THE USE OF MODERN SOFTWARE PACKAGES IN THE TEACHING OF PHYSICS

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Annotation: The utilization of computer simulations is not a new subject, but its importance has increased in the industrial as well as in the educational field in the last years. The academic use of this tool in Physics is already much disseminated, although its educational use is still restricted. One of the major reasons for this is the restricted number of good computer applications tailored for the University level, especially in Portuguese and a lack of pedagogical plans to use them. In this scenario, the Physics Department of FEI (Faculdade de Engenharia Industrial) decided to begin a long-term research project to produce and to apply computer simulation in Physics teaching. We have already produced six computer applications and four of them (simple pendulum, friction force, ballistics and damped oscillations) have been used for the last two years by the entry level engineering students at FEI, as part of their Physics laboratory activities. The simulation sessions take place at the computer rooms and the students usually work alone in this activity. Although the programs developed do not have all the features of a commercial program, in some aspects they show advantages to those. Five out of the six programs developed are real time simulations. The main reason to implement this feature is that we have observed a higher attraction to programs that simulate an event in the same time scale that the real one. The real time programs also have animations to illustrate and to allow a better understanding of the phenomenon. Some preliminary qualitative results have shown that the students are more involved with the classes and that they are more interested in the subject when computer simulations are employed. These good results are driving us to create new simulations. We are planning to create versions of these applications using the Java language, in order to make them a powerful tool to help in distance learning projects. We are also planning to precede in the near future a quantitative analysis of the pedagogical results.

Key words: Interested in the subject, Development of Science and technology and Information

Introduction: Development of Science and technology and Information Technology achievements in the field of various standing before humanity the district allows you to solve new problems from scratch. Education quality of Organization of educational processes in the system raising the level of World amazes by indicators, modern pedagogy and information in the educational process up-to-date methods of wide application of technologies considered one of the stylistic issues; it has its strong impact hold.

Foreign and local subjects in the teaching of physics programs that companies are currently creating (computer software) Day by day. From the same programs are we getting a fertile? a reasonable question arises will be.

Taking note of the same above considerations, fireplace the experiences your employee has had for several years higher status of this methodical armband with the aim of fellowship to your attention. To emphasize that computer software that is listed as follows should be our DTS compatible.

Materials And Methods

Your employee Physics, Mathematics, Computer Science, Chemistry and information resources on the teaching of Biological Sciences they collected the base, some of them (related to the science of physics programs) elearning.zn.uz posted on the website.

Multipurpose crocodile - cli crocodile physics, crocodile Chemistry, Crocodile ICT;

Apart from these, again every subject in physics and mathematics Macromedia Flash and Microsoft Office Power Point for a department.

The coming of information age brings the opportunity of reform and development to education.

The vigorous development of information-based teaching is constantly changing the traditional classroom teaching mode, teachers' teaching mode and students' learning mode, and promoting the continuous reform of education.

With the continuous development of modern education technology, teachers and education researchers pay more and more attention to the integration of information technology and university

Physics teaching Modern education technology is applied in university physics teaching, which is implemented in many teaching links such as lesson preparation, concept explanation, experiment exploration, teaching evaluation, etc., changing the traditional teaching mode.

From the perspective of implementation technology, virtual simulation software, which is based on the computer platform, carries out simulation experiments of the real system by virtual reality technology, then formes the corresponding mathematical model or mathematical-physical model.

The virtual simulation software shows the experimental simulation environment of the essential process, and it can be considered to make the experiment break through the limitation of time and space for university physics teaching. It can simulate the operation process of various physical experiments and present the experimental phenomena intuitively and vividly, and promote students' involvement in university physics learning.

The application of virtual simulation software in university physics teaching meets to the requirements of the university physics teaching in the new era. On the one hand, it can enrich the teaching methods of university physics and solve the difficulties of university physics teaching. On the other hand, it creates a relaxed, open and convenient learning environment for students and improves their enthusiasm and initiative for university physics learning. In the process of university physics teaching, we should give full play to the unique advantages of virtual simulation software, and promote the review of university physics concepts and laws, the establishment of physical models, and the analysis and solution of physical problems.

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