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FORMATION OF TEACHER'S READINESS FOR MASTERING AND USE OF ELECTRONIC TEACHING MANUALS

ФОРМИРОВАНИЕ ГОТОВНОСТИ УЧИТЕЛЯ К ОСВОЕНИЮ И ИСПОЛЬЗОВАНИЮ ЭЛЕКТРОННЫХ УЧЕБНЫХ ПОСОБИЙ

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Annotation. *The paper considers the possibilities of integrating a new generation of information technologies into education. It is shown that modern education in the context of the existence of big data urgently needs not only to reform the educational concept, but also to change the learning mode and develop various curricula in order to improve the assimilation of data and the teaching abilities of teachers.*

Keywords: *information technology, education, concept, online learning.*

Introduction.

With the development of the Internet, information systems and electronic devices, people in all spheres of life are constantly generating huge amount of data. Big data changes our life and work. Big data has gradually become a valuable resource and will have a revolutionary impact on politics, the military, the economy, society and scientific research in the future. The era of big data has also greatly influenced education and is undergoing a transformation integrating technology and ideas. Modern education is in dire need of introducing a new generation of information technologies (cloud computing, mobile Internet, industrial Internet of things, big data, and etc.) into education. In the context of big data, it is necessary not only to reform the educational concept, change the learning mode, and develop various learning plans, but also create a flipped classroom to improve the understanding of data and the ability of teachers to learn. Opportunities and challenges coexist for both educators and learners. This article studies the role of electronic teaching manuals in education.

With the continuous development of the Internet and big data, people's learning mode is no longer limited to the traditional offline mode, and online learning mode is increasingly adopted by more and more people. The market size of online learning in China is increasing year by year. Not only students improve themselves through online learning, but also more and more teachers break the traditional concept of on-site learning and begin to improve their teaching ability through online learning. As early as 2012, the Ministry of Education put forward specific requirements for teachers in the Ten-year Development Plan for Education Informatization (2011-2020). Especially under the influence of COVID-19, online learning has become an important way for teachers to improve their teaching ability. At present, the domestic

researches on teachers' online learning mainly focus on the problems and solutions of teachers' online learning, the advantages of teachers' online learning and the construction of teachers' online learning platform. However, most scholars pay too much attention to the network learning itself, but ignore its influence on the improvement of teachers' teaching ability. Therefore, it is necessary to study the relationship between teachers' adoption behavior of making full use of various resources on the e-learning platform and the improvement of teaching ability.

Main text.

In order to explore the impact of mobile devices on the teaching effect, this paper applies statistical analysis to the analysis of the teaching effect of higher mathematics, so as to provide valuable teaching reference for teachers and help the teaching department to make decisions. Taking advanced mathematics as an example, this paper distributed questionnaires, randomly investigated a total of 201 valid questionnaires, drew conclusions based on statistical analysis, and put forward relevant suggestions to promote the influence of mobile learning in teaching.

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The statistical software used in this paper is SPSS software. Since the questionnaire contains text data, the data is preprocessed at first. As the questionnaire involves single choice and multiple choice, dummy variables are processed first. Thus, A, B, C, D are 1, 2, 3, 4 respectively. For multiple choice, each option in the multiple choice is regarded as a single question. If the respondent chooses this option, it is marked as "1"; if the respondent does not choose this option, it is marked as "0". Then, SPSS software was used for statistical analysis of the samples. According to the results of statistical analysis, some suggestions are put forward for the application of mobile learning in teaching.

According to the previous survey experience, when the reliability is below 0.5, the questionnaire reliability is poor; when the reliability is between 0.5-0.7, the questionnaire reliability is general; when the reliability is between 0.7-0.8, the questionnaire reliability is good; when the reliability is above 0.8, the questionnaire reliability is quite good. The Kronbach coefficient of the research object is 0.659, and the Kronbach coefficient based on the standardized scalar is $0.763 > 0.7$. The reliability coefficient is relatively large, so the questionnaire does not need to be modified.

Among the 201 subjects surveyed, 114 respondents believe that mobile learning can make learning more autonomous and convenient, with a clearer goal,

and strengthen and promote learning effect, accounting for 56.7%. It can be seen that most respondents still have a positive attitude towards mobile learning and can also strengthen their learning effects in the process of mobile learning. This conclusion provides data support for us to carry out teaching reform in the context of mobile learning. In the survey, most of the respondents hold a positive attitude towards mobile learning, so we studied the learning resources that the respondents hope students can obtain more in the context of mobile learning. It can be seen from the results of the survey that explanation video, multimedia courseware and simulation are more students' concern. At the same time, the Chi-square test (that is a nonparametric statistical test that allows us to understand the relationship between categorical variables of a dataset and determines the correlation among categorical data grouping) was conducted between respondents' overall evaluation of mobile learning and respondents' spending on mobile learning. In the analysis, the level of significance was 0.05. According to the checking calculation, the P value between the two is 0.007<0.05. Therefore, in statistics, the relationship between the two is considered to be significant, which provides a strong basis for the later teaching reform in colleges and universities.

