various fields - technology, physiology and medicine, psychology and pedagogy, sociology;

- secondly , it is a software product designed for computer-assisted testing. A computerized testing system (CTS) is usually referred to as a set of software tools used to measure the manifestation of human mental activity through tests.

It is mainly devoted to the construction of computer test systems designed to monitor the knowledge of technical university students using various pedagogical tests. In psychology and pedagogy, a test is understood as a standardized task, as a result of which it is possible to measure the subject's psychophysiological and personal characteristics, knowledge, skills and abilities. Educational tests (Figure 1.1) differ from others in that they require special training and do not require the consent of subjects. Achievement tests are mainly used in technical higher educational institutions , they may differ in the nature of test assignments, the method of interpreting test results, etc. The offered KTS tests are flexibility, integration, parallelism, etc. The adaptive test allows changing the complexity of the tasks depending on the correctness of the subject's answers, the integrative test is aimed at the general diagnosis of the subject's readiness, consists of parallel tasks called parallel tests. the content is different, but they have the same statistical properties.

The method of construction of test computer test systems was considered. The proposed method makes it possible to describe the operation of the test system within the production

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formalism and automatically move from the formal description of the test structure and types of test tasks to special test options. Using the developed method and the software created based on it, a new quality of computer tests and training tools was achieved, the efficiency of data updating was significantly increased, the complexity of test construction was reduced, and their variability was increased.

Objectives, content and structure of computer-based tests examines the objectives, content and structure of computer-based tests. This section contains parts such as determining the purpose, content, and structure of computer testing, computer testing models, and determining the quality of computer testing.

The current state of computer testing programs in the department, all AES provide interactivity, support , and different levels of flexibility (ability to teach individuals with different abilities and training levels, ability to develop throughout the course, learning content ability to change). The structure of the studied section helps to remember. Hypertext technology simplifies navigation and provides an opportunity to choose an individual scheme for studying the material.

The main scientific and practical results are as follows:

The current state of the problem of the development of computer test systems was analyzed. The main disadvantages of the existing systems are as follows: high complexity of their implementation and narrow specialization, limited number of test tasks and the difficulty of making changes to the set of test tasks, which causes the problem of adapting test and training systems to rapidly changing conditions. Technical university requirements. It was found that common tools allow to solve the problems of applying test methods and technologies, designing interfaces, installing various software, filling the database of questions and answers, but building tests with maximum labor intensity does not allow to automate processes. Compared with other stages of the testing process, a model of the computer test system was developed, which differs from the established traditional models by the presence of mechanisms for dynamic formation of test tasks and the possibility of presenting tasks in a dynamic mode according to the given test structure.

The method of automatic creation of test tasks based on production equipment was developed and formalized. Types of tests created to evaluate student knowledge in different educational systems section shows the types of tests created to evaluate student knowledge.

Innovative forms of test assignments for computers are shown in the section on testing innovative forms of tests for computers.

Test requirements and standards section contains standard requirements for tests.

the linguistic content of specific knowledge, which are characterized by the ability to quickly change the system characteristics, taking into account the dynamics of the educational process , and allow the formation of the structure and content of the practical test system, tests using formal grammar. This method allows the developer. Automated creation of almost unlimited application software and information testing systems for all disciplines of the technical university and formation of various individual, non-intersecting options. The interpretation of the method was considered for all cycles of subjects of the technical university.

and training systems based on the method of automatic creation of test tasks is proposed and based.

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