

TEACHERS AND MODERN EDUCATIONAL INFORMATION TECHNOLOGY

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Keywords: *education, teaching, geometry, ICT.*

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Summary: *This paper deals with the realization of a teaching content from geometry by means of the program package CAPRI. The positive and negative aspects of the ICT application in teaching geometry will be discussed.*

Education, science, technique and technology are incomprehensible outside social changes of the modern world. The contemporary fast – paced development of social sciences and technology imposed a number of unexpected changes in all spheres of life and work, and in education as well. Alienation is more and more present and expressed in relations between people, in relation man – society, etc. The feelings of tension, uncertainty, anxiety between the man and the society more often lead to moral, spiritual and even material crises. The consequences of such a condition are significant as they have influence on man – especially on young people who are worried about their future.

Having in mind the development stages of the society, we should at the same time notice the development stages of the educational technology. Although developmental stages have a certain historical chronology, they do not rely on one another. On the contrary, all the stages have their own technological and didactic justification and conditioning.

One of the developmental stages of educational technologies is represented by the application of teaching means aids. The characteristic of this stage is the fact the teacher uses different means and aids during mediating information. Thus teaching aids are information mediators during a lesson and serve a medium, for example, a photography serving the teachers' presentation or illustrations in a text book.

This phase in the development of educational technology is the starting point for the introduction of other, more complex and more modern teaching aids and contributed to making teaching obvious. This is one of the important principles of more qualitative teaching. The next phase of educational technology is characterized by the application of teaching media that replace teachers in direct work, such as text books, teaching film, school radio, cassette players, school TV, etc. This phase has a very significant role in the development of educational technologies because the teaching activity is increasingly being transferred onto the student, while the teacher has more the role of media organizer. Another characteristic of this stage is the fact that the media are becoming more and more complex because of the greater expansion of media production with new modalities and technological solutions, as well as their availability not only an institutions but also in non – professional associations. Next, in the second phase of the development of educational technology the most important is the role of the application of audio – visual teaching aids, which contributes to greater modernity, dynamics, and arousing curiosity in students and teachers. The organization of work itself is also raised on a higher level, as now the teacher is the organizer and not the one who carries out the work, and the student is more active, which in fact is the aim of modern teaching. So, the progress is obvious and the success in learning in the whole process of educational work cannot be absent.

However, the enthusiasm declined very fast. This phenomenon is often met when new machines and devices appear but teachers are not yet prepared to use them in their work. The basic problem in the whole work is neglected and misinterpreted. The difficulty

lies in the fact that the role of media in the teaching and learning process, as well as in the communication process, should be adequately understood and determined. Despite the constant need to communicate, this is particularly difficult to realize in conditions when there is no medium to aid the teaching process.

Because of all this, it is necessary to first determine the roles and the place of basic elements – teacher and student, and only then the third mediator in the communication system should be determined – machines with their role, as well as the place and the possibilities for participation. The great opportunity that audio – visual aids can offer in this phase is that they enable the student to find himself in the center of his own education. But, science, technique and technology “go forward”, they progress, and the next stage of the development of educational technology marked with the development and beginnings of digital technology and application of multi – media systems (i.e. the success and popularity of information technology) is obvious. Bearing this mind, we believe that time will show the results in teaching and learning, and it will also show and prove the justification of applying educational technology in teaching. There is no doubt that its presence in practice led to changes in the positions of teachers and students in the sense of their being more active and productive in mutual relations.

The roles of the teacher are complex and dynamic; they are related not only to his work in the classroom, but also out of it in school – related activities. Modern school calls for inventive, creative and responsible professionals. Information technology also comprises new forms of interaction between teachers and students. Furthermore, it increasingly calls for team work, which means that new forms of communication in school should be established. The new role of the teacher means that he/she is able to change the way of thinking in accordance in particular situations.

Many authors state numerous and heterogeneous roles of the modern teaching. These roles are as follows:

1. Instruction of students aiming at their acquiring knowledge, skills and development of abilities (role of educator);
2. Instruction of students aiming at their acquiring or changing values, attitudes and habits (role of tutor);
3. Participation in the process of the development of school, i.e. development of the process of education and tutoring, together with other members of educational organizations: inspectors, counselors... (developmental role)

The teacher becomes more and more an animator and therapist, i.e. a regulator of the educational process, and not only an informer. The teachers' role can be seen from two viewpoints: the traditional one and the contemporary view point, i.e. the future.

