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Ivan Gerlič**Information and Communication
Technology and Contemporary
School**

This article deals with the problems of the needs concerning the informational society and its educational system. It also emphasises the need for this system to be improved and modernised by the implementation of information and communication technology, as well as the need for the implementation of modern teaching and learning methods and work patterns which this technology makes possible.

Key words: informational society, educational system, information technology, computers in education, multimedia, information and communication technology

**Mojca Bernik, Jože Florjančič,
Vladislav Rajkovič****Knowledge Management and Use
of Information Technologies**

In order to keep the position on the market, the need for knowledge within companies is increasing. Companies have a certain amount of knowledge and this knowledge can be explicit or tacit. With knowledge management a company can store this knowledge into manageable and usable knowledge. Personnel and executive management of a company is the key for successful knowledge management. With the motivation of employers and organizational culture, management can build the system, which allows a company to track and complete knowledge within the company.

Key words: knowledge management, information technology, organizational culture

Metod Černetič**Knowledge and
Information Society**

Established global economic arrangement does not give the answer to the question how economies, especially less developed ones, can develop successfully on above average level and catch up with the developed economies that way. The question becomes even more important when we find out that even nowadays, when the global informational society, is in its formation, there are just 15 % of those countries which

reach the above level of development and there are over 50 % of those, especially developing countries, which are regressing. The main point of the answer to the given question is still offered by the statement of Mr. S. Kuznets, the Nobel prize - winner, who points out that societies which are capable of mastering and using contemporary technologies and of innovating, have developmental advantages over the others. This leads us to the main question: of what kind of developmental environment countries and their economies have to create in differently developed societies, in order to master contemporary technologies faster, and how to motivate innovations for the successful development. New economy is growing in the environment of stable and firm economies, which manage and use informational technologies more and more effectively and at the same time willfully enhance knowledge and thus renovate economy and society successfully. That ensures permanent development, which is not only a successful economical growth in a defined long – term period but it also includes above average technological, economical and social development and also makes it possible to overtake the similar societies or catch up with the more developed ones. This fact also strengthens technological, developmental, cultural and national identity of society.

Key words: development of Slovenia, technological and information endeavours, educations of Adults, development aims, information society.

Nada Razpet

Physics on the Web

The World Wide Web offers the means of linking a text, graphics, animation, and sound across any computer connected to the Internet. As more schools gain access to the Internet, teachers find themselves faced with the question how to use this technology in order to support learning. Teachers of physics explore the uses of the internet to support students' understanding of the basic concepts of physics.

Key words: WWW, teaching, understanding, education, physics.

Matej Eljon, Marko Papič, Mitja Golja, Andrej Kos, Janez Bešter

Web Educational Television

Modern technology is changing educational methods. Systems of e-education which represent the learning material in multimedia form become more and more

applied. Film becomes a very important media besides texts, pictures and animations. The lack of quality educational video contents stimulated the beginning of the project SiTV. It was launched as the pilot project in spring 2002. The purpose of the project is to stimulate the non-professional and professional educational video production and the use of video contents in educational process. The central point of the project is web portal www.sitv.tv. It enables creators to publish their subscriptions.

Key words: e-education, web educational television, video contents, film

Izidor Hafner, Borut Jurčič Zlobec, Tomislav Žitko

Competitions in Knowledge via World Wide Web

At the Faculty of electrical engineering the competitions in space visualization via world wide web have been organized since 1999. It is possible to participate at school competitions, national competitions and on International Space Visualization Olympiad. This year the competitions in mathematical logic were added as well. The competition could be used by teachers for homework and examining, students could use them for self-checking their knowledge and abilities. Such tests are very economic if the number of participants is large enough.

Key words: world wide web, competition in knowledge, space visualization, logic.

Viktorija Sulčič, Dušan Lesjak

Characteristics of Online Education at DOBA

Being a novelty in Slovenia, online education hasn't yet been researched much. Due to our previous experiments in which we evaluated the acceptability of online education for students and carried out research of computer and Internet literacy, the differences between traditional and online characteristics of student arose. We found out that online students are more computer and Internet literate and motivated than students involved in traditional courses. Online students favor more the IT usage and consequently are better equipped with computers. Therefore the usage of IT in education leads to the increase of computer and Internet literacy among students and also reinforces their willingness for participation in e-business. Despite the fact that online education in Slovenia is in its infancy, the

opinion of non online participants about online education is similarly favorable.

Key words: online education, distance education, high education

Maja Azarov Domajnko, Vladislav Rajkovič, Marko Bohanec

Inter-school Project Work on Multicriteria Decision Models and XML Data Exchange

Project and team work has proved to be very successful at school. As the subject matter of projects varies a lot, it is difficult to choose an appropriate topic as well as to evaluate the results. Using decision support systems we can solve both problems. We have used such a system at our interschool project work. We have created two decision models using DEXi as a tool. This programme uses XML for storing data. We have investigated possibilities for entering options into the decision system from remote locations in XML. In order to enable the validation of the data remotely entered into the decision system, we have created DTD and schema documents.

