

Application of Multimedia Technologies in Pre-School and Elementary School Language Education

¹Mária Čačíková, ²Drahoslava Londáková, ³Pavol Podhradsky, ³Juraj Londák
E-mail: maria@mariapodhradska.sk, Drahoslava.londakova@gmail.com, {podhrad,londak}@kti.elf.stuba.sk

¹Faculty of Education of Trnava University (Slovakia), ²Nursery school, SNP (Slovakia), ³Slovak University of Technology (Slovakia)

Abstract

In the paper are discussed the processes relating to application of the modern Information and Communication Technologies (ICT) in the education of the specific target group: children of pre-school age and pupils in the first year of elementary schools. New pedagogical approaches and methodology supporting the effective and flexible application of the new generation of ICT in **language** education of children of pre-school and elementary school age are presented and described.

As the platform in the e-learning or m-learning process (e/m-learning) the IP Multimedia Subsystem Next Generation Network architecture (IMS NGN) is used. This platform can provide wide spectrum of multimedia applications and additional multimedia sources supporting educational process.

Because of illiteracy of this early age target group, the key board of computer or other end user device can not be used as the basic human-computer interface. Therefore the alternative human-computer interfaces, as well as several open issues and approaches concerning the effective and optimal application of appropriate end users devices for interactive communication between pupils (children) and end user devices are also discussed in the paper, e.g. laser mouse, or touch LCD display – usage of icons for activation and control of required multimedia sources (teaching materials, supporting documents, etc.). The voice interface is another very sophisticated means for the communication between person and computer.

As the key end user device in the process of pre-schol and elementary school language education, the interactive electronic white board – IW (as the communication tool between teacher/pupils (children) and e/m-learning IMS NGN platfrm) is used. Some experience in the language education are presented in the paper. In addition to standard tools (electronic pen, finger, laser mouse, etc.) for application and control of the IW, the possible algorithms and approaches how to apply the voice interface as communication tool between teacher/pupils (children) and IW and consequently between IW and also e/m-learning IMS NGN platfrm are presented in the paper. The mutual interactions among individual e/m-learning IMS NGN subsystems is evoked by the voice (voice commands of teacher/pupils (children) – control computer joined with IW – interconnection with e/m-learning IMS NGN platform).

The possible evolution trends in the are of the application of the multimedia ICT and multimedia ICT network platforms in the Pre-school and Elementary school language education are also presented in the paper.