Knowledge Based Multimedia System for Teacher’s Education

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This paper deals with a concept of Knowledge system which is created to support modern learning and teaching. Educational technology is constantly changing and improving in line with the development of science and information technology. Traditional teaching is most often criticized for insufficient activity of students, inadequate teaching intuition and dynamism, the impossibility of individualisation of teaching, lack of continuous feedback on the achievements of students and others. Intensive development of telecommunications technology and computer systems, permanent connection to the Internet and WEB based learning systems enabled better use of computer technology in teaching. Computer based knowledge systems provide flexible organization of activities, lectures and study materials and a complex evaluation of students. Teaching is often formalized, verbalized and not sufficiently visual, reducing knowledge durability as well as possibility of connecting theory with real life. Multimedia knowledge systems is created for personal computers offer possibility for making electronic text books involving text, pictures, sounds, animations and films, in such a way that learners can individually proceed in learning teaching contents, they can return to contents which are not clear enough to them, they can receive feedback and additional information in accordance with their own capabilities and interests. Interactivity and quality of presented materials, using multimedia and hypertext, offer considerably richer contents compared with teaching carried out in traditional classroom.

Key-Words: - Knowledge system, WEB portal, Education, WEB based learning,, Teaching,, Distance education

1 Introduction

The traditional teaching is well known by frontal work with remarkable teachers teaching function which does not provide sufficient interaction with the students. They doesn’t leave enough time for independent activities of students in the qualitative function of learning. Teaching is often formalized, verbalized and which reduces the apparent lack of continuity of knowledge and connect theory with real life. In last ten years there was strong develop and improve of didactic media, teaching methods and forms in function of raising the efficiency and effectiveness of the teaching process. The current organization of teaching is created as a comprehensive cognitive system. As a rule, feedback is lacking. After completion of hours students do not know how they successfully overcame the curricula or teacher has full knowledge picture of their students. Feedback should follow the course every step of the teaching process in which current practice is not the case. Teaching is more based on the entropic than systematic approach. One reason for this situation is poor didactic-technical environment in which teaching takes place. The process of modernization of existing technologies is taking place much faster in production areas, and is rightly expected that schools and faculties follow the innovative processes and to educate young professionals in accordance with the needs of society and economy. The world is made important steps towards equipping schools with modern didactic media, but the school expects to adequately equip them to apply new methods and forms of work with pupils and students. Only in the last ten years with the mass use of computers in schools has created the prerequisites for quality educational technology innovation. Multimedia applications designed for personal computers offer the ability to create electronic books with text, pictures, sound and animation films so that students can independently to progress in mastering instructional content, to return to the contents
that they are not sufficiently clear, and to obtain additional feedback accordance with their abilities and interests. Interactivity and the quality of the material presented with the use of multimedia and hyper text gives much richer in content compared with the instruction that occurs in traditional classrooms. Development of telecommunications technology and the massive use of Internet enabled interactive distance learning based on the systematic approach to using electronic media sources of information

