

MOBILE APPLICATIONS AS AN EFFECTIVE TOOL IN PHYSICS EDUCATION

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Annotation:

This article discusses the ways and prospects of using mobile applications in teaching physics.

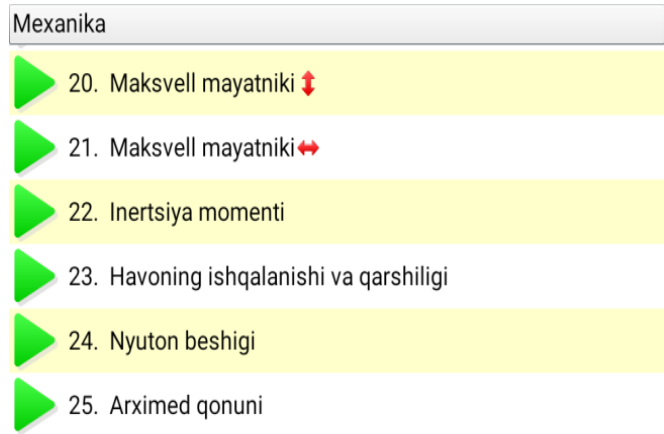
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At present, one of the pressing problems of education is the achievement of the creative assimilation of knowledge by schoolchildren. This is exactly what can lead to its development and self-development, depending on the individual characteristics of the student. And the main task of the teacher is to achieve the acquired knowledge to be personally significant to the reader. To this it is necessary to formulate a positive attitude towards learning in schoolchildren. It is necessary to organize training in such a way that this will maximally contribute to the development of students' activities, independent creative thinking. To do this, it is necessary to pay attention to the organization of the educational process using modern digital technologies so that students can carry out their independent work. Large-scale reforms are being carried out in our Republic on the introduction of advanced digital technologies, especially in the teaching of Physics [1].

Today in the training there are opportunities to use the means of computer technology, as well as the means of mobile communication. The interest of readers in mobile applications is known to all of us. In everyday life, we meet a lot of young people who are engaged in various games in mobile communication. Statistics show that an average person around the world uses more than 25 programs every month. The results of another study prove that 50% of the applications on the phone of an average person are not so useful for them [2].

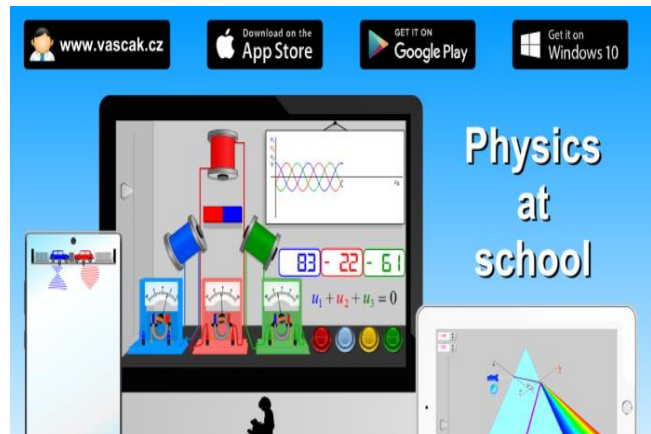
High school students are usually adults and they encounter and struggle with a lot of distractions during this period of their lives. Today, programmers are looking for the best ways to facilitate learning for students. This, in turn, shows that there is an opportunity to make effective use of the student's interest in mobile applications in the field of Education. Currently, as in other areas, mobile applications for the training sector are being created and used practically.

Today, the use of mobile applications based on animation and simulation in teaching is becoming popular. One such mobile application that can be used in teaching physics is the "Physics at school" app. This app included animations and simulations covering almost all sections of the school physics course. As a result of our joint efforts with Vladimir Vascak, the driver of this mobile application, today we have created an opportunity to use the mobile application in Uzbek language. (Picture 1) [3, 4].



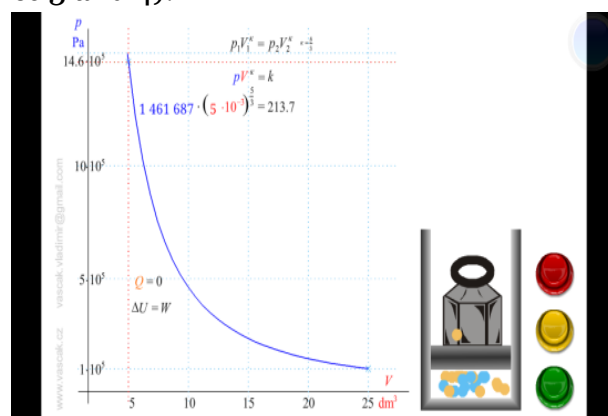
Picture 1. The main window of the mobile application "Physics at school".

This mobile application contains 290 pieces of animations and simulations, consisting of 16 sections that can be used in teaching the school physics course itself. Mobile application can be downloaded from the site <https://www.vascak.cz> (Picture 2).

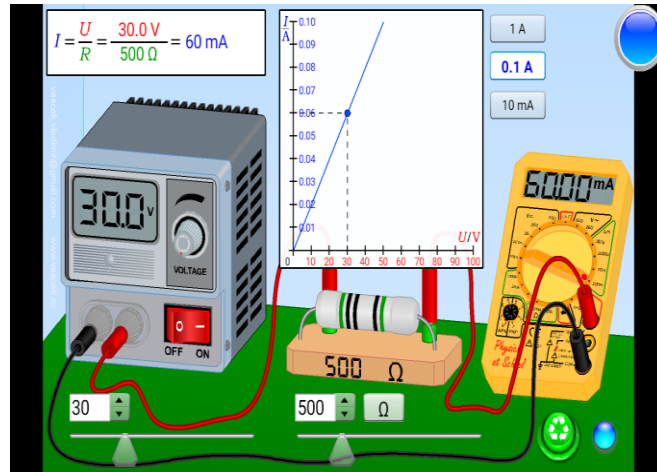


Picture 2. Download the mobile application "Physics at school" from the main window.

The mobile app can be used as a demonstration experience in teaching physics, or as a virtual lab training session. As an example, we brought simulations "isothermic process", which can be used in the 10th grade physics course, and "Om law for a part of the chain", which can be used in the 8th grade physics course (pictures 3 and 4).



Picture 3. The window of the isothermal process in the mobile application "Physics at school".



Picture 4. “**Physics at school**” is a window for studying Ohm law for a part of the chain in the mobile application.

In conclusion, we can say that mobile applications have the opportunity to help students achieve more skills in a short period of time. The use of mobile applications causes the cost of equipping the educational institution with computer devices to be reduced because the educators use their devices. The use of these applications makes it possible for knowledge-seekers to get an education with the use of visual aids created by leading professionals in the most developed countries.

Another important aspect is that in the case of distance learning, which is of particular importance today, the use of mobile applications creates the opportunity to conduct demonstration experiments and virtual laboratory work remotely.

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