Key words: project work, decision model, decision support system, DEXi, XML, XML schema, DTD

Silvana Gasar, Marko Bohanec, Vladislav Rajkovič

Prediction of Final Academic Achievement

Using an expert system shell DEX, we developed an expert system to forecast final academic achievement in a high school educational programme. The knowledge base was created manually, based on expert knowledge and rules of academic achievements discovered by data mining on a pupils' data base. The validation of the model revealed a satisfactorily predicted accuracy for experimental application. For further research we suggest using decision trees.

Key words: Prediction of Academic Achievements, Knowledge Discovery from Data, Data Mining, Expert Systems, Hierarchical Decision Models

Neja Zupan, Robert Leskovar

Theoretical and Practical Knowledge of Information Science Brought to the Faculty

This paper presents the results of prior knowledge test in "Information science" that students brought from secondary school. Observed population -146 first year students at the Faculty of organizational sciences, University of Maribor answered a questionnaire at the beginning of the first semester during the first hour of "Information and computer science" course. The results were compared to the results of the first exam in this subject. The correlation was detected. A gap between explicit and tacit knowledge appeared too as well as the polarization of students' knowledge.

Key words: information science, secondary school, university, knowledge, curriculum

Mojca Tomažin, Miro Gradišar

Teachers Training for Using Information and Communication Technologies

The article deals with the reasons why information and communication technologies (ICT) in educational system are not used enough. The results of a survey research in Brežice region shows that the main reasons for that are: teachers who do not have enough knowledge of how to use ICT, limited access to ICT, and deficient technical support. At the end a few suggestions for the improvement based on the results of a similar research and many successful cases from the world are presented.

Key words: information and communication technology, education, educational system

Teja Toman, Eva Jereb

The Use of an Electronic Grade Book in Education

We are living in a period of endless changes, which can be seen in moving to the information society where knowledge and technology play the basic role. The introducing of information technology and electronic business lead us to the consideration about introducing all this in to the educational system. So we developed an application, more precisely, an electronic grade (e-grade) book which enables the parents to monitor and

control their child's education. By entering the username and password the parents would have an insight into their child's grades, inexcusable absence, test dates, cultural, sport days, natural science days, teachers' notes to the parents and so on. This paper shows an example of an e-grade book on the Internet as well as the advantages and disadvantages a possible introduction of an e-grade book in primary schools might bring about. Teachers' and parents' response to a possible introduction of an e-grade book is also presented.

Key words: informational technology, world wide web (WWW), an electronic grade book, primary schools

Zvone Balantič, Tomi Curk

Computer Simulation of Random Records in Work Systems

Man performs his work by using his force, but various jobs demand various force input. While planning a job, we must consider such varieties. To make things easier we use the computer simulation of random observation (CSRO = RSNP). It discovers the frequency of the settled kinds of job in work systems. Interactive tools help in recognising the method and present the way we can apply it in practice. CSRO is a user friendly and an adaptable pedagogical instrument, which being supported by some statistical methods simulates various models of work processes.

Key words: Measurement, random observations, computer simulation, software.

Metod Čufar, Lilijana Tkalec

Computers at Work – Demands of EU and Slovenian Laws

The information technology is quickly becoming the technology vital for numerous educational, industrial and commercial processes. Nevertheless, this arouses new difficulties which reduce the comfort and the efficiency of users of screen equipment. The safety and health issues which occur by working with screen equipment are dealt with by the Council Directive 90/270/EEC which is summarized in the so called "Pravilnik o varnosti in zdravju pri delu z zaslonsko opremo". Being teachers of computer science and information technology we were interested in the condition of this equipment in the computer classrooms of primary and secondary schools.

Key words: Ergonomy, healthy environment, harmful influence, information technology, computer equipment, legislation, computer classrooms

Bojan Močnik, Jože Rugelj

Education of Occupational Travellers

Europe's occupational travellers (e.g. bargees, fairground and circus communities, construction workers) are under growing pressure to constantly adapt their business practices to the technological and societal evolutions. As a consequence, the importance of vocational education has increased tremendously over the last years. However due to travelling lifestyle, occupational travellers are often unable to follow regular vocational programmes. Several schools and other institutions for vocational education have therefore experimented with success more open and flexible forms of education provision. But they lack a clear dissemination channel to attract occupational traveller communities to their courses. Also they experience difficulties to develop a long-term and systematic approach for creating courses for this target group. Our try is to use Internet as the universal communication channel upgraded with database application which would provide the basic working environment for occupational travellers as well as for the course providing institutions. The parallel task to evolve course database is to create an EU (and wider) network of content providers that provide vocational courses for occupational travellers, based on the national qualifications and taking in account their specific needs.

Key words: occupational travellers, vocational education, distance learning, web courses.

Lidija Intihar, Andrej Koložvari

Library Information System

Primary school library systematically gathers, professionally processes, archives, presents and lends library material, which is used by the participants of the educational proces for acquisition, consolidation and expansion of knowledge in the scope of the aims and contents of the regular lessons curriculum and of all other forms of organised school work. The use of information technology enables quality and up-to-date information needed by the school library users. In the article there is a described example of introducing a new library information system in primary school with certain benefits and weaknesses.

Key words: library information system, COBISS system, COBIB database, catalogisation.