
СМАРТ-ТЕХНОЛОГИЯЛАРДАН ФОЙДАЛАНИБ ФИЗИКА ДАРСЛАРИНИ ТАШКИЛ ЭТИШ

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ОРГАНИЗАЦИЯ УРОКИ ФИЗИКИ С ПОМОЩЬЮ SMART-ТЕХНОЛОГИЙ

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ORGANIZING PHYSICS LESSONS USING SMART- TECHNOLOGIES

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Abstract: *Background.* The article discusses smart technologies that have recently become popular in the professional community. An analysis of the works of scientists characterizing smart education is given, which makes it possible to assess the pace of its implementation and the level of development of intellectual forces.

Methods. The methods of pedagogical observation, comparative analysis, study of documents, stratification was used in the preparation of the article.

Results. developed a mechanism for organization of physics lessons using smart technologies.

Conclusion. The use of SMART technologies in teaching physics in the 6th grade of general education schools to meet the qualification requirements for physics in general education, secondary and secondary specialized, professional educational institutions and stages of studying physics.

Keywords: smart, physics, smart education, smart tools.

Introduction. A number of measures are being implemented in the country to improve the efficiency and quality of the educational process, including SMART learning technologies. At the same time, in accordance with the Decree of the President of the Republic of Uzbekistan dated February 7, 2017 PF-4947 «On the Strategy of Actions for the Further Development of the Republic of Uzbekistan», in order to «further improve the system of continuous education, increase the potential of high-quality educational

services», free access to media products was established. in the classroom [1]. Laws of the Republic of Uzbekistan «On Informatization» (2003), «On Electronic Document Management» (2004), «On Electronic Government» (2015), Presidential Decree No. PF-5099 dated June 30, 2017 «On Measures to cardinal improvement of conditions for the development of information technologies in the country «also confirms the relevance of the research problem.

Literature review. Information and communication technologies have led not only to the creation of so-called smart technologies, on the basis of which the effectiveness and efficiency of vocational training is increased, but also to the emergence of the possibility of individualization of educational trajectories, differentiation of higher vocational education [6]. Some futuristic publications express an opinion about the «decline» of universities [5]. Traditional teachers are starting to talk about segregation in education. This indicates that the bulk of teachers is still unclear about what the introduction of smart education brings with it [7]. Smart technologies make it possible to produce educational smart products that enable various categories of users to receive individual education in a proactive and interactive manner. However, mass education implies an average statistical student, statistics say that today there are almost 90% of such students and only about 5% of students seek to receive individual education. All children are potentially talented [8], but their areas of talent are differentiated, and upbringing largely depends on parents and the environment, therefore, having reached the age when a person needs to receive vocational education, they already have different abilities, which requires differentiation of their vocational training. Talented and motivated youth should be given the opportunity to choose individual educational paths, but the bulk of students do not need this [9].

Research Methodology. As mentioned above, the SMART society puts on the agenda of educational institutions the training of personnel capable of thinking and working in a new world, that is, a new global task. To do this, they need to be taught new practical skills, such as communication in social networks, the selection of useful information, work with electronic resources, and the creation of personal knowledge bases. This, in turn, requires a radical change in the nature of the educational process.

Analysis and results. It is customary to conduct educational sessions with students using multimedia presentations created in software packages such as Microsoft Power Point or Macromedia Flash. However, in addition to the usual presentation technologies, new technologies, called interactive technologies, are entering the field of education, which allows you to get away from the presentation in the form of a slide show. A new form of presentation using interactive equipment (SMART-interactive whiteboards, interactive

displays Simpodium) - a presentation created by the speaker during his speech - a presentation created in real time, already created. On SMART Boards interactive whiteboards, you can write with a special marker, display training materials, and make written comments on the screen image. At the same time, anything written on a SMART Board interactive whiteboard is passed on to students, saved to media, printed, and emailed to students who are not attending class. The educational material created during the lecture on the SMART Board interactive whiteboard is recorded by the built-in video recorder and can be viewed (used) many times [2].

The classroom technology available in today's schools and other educational settings is often outdated, and today's digital and multimedia education lacks features that need to be included to increase student engagement and learning outcomes. SMART cities need educational institutions and school systems that enable students to acquire 21st century skills, including "digital literacy, inventive thinking, effective communication, teamwork, and the ability to create high-quality projects. To achieve this noble goal, teachers need to focus on technology, which is a key element of student success" [3].

A US Department of Education report states that "passive content consumption is a digital divide between learners who use active creativity to support reading technology and those who use technology primarily to encourage reading. Despite its daily use, there are shortcomings in the adoption of technology in schools: 40% of teachers lag behind in the adoption and implementation of technology in their schools" [4].

The advantage of SMART learning is that it must enable teachers to meet the needs of a specific type of learner, primarily as visual learners. "Research shows that visual learners make up 65 percent of the population, and 90 percent of data is transmitted visually. It is important to teach students the strengths of the lecture, especially if its content is not memorable and does not capture "[4]. Smart classroom technology maintains a professional learning experience by helping teachers better prepare and enrich their lectures by responding to student needs and classroom conditions, resulting in more effective and engaging learning. In such a person-centered learning process, the teacher is no longer an authoritarian person, but acts as a leader, a manager in a two-way process.

Figure 1. Methodology of the process of organizing 6th grade physics lessons using SMART-technologies

Based on the above considerations, it is expedient to describe in a diagram the essence of the methodology of the process of organizing 6th grade physics lessons in general secondary education using SMART-technologies.

Conclusion/Recommendations. The use of SMART technologies in



teaching physics in the 6th grade of general education schools to meet the qualification requirements for physics in general education, secondary and secondary specialized, professional educational institutions and stages of studying physics. Especially when global pandemics like coronavirus are on the rise, this is the best solution when students are forced to study remotely at home. In particular, SMART technologies "... for creating personal, family, professional and economic plans based on accurate calculations, for reading various diagrams, drawings and models in everyday activities, the ability to use the latest scientific and technical innovations serve to facilitate human labor, increasing labor productivity, creating favorable conditions.

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