

## **The Diversified World of Information Technology in Education**

Dear readers,

We are glad that we have managed to gather quality papers that will hopefully be useful in your work and studies. The topics of submitted papers again prove that the world of information and communication technologies is exceedingly varied. Not only would it be difficult for us to find an area where ICT has not yet penetrated, but also in each of these areas we continually witness the finding of new ways of using ICT in education.

The authors of the first paper called *ICT in Technical Subjects* have noted that although information and communication technologies have penetrated almost all areas of education, science or control systems, they cannot completely replace practical knowledge and working with real models. Despite these limits, the possibilities of using ICT in the areas mentioned above are many. Among other things the paper emphasizes the importance of interdisciplinary links and students' ability to transfer knowledge from one subject into other areas.

Museums and educational exhibitions play an important role in the process of lifelong learning. The second paper called *Categorization of Museum Visitors as Part of a System for a Personalized Museum Tour* is therefore focused on using information and communication technologies in museum didactics. In order to achieve the greatest educational benefit for the visitors of the museum tour or the educational exhibition, it is advisable to tailor the tour route through this institution, as well as the depth, comprehensibility, significance and formal appearance of presented information about exhibits for the individual visitors or the target groups. The personalization of the museum tour or the educational exhibition in the presented concept is provided by a virtual guide which uses expert systems and a thorough categorization of visitors.

The third paper called *Creation of Educational Video Tutorials and Their Use in Education* provides interesting and useful information about a very effective and therefore increasingly popular teaching material – a video tutorial. However, creating these video tutorials is not easy. The author of the paper describes step by step the whole process of creating video tutorials, as it is taught to the students of the Department of Information and Communication Technology of the Pedagogical Faculty at the University of Ostrava. The author also illustrates the possibilities of using video tutorials in teaching special needs students or teaching foreign students.

The fourth paper called *The Development of Computer Competencies Using Artificial Intelligence* presents possibilities of using artificial intelligence in order to raise the educational process to a higher level. First, the paper gives an overview of the basic information concerning *development of cognitive research on feed-forward neural networks (perceptrons) and teaching support systems*. Next, the complete teaching system is described. The system is based on the original GLM module with elements of artificial intelligence. On the basis of research the results of traditional instruction were compared to the results of

individual instruction using the suggested methodology. Finally, the benefits of the proposed system and its possible extensions are discussed.

The fifth and the last paper called *Information System “Diagnostic” as a Tool of Action Research* concerns the demanding requirements the schools currently have to contend with. The internal transformation of schools can not be done haphazardly or only intuitively, but must be based on thorough analysis of internal data. As shown in this paper, this data may be obtained using the action research method with established information system called Diagnostic. Long-term acquisition, analysis and use of internal data should help the school become the so-called learning organization that is able to respond to external changes and constantly improve its quality.

The appendix of the journal discusses the beneficial symbiosis of information and media literacy at the Department of Information and Communication Technology of the Pedagogical Faculty at the University of Ostrava. It is becoming increasingly apparent that students who have developed competencies in one area, have a head start in developing their literacy in another area, and vice versa. That is why we would like to propose the field of media communication and literacy as a subsequent thematic field for the authors of future papers submitted to our ICTE Journal. Thank you in advance for your submissions.

I wish you interesting reading on behalf of the editorial staff,

Pavel Kapoun,  
Executive Editor