

DESIGNING AN INFORMATION-ANALYTICAL SYSTEM OF A DISTANCE COURSE ON DISCIPLINE «METHODS OF ANALYSIS IN SOCIOLOGY»

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The rapid development of information technology makes it possible to use modern electronic devices as an effective learning tool. The automation of the learning process takes place using materials and programs that are used in various forms of digital information, including the use of the Internet.

The creation of distance learning courses opens up fundamentally new perspectives and opportunities for improving the processes of upbringing, learning and developing students. Under the distance learning course, they understand the e-type learning resource, the discipline, including all the necessary materials, as well as the methodical instructions for organizing work with a course that uses computer technologies and Internet tools [1].

The purpose of the work is to improve the quality of student learning by designing an information and analytical system of distance learning course in the discipline "Methods of analysis in sociology".

Test tasks that are used as a tool for assessing the level of student preparation must meet the requirements of quality and reliability. Therefore, one of the main tasks of the work is to justify and select the methods and models that are appropriate for analyzing the quality of tests and test tasks. Among the most prominent methods of testing the results of processing, there is the classical theory of tests.

The classic theory of tests relies on statistical analysis of the results of a specific test does not simulate those characteristics of test participants that determine the success of passing a particular test and at the same time do not depend on a specific test - those characteristics of participants, for the purpose of measuring which tests are conducted and for which the results of passing a specific test serve only by indicators [2].

Postulated a simple linear dependence that binds the visible test score (X) to the sum of the two invisible (or, as often called, latent) variables - the true score (T) and the error points (E):

$$X = T + E \quad (1)$$

So, for each participant in this equation two unknown values. The equation can't be solved unless one makes some simplifying assumptions: the true ball and the error point are independent random variables; the average error score in the group of participants is zero; Error points in parallel tests are independent [3].

The benefits of classical test models are that they are based on relatively weak assumptions (that is, they are easy to satisfy on real test data), they are well known and have long been used successfully. The population requirements are low.

The modern distance learning systems are analyzed and the choice of the platform LMS Moodle for the creation of a distance course is grounded. The main elements and structure of the LMS Moodle platform are considered, the project of the distance course on discipline "Methods of analysis in sociology" is proposed. A functional-oriented and object-oriented information-analytical system of the distance course was conducted using the BP WIN and Rational Rose packages, respectively.

Designed distance course on the LMS Moodle platform and a software toolkit for analyzing students' responses to tests based on the classical theory of tests using R.

The paper developed the distance course «Methods of Analysis in Sociology», which, unlike the existing ones, allows not only to organize work on the course remotely, but also to take into account the level of students' training at various stages of learning material through the analysis of test results as a form of learning control. The paper proposes a software toolkit that allows you to analyze student responses and test items using data downloaded from LMS Moodle, which allows the teacher to form a final test based on the level of student readiness. Analysis of the psychometric characteristics of the test is carried out on the basis of the classical theory of testing. The advantages of the classic test models are that they are based on relatively weak assumptions and the methods for calculating the main indicators of test quality can be calculated on a relatively small student population.

References

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