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Ivan Gerlič

Information and Communication Technology in Slovene Education System

The following article analyses some results from the investigation Present state and trends of using computers in slovenia primary and secondary schools. This work is carried out by the author every two years for the Ministry of education and sport and, besides this, as part of the national project Computer - information literacy. The article analyses first of all some didactic criteria of computer applications in the educational process.

Key words: educational system, computers in education, multimedia, information and communication technology (ICT), software, didactic problems, research, computer – information literacy.

Boštjan Resinovič, Vladislav
Rajkovič, Viljan Mahnič

A Prototype of a Decision Model for Assesment and Improvement of Secondary School Quality

Every participant in the life at school is responsible for school quality, but according to Slovene legislation, theoretical knowledge and actual praxis, school leadership – the management – is the most responsible of all. Information technology can play an important role in management's efforts to achieve school quality. We want to show with this article how appropriate use of information technology allows not only for assessing the quality of a school but also for analysis and detection of advantages and disadvantages in the quality of a school and for proposals for improvements. For this purpose we decided to use expert systems designed for decision support, because they enable transparent work with decision knowledge. The proposed prototype of a multi-attribute decision model for assessing and improving the quality of a secondary school is based on the theoretically and practically derived knowledge concerning secondary school quality and on the notion of the necessity of the information technology usage. We divided the criteria used for the decision making into three groups: criteria concerning student performance, criteria concerning school climate and culture, and criteria concerning teachers. Because of the fact that we implemented the prototype as an expert system based on the expert system shell

DEX, the use of information technology is immanent.

Key words: quality, quality in education, school quality, secondary school quality, information technology, management, decision making, multi-attribute decision models, decision support systems, artificial intelligence, expert systems, DEX, DEXI

Nada Razpet

Look, It Flies!

The development of children's perceptual abilities may suffer when so much of their experience is through television, computers, books, work-sheets, and media that require only two senses. The senses of smell, touch, and taste, and the sense of motion through space are powerful modes of learning. In outdoor school children could development these abilities. The design of a kite (or an aircraft) and playing with them outdoor could be a nice example to connect the modern technology (internet) and home and school activity. But, on the internet could be so many mistakes and wrong explanations.

Key words: learning, outdoor school, science, paper kite, aircraft, activity

Rado Wechtersbach

Child, Nursery School and Computer

When we were, some years ago, considering on an appropriate starting age for using computer, nobody thought about kindergarten. Nowadays kindergarten intensively purchases computers to include them as a new medium in kindergarten curriculum. But there are still doubts if this is good for the child. In this text we will discuss this problem and present some results of the project Child and Computer led by the National Education Institute.

Key words: information technology, kindergarten, education

Jožica Ramšak Pajk, Mojca Bernik, Vladislav Rajkovič

Computer Model of Self-Evaluation in Process of Career-Planning

The article is about the process of career planning in community nursing area. Computer based model of self evaluation for

the purpose of career planning is presented. The emphasis is on person and evaluation of his advantages and weaknesses as well as development of his potential. This multi-attribute hierarchical model encourages systematic and critical consideration for taking responsibility about personal development and planning career. The article is about the process of career planning in community nursing area. Presented is computer based model of self evaluation for the purpose of career planning. The emphasis is on person and evaluation of his advantages and weaknesses as well as development of his potential. This multi-attribute hierarchical model encourages systematic and critical consideration for taking responsibility about personal development and career planning.

Key words: career planning, community nursing, multi-attribute decision making

Margareta Vrtačnik, Mojca Fir, Danica Dolničar, Saša Divjak, Anton Vahčič

An Interactive Virtual Chemical Laboratory

The co-operating partners, (Faculty of Natural Sciences and Technology, Faculty of Computer and Information Science, Faculty of Chemistry and Chemical Technology and The University College of Health Care) at University of Ljubljana are developing within the framework of the project "ICT in learning and teaching chemistry" an interactive virtual chemical laboratory. The laboratory is intended to motivate students for learning chemistry in a different and attractive environment, thus enabling them to understand better the correlation between macroscopic observations of experimental results and their explanations by using the theory of the particulate nature of matter. For the teachers, the laboratory will represent an additional teaching tool, which will supplement their explanations and develop the pupils' and students' information literacy. In the interactive virtual laboratory, the users will have an opportunity to select content and experiments according to their interests and capabilities. They will test the understanding of the selected experiment; get acquainted with chemical hazards, and have a possibility to study the safety measures in handling chemical reagents. At the higher level they will observe the animations of the experiments at the sub-microscopic level and correlate the results with theoretical background. With the help of interactive test items they will upgrade and broaden their knowledge.

Key words: interactive virtual chemical laboratory, experiments, animations

Dejan Dinevski, Milan Ojsteršek

Technology and Organization of e-Learning

The paper analyzes the broad technological aspect of "e-learning" from the interdisciplinary point of view, and its introducing into more important educational institutions. The thematic and geographic frame of the e-learning is set up, together with some specifics of the development, especially in the region of Europe. There are presented conceptual definitions of terminology in the field of information support to the educational processes in the context of the global trends that urgently require and dictate the introduction of e-learning, at higher levels of the education. The vital e-learning technological elements, as well as some implementation's parameters are defined. The complete e-learning technology requirements are derived and the tools' organization is illustrated. An original technical model of an e-learning portal is suggested which is practically verified by the actual implementation at the University of Maribor. There is a detailed description of the portal tools and functions, such as user authentication, external service integration, personalization, searching, notification, user interface and billing.

