THE ROLE AND ROLE OF VIRTUAL TECHNOLOGIES IN SOLVING INTERDISCIPLINARY APPLIED ISSUES ON NEWTON'S LAWS AT SCHOOL

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ANNOTATION

This article is devoted to the role and importance of virtual technologiyes in solving interdisciplinary problems of Newton's laws in the teaching of physics and the specifics of solving problems of the laws of dynamics.

Ketwords; virtual reality, virtual travel, website, panorama, asynchronous, mass, braking, virtual learning, technology.

In the XXI century, information technology is developing not by speed, but by acceleration. Under the influence of this development, various scientific terms are formed and gaining popularity. An example of this is virtual reality, virtual travel, website, panorama and x.k.

Virtual – derived from the Latin word, which means the reflective meaning of reality. This word first began to be used in the XIV century, by now we can see that this word has its own meaning in different areas.

Virtual reality technologies are rapidly entering various aspects of marriage. In the direction of Computer Science and information technology, the concept of virtual is widely used. For example: virtual machine, virtual memory, virtual disk, virtual communication, virtual travel, virtual classroom and x.k. In this area alone, the concept of virtual has been used in different forms and meanings and refers to different meanings. For example, in multimedia systems, the concept of virtual gives the meaning of virtual reality. Virtual reality-this concept is used in the meanings of computer-modeling and reflection and is used to create a model of something. The word Virtual reality first began to be used in French theaters in 1970. Later it also began to be used in the field of computer science. Virtual reality (sometimes called virtual being) is said to be an environment created by computer simulation of the real world. There are 3 main features of Virtual reality. They are: the width of the sphere of influence; high visualization; three-dimensional environment.

The use of these innovations in education in the areas of Exact and Natural Sciences can. The role and role of virtual technologies in solving interdisciplinary applied issues related to Newton's laws in teaching physics is enormous. The main purpose of the implementation of the connection of physical science with other sciences:

- ensuring the systematicity of knowledge;

- formation in the minds of readers of the perception of natural phenomena and their connection with each other;

- formation in students of the skill of being able to establish connections between phenomena, concepts and theories;

- strengthening the Polytechnic direction of training;

- it consists of generating in the students an idea of the totality of the laws of basic nature and the importance of natural knowledge in different areas.

Physical science is inextricably linked with Mathematics, Chemistry, Biology.

When teaching physics, virtual technologies have a great effect on solving interdisciplinary applied issues related to Newton's laws. The role of the teacher in this: in a new form of communication - asynchronous "conversation", virtual discussions are carried out in a different way (the reduction and accuracy of messages, the accuracy of statements become important aspects) and serve as an additional tool for developing the ability to reflect in communication, increasing the level of logical and abstract thinking of students inIn the process of solving issues from physics, students ' logical thinking expands, their creative abilities develop. They have a broader understanding of the fundamental nature of physical phenomena, a deeper understanding of the practical application of laws in physics. Also, if practical classes are organized on the basis of virtual technologies, problems are well received and solved by students based on logical conclusions on the issue, laws and techniques in mathematical operations and physics, or using an experiment.

There is a relationship between theoretical models and real phenomena, but in the main part of the lessons, the main focus is on the generation of mathematics and formulas, which causes most students to score low points in the expected survey of correlations. And a student who has studied mathematics well will achieve high results in studying physics.

Below we will consider several issues related to Newton's laws:

Issue 1. A load with a mass of 1 kg is hung on the thread. A load hanging strip1) $a=5 \text{ m/s}^2$ moving up with acceleration,

2) just like that $a=5 \text{ m/s}^2$ let the tension forces of the thread be determined in these two cases if it is going down with acceleration.

- 1) **Solution:** in both cases, we apply Newton's 2nd Law. The upward load is affected by the P weight of the load, which is directed down by two forces, and the T tension force, which is directed up by the thread.Of the upward load we apply Newton's 2nd law to the movement.
- 2) 1) T+mg=ma yoki, T-mg=ma, T=ma₁+mg=m(a₁+g); T=1kg(5 m/s² +9.8m/s²)=14.8 N



3) the load falling down is influenced by the force of gravity P (down) and the tension force T of the thread (up). Therefore,

4) T+mg=ma₂ yoki, -mg+T=-ma₂, T=mg-ma₂=m(g- a_2); T=1kg(9.8m/s²-5m/s²)=4.8 N Hence the tension forces of the thread T₁=14.8 N, T₂=4.8 N

Issue 2. The automobile 5s with a weight of 104 N stops passing a distance of 25m, making a flat deceleration motion after braking.

- 1) the starting speed of the Automaton
- 2) let the braking force be found.



Solution: Solved by applying Newton's 2nd program Law.

1) 1) the basis of Newton's second law,

F=ma (1)

In this case, F is the braking force, M is the mass of the car and a is its acceleration (in our case negative). The following can be easily derived from the equations of flat variable motion kinematics for automabile flat deceleration motion.

$$a = \frac{2S}{t^2}$$
(2)
$$V_0 = \frac{2S}{t}$$
(3)

When we put Formula (2) from Newton's 2nd Blood (1), the following is formed in aifoda.

$$F = \frac{2Sm}{t^2} \qquad (4)$$

We have S=25m, m=1020kg and t=5s. If we put these values in the working formula above, then V0=10m/s=36km/h and F=2040N will come.

Achievements in the field of education are difficult to imagine without information technology. Therefore, it has its place in the field of education of Information Technology. The distance education system is now a new innovative process in education, which is considered as the Future Foundation of the educational sphere. The virtual reality form of the distance learning system is an effective process. Therefore, the use of virtual reality technologies in education will have a great effect.

Today, the professional use of distance technologies for organizing the educational process in a virtual educational environment. the success of a student in distance learning depends on the skill level of the virtual teacher. Therefore, the internal perception by the virtual Teacher of the peculiarities of learning in the virtual learning environment. It is necessary to correctly select the principles of distance learning and be able to guide them in the process of their study. The application of the basics of modern education (individualization - as a priority in learning today, practical training - as an effective combination of the system of continuing education and qualified development with the practical skills of students, allows each member of virtual communities to create a unique trajectory for innovative work). The desire for constant continuing education, self-development and self-improvement. This specific requirement is especially relevant today, since the speed of development of the information society determines changes in the technology and content of Education.

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