As part of the work on the master's thesis, we considered the issues of preparing electronic teaching aids of a modern level, including not only textual information, but also visual aids (presentations, video clips, engineering models and drawings, etc.). The structure of the developed elements of the electronic educational and methodological complex is shown in Figure 1.

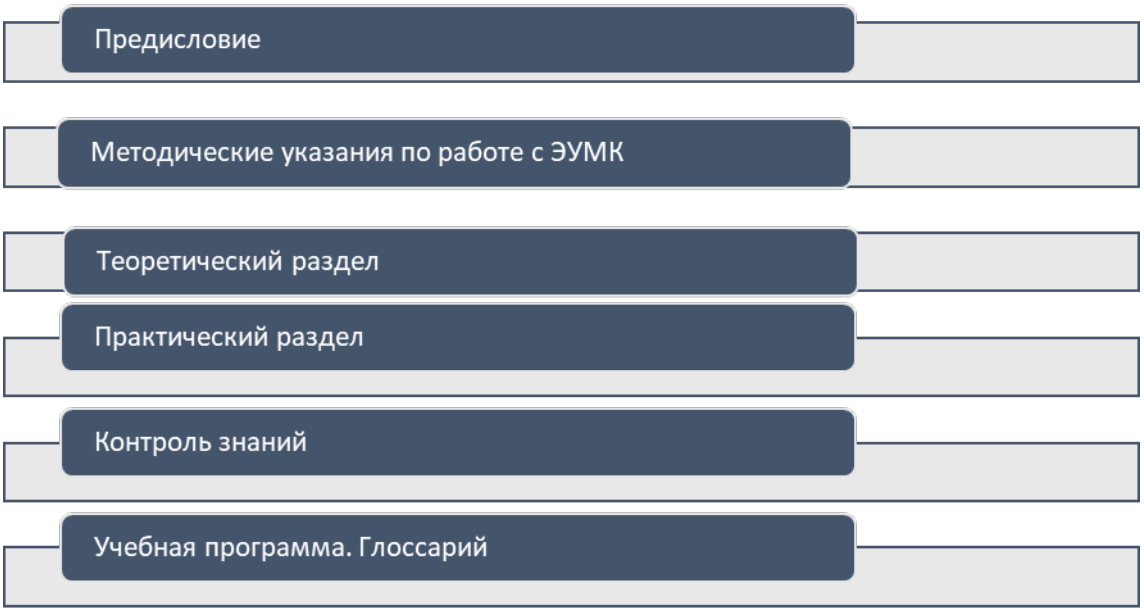

Figure 1. The structure of the developed EUMC

As practice has shown, such a structure and content of educational materials of the electronic teaching materials contributes to the systematic development of educational material and the involvement of students in almost all stages of the educational process: from the development and adoption of learning objectives to reflection and evaluation (self-assessment) of educational results through independent, educational and research work.

Conclusion.

It has been established that changing the goals and content of education is the leading link in the process of informatization of the educational process. Technological re-equipment of the educational process associated with providing the educational process with the necessary teaching aids - technically equipped with modern video projection installations, streaming classrooms, the presence of a local computer network of the university, with the ability to access the Internet, modern computer classes, research complexes, make it possible to widely use them in the educational process. New methods and organizational forms of education have appeared at the university - elements of distance education, an electronic library and a repository, educational resources of faculties and departments that enable students to remotely familiarize themselves with the necessary educational material.

In the context of the era of big data, teachers' online learning platform has abundant resources. Teachers can fully improve their knowledge reserve by using various resources on the platform and have more coping methods when they meet special situations in actual teaching. These will certainly improve the effectiveness of teachers in classroom teaching. In this case, as the effectiveness of the classroom is improved, the teaching ability of teachers is naturally improved. Contributing factors usually refers to the individual cognitive existing organization and technology infrastructure support for use of the target system, usually in network learning, teachers' perception of network learning platform and school training support degree is higher, can more fully to adoption of teacher network learning platform resources, can quickly improve their effectiveness in classroom teaching, Imperceptibly, teachers' ability has been improved.

Thus, the use of modern information technologies in the educational environment of the Republic of Belarus does not lag behind the most developed countries of the world. The personal computer is becoming widespread in universities, and the role of the computer in education and upbringing is increasing. The computer significantly expands the possibilities of presenting educational information. The use of color, graphics, sound, modern video equipment allows you to simulate various situations. So, when conducting classes, in particular, when giving lectures today, it is important to use a multimedia system that not only replaces the blackboard, but also provides great opportunities for visual representation of what is being said. When giving lectures, the use of an electronic video projector allows you to display everything that happens on a computer monitor on a large screen. Thus, teachers can conduct theoretical classes without drawing with chalk on the blackboard and significantly speed up the presentation of educational material. Ensuring access to the Internet continues to be an essential direction in the development of the education system. The educational process should be fully computerized and connected to the worldwide network, which will enable all students to use libraries, museum expositions and other educational material directly at universities. In addition, each student must learn how to use a computer and the Internet for domestic purposes even at school age. The mere

availability of computers and access to the Internet in universities does not guarantee effective education. Educational institutions feel an acute shortage of teachers who own new equipment and technologies. In order to solve this problem,