Key words: Information technology, e-learning; web portals, distributed systems

Marjanca Pograjc Debevec, Miroljub Kljajić, Vladislav Rajkovič

Simulation of Learning Process Using Expert System Knowledge Base

The article deals with the simulation of learning process model where human being is learning using computer knowledge base. In this process the machine is complementing the learner. Significant differences between the two partners (man and machine) were the reason why we developed learning models for studying synergetic effects of this learning process. The results show the importance of new organizational models in knowledge management. These models can be used in schools as well as in the process of articulating and using expert knowledge in

different problem domains. As a tool Powersim program was used for analyzing the models of learning when developing a hierarchical multi-attribute decision model, refreshing knowledge and using the knowledge for decision taking.

Key words: Learning process, Man – machine interaction, Knowledge management, Decision making, Powersim

**Branislav Šmitek, Eva Jereb,
Primož Škarget**

The Multimedia Support for the Computer Hardware Service

These days internet and multimedia are common things. Also using them in education purposes is nothing new. In the article we are presenting the use of multimedia in distance education. The process of developing the multimedia book for supporting the computer hardware service is presented. At the end also some experiences got by planning and building the book are shown. The multimedia book was developed at the Faculty of Organizational Sciences, University of Maribor, in collaboration with the representative of the company for servicing computer hardware TEAL.

Key words: internet, multimedia, distance education, e-book

Franci Potokar, Eva Jereb

Learning Motivation and Other Success Factors when Taking Exams

The article is a study of learning motivation and other success factors of students in the learning process. Learning is carried out in different environments and concerns all periods of life. It deals with different problems, which dictate the learning topics. The sample of our survey included 52 men and 72 women in age of 19 to 50 years. The study showed that there is statistically no differences between men and women concerning the success factors of written and oral exams. Although men more often use the forbidden sources of knowledge when taking

written exams, their main success factor is knowledge and the main motive a good job. The analysis of the results showed that male students put less effort, time and planning in studying than female students. In spite of that they achieve better results in the end. The main motives for the students with better grades are a good job and the status of an educated person. These students are more successful when taking exams because of their knowledge and not due to the use of the forbidden sources of knowledge. Those students who dedicate little time to studying and exam preparations very often use the forbidden sources and the main factor of their success is luck. Hard work of students as well as a good organization of studying, the appropriate learning methods and preparation for exams, lead to successful learning and good exam results.

Key words: learning habits, learning motivation, study organization, learning resources, forbidden sources at exams

**Matjaž Debevc, Bogdan Dugonik,
Ivan Gerlič**

Information Society in Education of Deaf and Hard of Hearing

A quick development of information and communication technology and especially its services, enabled by the Internet, and simultaneous social changes, lead to diffusion and establishment of those technologies at all educational levels. Unfortunately, the persons with the special needs – as deaf and hard of hearing persons – need an adjusted and more generous support. This contribution presents proposals for distance learning and a suggestion for introducing e-education by means of a tutor's model of the education that comprehends the combination of the classical way of the education and that of the distance learning. The article presents also an example of a video lecture supported by the Internet that the deaf and hard of hearing people have asked for.

Key words: deaf persons, hard of hearing persons, distance learning, e-education, information and communication technologies, video conference, Internet, video

Matija Pipan

Exchange of Education Matters by System UNIVERSAL

Today e-learning represents one of the fastest evolving fields in learning. In e-learning quality of learning resources and their distribution is of great importance. The article presents the system UNIVERSAL, which is trying to include a new approach in e-learning, because it fills the gap between providers and consumers of learning resources. User friendly system works as a marketplace where offer and demand meet. It is based on the "value chain" which is accompanied by an assessment process and solutions that allow compatibility of already existing systems for distance learning. The system UNIVERSAL is the foundation for the platform EducaNext (<http://www.educanext.com>), which works as brokerage platform and is available also in Slovenian language.

Key words: UNIVERSAL, EducaNext, e-learning, e-learning market, distance learning, exchange of learning resources

Liliana Brožič, Metod Černetič

Needs for New Knowledge – Protection of Security Data in European Union in NATO Alliance

It took time to close all the chapters in negotiations with european union and to get invitation of nato alliance. But this is not the end of work, there is still a lot to do. To participate as an equal partner we need a lot of well educated people who have a lot of experience to achieve a goal of fulfilling development of Republic of Slovenia, her citizens and citizens of European Union, who are mostly citizens of Nato Alliance. Act of Classified Information is supposed to be changed to match the security standards in European Union and Nato Alliance. To get some good results we need to educate personnel with need to know and other to understand their duties and tasks.

Key words: security, security standards, security clearance, classified information, European Union, Nato Alliance.