

CSCW in IT Education

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Modern societies more and more rely on technology to facilitate communication. TV sets and mobile phones are just two examples. The underlying goal is to make communication more effective and cheaper. Communication, i.e. information exchange, is becoming a key factor for the success of an economy.

In Bestuurlijke Informatiekunde, we not only teach some of the technology but we also try to communicate to the students about the impact of IT to the economy. After all, a perfect technology will fail if it is not adapted to the needs of the people who have to use it or who are affected by it.

In this short article, we promote the thoughtful use of IT tools in education as well. IT has long been used in education. For example, computers with software development tools are used in programming courses. Students and teachers use Email for some communication purposes. Course materials for more and more courses are put on the Web. The catalogue of the library is online. There are many more examples. This sounds good. But did it change a lot the practice of education at the university. Probably not so much. Students still go to the lectures. Assignments are possibly produced on a computer but they are handed in written form. Paper and pencil are extraordinary resistant to automation. Why should we change?

The reason to change is an emerging shift in the ways how people gather and distribute information. To give you one example: since the rise of the World Wide Web the number of technical reports published by my former department at Aachen University has declined to less than 50%. The reason is not that less research is done. The reason is that people find it much more convenient to publish the technical papers on their Web home page. It's also cheaper and faster. A similar thing is going to happen in education. There are already plans for Virtual Universities where you get all your course material via the Internet. Assignments are delivered and corrected over the Internet as well. Outstanding teachers can "sell" their courses to various educational institutes with not much extra efforts. The campus universities have to be aware of this. What should we do?

The strength of campus universities are the "short distances". Students and teachers meet in the classrooms and in the offices. A personal conversation is in many cases more appropriate and more effective than a computerised communication. Gestures and mimics do carry information! However, collaboration in groups can be improved a lot by so-called CSCW (computer-supported cooperative work) tools. CSCW allows to share information in limited group, for example a student group doing an assignment. The members of a CSCW system can do certain parts of a task individually at home and then make their contributions available to the other members of their group. This would not only save some paper. The real benefit is that the groups no longer have to find time slots where they join their results. This is an issue since students have multiple assignments per week. Group meetings can concentrate on the content of the task.

For teachers, such a system automates the collection of assignments. The system can put a time stamp on every submitted solution. Corrections and comments would flow back the reverse way via the CSCW system to the student groups. Of course, this is just one idea of IT use in education. Experiments have to show whether the promises are kept. Early results with the BSCW system (<http://bscw.gmd.de>) are very encouraging and we hope to be able to report more in a few months.