2. Multimedia classroom

We consider didactic media as didactic shaped, objectively given objects, phenomena, products of human work that continues to serve as sources of fully realized, and learning. According to P. Mandic (1987) Innovation in the upbringing and educational activities are synchronized system of pedagogic, social, organizational and economic measures (based on solid pedagogical science and other disciplines) that are aimed at raising the level and quality of educational work, with the rational use of personnel, time and creativity of teachers and students. They indicate the creation of conditions for monitoring, evaluation and normalization of pedagogical work, the finding of adequate material and moral factors that will motivate students in the teaching work. According to M. Vilotijević (1999) "Teaching innovations are progressive, development, scientifically based changes in the didactic-methodical organization of teaching that, as a relatively new, emerging educational process." In this study the work of the didactic information related to teaching innovation media based on new information technologies. Today, the most commonly mentioned in multimedia, virtual reality, expert systems, educational software, distance learning, elearning, including previous teaching media that are not sufficiently become active in schools, such as movies, television programs for education, video cassettes etc. To help understand the complexity of content that examines educational technology must analyze the contents and fields of study of pedagogy, psychology, didactics, methods that are with educational technology in constant interaction. If defining didactics as the science which deals with the laws in teaching is obvious that it provides the theoretical basis of educational technology. This means that the educational technology need not repeat the contents related to the study of methods and forms of work organization which leaves the most room for teaching media in the IT era, which are the inevitable source of information. Organizers of modern teaching have numerous didactic media and learned from those found in nature to those that are produced and represent the last word techniques. From the natural environment in which the school is the teacher uses a variety of objects, plants, animals, appearance, material, social relations, shows the reality of the interdependence of plants, animals and man, and thus illustrate his lecture, give students the opportunity to have collected a variety of collections, research , study the world, themselves in the world and connect theory with practice, continue with life. Since the artificially produced didactic media teacher available: auditory (tone reproduction and performance with tons of different teaching aids), visual (texts, slides, images, applications, drawings, film strip, silent films, charts, maps, reliefs, models, art works, various objects, etc..) audiovisual (film, television programs, materials that are broadcast over the video system, tape). Today, more and more use multimedia didactic media (compact discs and content that are received through the computer) which is integrated images, text, sound and film, with the possibility of interaction between students and resources. Qualitative progress of multimedia technology has enabled the so-called. intelligent software, whose database contains the knowledge of the best experts in specific areas with the possibility of monitoring and evaluation results of students, with explanations that serve students to better master new content. All results can be stored in a database, and the teacher can continually monitor progress and attainment. From many research results, it can be concluded that the effect of saving the content of 10-15% if a student comes to reading the information
written material, listening to lectures (frontal of DC communication that dominates our schools) about 20%, observing about 30-35 %, while observing and listening to about 50%, while audio-visual perception and motor activity effects and make up to 90%. From these and other research can be concluded that the more senses engaged in the process of teaching and learning effects are higher. [3]. Will there be more or less the senses engaged in the learning process largely depends on an adequate choice of didactic media and their successful educational applications. Aware of these facts, teachers can use the media on the didactic multimedia basis, and enables them to school media room. In these circumstances, teachers do not have irrational resistance to modern educational technology and the innovation it enables. Opinion that teachers have a resistance to innovation is true when they do not know pedagogical meaning of certain information, when they are not trained for their application and therefore have difficulty in applying new media.

3. On-line permanent education

School equipment appropriate didactic media selection in the process of teaching those who are rated as the most effective, their pedagogical and methodological design, reasonable use in all phases of instruction in all forms of teaching, contributes to the motivation of students during the acquisition of knowledge, encourages attention to the essence of certain content, helps acquiring permanent knowledge, their use in the process of acquiring new knowledge in their daily work. Therefore, all countries have or wish to have a didactic media standards for primary, secondary schools and higher education institutions. In recent years, special attention is paid to the implementation of cable and satellite television, multimedia systems, computers, compact discs and the Internet, which allow raising the level and quality of teaching and learning at all levels of schooling. No application of modern didactic media teacher could not satisfactorily adjust your style of teaching cognitive styles and learning styles of students, could hardly meet their various needs and encourage curiosity and motivation for learning; next best will not be able to ensure that each student demonstrated the specific way to search for the meaning of certain activity and teaching materials to overcome their own pace, could not allow talented students to advance faster in the learning process and weaker in learning achieve what their abilities allow. Educational Technology in the Anglo-Saxon countries, including student’s knowledge, determining the objectives of their education, refinement possible organization of teaching, planning the content of education, the choice of forms, methods and didactic media, determining the position of teachers and students in teaching and evaluation of achieved results of teaching and learning. In these countries didactic is not singled out as a separate discipline, but is involved in educational technology. From this result indicated that the educational process technologies aimed at achieving the objectives of education and therefore includes people (teachers, students, colleagues), ideas, organization, teaching base, resources, forms and methods, and procedures and means of evaluation of what which is in the process of education achieved. Technology education includes the organization, implementation and verification processes of teaching and learning. The technology in these countries is essential factor for teaching and learning, not just technique or tool that uses a teacher [4]. One of the key factors that contribute to the success of education is the knowledge of students, their structure, personality, learning styles, suitability for a particular type of school problems and difficulties in the conduct and learning, with specific advantages (talent and exceptional talent) and the outstanding deficiencies. Who is determined to be the teacher must try, as much as possible, to know the students with whom to cooperate and to educate. b. Each category, and pedagogical particular, proceeds from what should achieve. In the process of defining the goals of education and teaching takes into account that, as far as possible, more precisely, to determine the general aims of education and develop
taxonomy what is in a certain time period (year, completed the class, a certain level of education) possible and what is be precisely evaluated as a result (final product). The aim of education determines the organization, methods, contents, implementation process and evaluation criteria. Bearing in mind the goal of the teacher selects the organization, teaching contents, methods, forms and procedures in teaching, monitor, encourage and direct learning; selection instruments and procedures of assessment and evaluation of results achieved by students.