In the traditional school the teacher is the mediator between the teaching contents and the students. He/she is the only organizer of the educational process, and the relations teacher-student are hierarchically structured. The student is in the position of an object and is a subordinate person. Modern schools call for modern teachers faced with a wide range of tasks that should be realized. These are:

- New teaching contents;
- New teaching strategies;
- New role of the student;
- Using a variety of sources of knowledge, enabling students for permanent education.

While realizing these tasks, new roles of the teacher are determined:

- Direct of teaching;
- Organizer;
- Analyst his/her work and that of the student;
- Builder of a cooperative relation with the student;
- Rationalizer, coordinator, programmer, mentor, etc.

A modern teacher stands for a more liberal development of young people; he/she fights against their “tutoring”, against authoritative behavior, etc.

The teacher is characterized by many other roles:

- Manager and regulator of the educational process;
- Organizational role;
- Pedagogical role (tutoring);
- Planner and programmer.

A modern teacher on modern schools should have these roles: the role of a diagnostic of the initial condition; the role of a planner and preparer of teaching and school – related activities; the role of an instructor; evaluator of achieved students’ knowledge; creator and regulator of social interactions; the role of a class manager; innovator of his/her own work; being an example (model) of a positive person.

Nenad Havelka treats the teacher in modern schools as: planner, organizer, projector of the teaching environment, specialist in teaching methods, innovator, mentor, motivator, evaluator, manager, coach, model, family associate, member of teaching staff, teaching specialist (for team teaching), explorer, creative associate, and member of the educational class.

Although the role of the teacher in modern school is quite different from the existing school standards, all the activities the teacher plans, organizes and realizes with students are left to him/her. He/she daily faces the need to make decisions about his/her work and work with students. Even though the range of its forms is narrowed, he/she still has a considerable degree of autonomy.

Modern school calls for a new type of teacher with a polyvalent leading profile. This is dictated by the changes in the management organization, changes of the educational aims in curricula. These are the determining factors of education of future in – service teachers. When we speak about contemporary school, the teacher must have much wider and various education than his/her colleague in the past. In fact, he/she needs broader didactic and methodical culture, good mastery of the students’ psychology, more creativity, good will and motivation for work.

Education of teachers for the needs of contemporary school must be based on five key requirements. The teacher should be enabled for:

- The discipline he/she teaches;
- Managing the teaching process in different situations;
- Lifelong perfecting, introducing and readiness for innovations and team work, observing the professional ethics.

For a modern teacher it is essential that he/she is enabled for pedagogical approach to problems in his/her work based on the ability to observe students and notice a pedagogical situation.

A modern teacher has a pedagogical, planning and coordinating function. Together with the students he models the teaching process. In his/her everyday work solves a number of relevant questions, as for example:

- Problems of students' adaptation;
- Rational and organizational forms of acquiring knowledge, abilities and habits;
- Students' motivation for a whole day of educational activity;
- (teaching in school, independent work at home, organized fulfilling of free time);
- Helping students to regulate their work, rest, play and useful work;
- Biological, medical and pedagogical growth and development of a young person.

A modern teacher should in himself/herself unite the rich experiences of the past, but at the same time he/she should be enabled to make the future as well. First and foremost he/she must be open to the future because life and work in the XXI century will be qualitatively different from the previous periods.

Depending on motivation and the level of pedagogical and technological culture, the teacher plans the usage of audio-visual teaching aids, including computers.

In conditions of scientific-technical progress, the functions of a modern teacher are becoming more modern so it becomes necessary for teachers to use programming in their work. This in turn means that the teacher using technology in teaching controls and directs the activities of students and this contributes to urge students to work independently, and with this the quality of educational work is enhanced.

In order to be more successful in educational work in general, a qualitative teacher seeks new ways of making teaching more modern, combining effective teaching aids and methods, modern educational technology and technique, as well as various kinds of teaching work. During this it is very important that the teacher has the ability to mediate between the knowledge source and students, and this in the manner suitable for planned input of changes in educational work, and to organize learning in such a way which enables students for self-learning.

Закон за основно образование.

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(2011-07-15)

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