

STUDYING PHYSICS USING A COMPUTER

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ANNOTATION

Rapidly developing science and technology has made it possible to use new tools, equipment and facilities in the field of education and personnel training. Among these, computers are undoubtedly the most prominent. Research shows that this new technology has a positive effect on attracting students' attention, facilitating learning and increasing their motivation. However, due to insufficient programs in the field, there is a huge gap in the application of these technological capabilities in our country.

Keywords: *Computer-assisted education, Simulation programs, Interactive screen experiments, Physics education*

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When we look at the teaching methods used in secondary education, we see that "teacher-centered", "blackboard" education still dominates. This method is a "one-way" learning style that is usually guided and directed by the teacher. However, one of the general goals of education is to teach students "what and how to learn." In other words, it is "teaching how to learn". Because our era requires "lifelong learning". Even when we enter the business environment after our educational life, it becomes

increasingly important to update our knowledge and add new ones. In addition, for successful education, it is necessary not only to "hear", "read", but also to "understand", "understand" and "apply". In Western countries, in the 60s, a new teaching method began to attract attention: the use of technological tools and equipment in education. From a didactic point of view, this phrase covers all technical course materials that a teacher can use in a lesson. These are; There may be an overhead projector, lecture films, television, internet and computer.

The role of educational technologies in education

According to Kerres; Some of the functions of these technological opportunities from the teacher's perspective can be listed as follows:

- Support the teacher in the presentation of information in the classroom
- Use in course preparation to increase success in courses taught by the traditional demonstration method.
- Support problem solving and improve information continuity.
- In addition, the technologies used are not only suitable for supporting the process of teaching new information, but also for drawing students' attention to the lesson, increasing their interest and passion for the subjects being taught. Thus, the classes attract students with different interests and abilities. Research has shown that the use of technology in education and training radically accelerates and facilitates learning.

Learning by doing

in Computer Education; The interaction between the studied subject and the student is achieved by giving the computer user (student) the opportunity to intervene in the educational process and direct the learning process. According to Issing, there can be interaction between computer and reader only if the following conditions are met:

- A student must first be a creator. In this way, he can organize the content he needs to learn and create it independently.

- The computer program must be dynamic and able to respond to the actions of the learner.
- During the learning process, the student should control his knowledge.
- The program should guide the reader when necessary in using the program.

In the classical teaching methods, changes occur mainly in the cognitive and affective spheres, while in practical learning, as a result of the active participation of the student in the educational process, active changes are also observed in the psychomotor sphere. Two points highlight the importance of interactive learning: First, interactive learning plays an important role in "individualized learning" by selecting the information to be learned and personalizing the learning process. . This new role helps the learner develop self-confidence and personal responsibility. Interaction also increases "interest and motivation to learn."

Simulation programs

Various intervention options in simulation programs, such as the ability of the user to provide different starting values in an experiment in a computer environment, allow students to "learn by discovery", one of the different learning methods. In simulation programs, the student consciously plays an active role. Simulation programs are usually used to simulate experiences in everyday life that cannot be implemented for various reasons (for example, they are too fast or too slow, too expensive). They are preferred, for example, when evaluating data collected in experiments and making them more understandable (for example, graphically).

Summary

Commonly used as technological tools and equipment in education and training, the most important features of computer software can be easily used anywhere, anytime, without much time and they are often based on interactive interaction. Because these programs are recorded on CDs or floppy disks, they can be performed and repeated in a quieter environment, both in the classroom at school and at home. In

this way, the spread of the educational environment outside the school is increasing. However, despite all the mentioned advantages, it is another fact that these technological tools are not used enough in secondary educational institutions. One of the most important reasons for this is the lack of programs that include field subjects.

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