András Farkas: The interactive whiteboard and its pedagogical value

Technological development resulted in the large-scale spread of the interactive whiteboard in educational institutions. However, instructors (university professors and school teachers alike) lack the necessary skills to use up the full potential of these new technological devices. When faculties of Pedagogy include the teaching of computer skills in their curricula, it is usually more about skills needed at university, rather than the teaching of the pedagogical use and value of educational technology.

The way schools introduce educational infrastructure influences its future use: is it decided centrally what technology would be used, how much time teachers have to plan their lessons around the new technology, and whether there are trainings available for them to learn how to use it.

In Hungary, the use of computers was introduced into schools in the late-1990s by a programme called "Sulinet." However, this meant getting computers without the necessary teacher preparation for their use. Schools had to face the question who would be the administrator of the information system, teachers had to find out what possibilities information technology carries, and uploading supporting material to the web was also still in process. Textbook publishers began to include supporting DVDs into their packages, but getting them prevented teachers from creating their own material, suited to their specific teaching style.

Trainings are offered for teachers to learn how to use digital technology, but they are restricted to the use of technology, and do neither cover pedagogical possibilities of the interactive whiteboard, nor do they help teachers to adapt the technology for the needs of their specific field. These trainings cannot be adjusted to the needs of a given group of teachers, and thus are not the best way to prepare them for the use of the interactive whiteboard.

Combined classes of pedagogy *and* computer science would be needed in higher education. This would be a cheaper and more effective way to prepare future teachers for their field, rather than the current practice of sending practicing teachers to computer science trainings.

Balázs Török: Electronic administration in schools – infrastructure and functions

Our survey was conducted in 2010 in 155 institutions (primary schools, and different types of secondary schools: high schools and vocational training schools). This research paper is a summary of our experiences about the electronic administration systems of these institutions.

The level of use of information technology in the administration system did not show a strong correlation with the institution's infrastructure. Where the electronic administration was encumbered by technological difficulties, this was primarily caused by insufficient bandwidth. System administrators confirm that the quality of internet connection is critical in the introduction of electronic administration: 35% say that internet speed in their school is "bad or slow." (In 14% of schools using electronic administration, bandwidth was 1 Mbit/sec or under in 2010, which was slower than marketable internet services for the general public at the time.) Schools were most interested in the use of electronic markbooks for the administration of grades. 71% of schools that used electronic administration nevertheless had their markbooks only on paper, 20% used only electronic markbooks, and 9% administered markbooks both electronically and on paper. Where electronic markbooks were used, infrastructural development was justified by ensuring access from classrooms. It was possible to access the electronic system from all classrooms in only 3% of schools using electronic administration. System administrators estimate in nearly half of the schools (45%) that further workstation installation is necessary for the smooth operation of electronic administration systems. We found a growing need for wireless internet access, three quarters of school principals said they thought the realization of wireless connection was indeed justified. Two thirds of the schools' board staff aimed to better use up their school's electronic administration system in the future. In their responses, they almost unanimously mentioned the use of electronic markbooks.

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