c. Organization of teaching in general and organizational forms of teaching in particular, are an important prerequisite for determining the position of teachers and students, selection of instructional content, media, forms and methods, techniques and technology teaching. Organization and teaching a "school of open plan”, schools with no grades, individual planned teaching, a significant impact on the teacher to teach less, and the student learns with more own effort. Program of the School is the official document that develops the whole process of educational work in school, provide time frames in which will be carried out certain activities, provide financial and other prerequisites for the successful implementation of program content, provide holders of programmed activities, carried out a fair distribution of work duties among members school collectives, precisely who knows what works and for which tasks and duties is responsible. The good organization of collective works is unique, material and other prerequisites of successful work always on time made available realisation of program, program implementation task flows evenly, social climate and discipline are the height and the results of work in line with forecasts. The good organization facilitated the management and possible direction, correction, encouragement and assistance when it is required and a guarantee that it will have positive effects. [4]

Therefore, a good organization no empty walk, avoiding commitments and superficial work. The fact that it knows precisely who, what, when, what, how, how much and in what time frames should be done, speaks in favour of the importance of work organization. Organization of control and management of teaching and learning, and control and management are the guarantee of success pedagogical activities. It is particularly important to define the optimal organization of work, using didactic IT innovations. The contents of teaching are elected according to what is the goal of educational activities, according to whom they are intended, contents and therefore what will be and how to realize.

d. Forms of teaching, teaching methods and didactic media, should provide effective instruction that will contribute better activities of students, their high-quality learning and fuller development. The active participation of students, for their better learning and development need to change forms of teaching (by combining frontal shape of the group, working in small groups, couples and individual), by introducing, in addition, classical, new methods such as: cooperative, research-disclosure, the use of students' experiences and simulations, using traditional media (written materials, slides, films, slides, presentation) and the universal didactic media (sophisticated machine learning, TV presentation, educational software, virtual reality, artificial intelligence) using didactic and methodical shaped material (texts, control tasks, programmed textbooks, half-programmed contents of certain school subjects, teaching papers). In recent times, it is possible to use multimedia teaching media, teaching programmed special purpose (the package system), teletext and videotekst. Specially taken care of improving techniques and procedures of quality learning and empower students for self-knowledge. Therefore, we should seriously think over the fact how to help the teacher to facilitate his work, evaluated more than what he does, it thorough prepare for complex functions implemented, otherwise organize a school, hire experts who would, together with the teacher, deal with business organizations, implementation and evaluation of educational activities. We need several experts to work together in preparing a new didactical materials.
d. The teacher is the holder of the programming and organization of teaching, the creator of the strategy implementation process of teaching and learning technologist and practical performance of teaching, advisory work which realized the goal of encouraging students to master the techniques of learning and self-knowledge acquisition; therapist in their activities, which seeks to resolve various deviations in work and behavior of young people. This shows that teacher is less a teacher-trainer and examiner, and more an educator of young people. Therefore, teacher evaluates the process and results, knowledge, abilities, interests, overall personality development, not just academic achievement. [5] Evaluating the results of the students consider what is most valuable, what makes a complete personality development and the guarantee for its further progress. The aim of evaluation is not only that the notes state, but also to discover the problems and take measures for their elimination.

4 Conclusion

Computer-supported learning is commonly used and is very suitable for the realization of interaction between students and computers in order to improve existing technologies of learning. Teaching has made evident, dynamic and interesting with the involvement of more students' senses in acquiring new knowledge. Computer-supported learning includes multimedia educational software, computer simulation, virtual reality, artificial intelligence and others. Using information technology we provide the individual knowledge, constant feedback and monitoring progress of students as the teacher helps to realistically valued pupils' knowledge and refer them to other teaching media to successfully get new knowledge. Computer-supported study is used relatively long time in education, but in the last five years, computer technology is greatly perfected so that the educational software is improved to the enhanced three-dimensional virtual reality with artificial intelligence, which raises the internal motivation of students and facilities are becoming very interesting. Computer-supported learning can be applied from the first grade of elementary school, where he began learning through play. There are different views of pedagogues and psychologists about the feasibility of using computer games to overcome the barriers between the child-computer. It is expected that, given the high level of interest of children for computer games software manufacturers employ more specialists for education in order to strengthen the pedagogical value of the software that is widely accepted among the young generation.

References: