

---

## Editorial

---

### Piet Kommers

Faculty of Behavioural Sciences,  
University of Twente,  
PO Box 217,  
7500 AE Enschede, The Netherlands  
E-mail: p.a.m.kommers@gw.utwente.nl

---

This issue focuses on the social context of learning events like mobile and web-based support systems. As typical for media affordances, the presence/absence of media may introduce typical educational differences and thus social classes.

- 1 In: "Projects of public access to the internet for equal opportunities in the information society", Simonova and Halamka present the position that information literacy may be characterised as an ability to realise and formulate one's information needs. Its role is to become well-informed about information sources, to look up information by means of information and communication technologies, to evaluate the information and use it to solve a particular life situation or a professional task. Their argument is that absence or lack of information literacy creates a strong handicap that may consequently result in an irreversible layering of the population: summarised as the 'digital divide'. In this context, the term 'e-inclusion' is often mentioned as well, which is – in other words – a set of preconditions for effective inclusion of all population groups in the information society.

The mood to be actively engaged in 'being online' is signalled as a critical factor for the future of youngsters. Mobile technologies have the potential to make learners aware of team players for the sake of learning wherever they are. This is an excellent compensation for those who may fall in the trap of viewing learning merely as a school-based mentality; besides a skill, it is the attitude to take up its learning aspect as soon as reality demands for it.

- 2 In "Supporting mobile connectivity: from learning scenarios to multi-channel devices" Rouillard and co-authors. Bring forward that a number of curriculum, distance learning has brought not only a wider audience, but also much more diversity among the learners. First, as it can be integrated more easily into a lifelong learning strategy; secondly, because the learners are not restricted to a single area and thus learners from different countries and with different cultures follow the curriculum. They insist on two particular points, which embody the necessity to adapt the pedagogical settings (e.g. pedagogical scenarios) according to the learners' behaviour to overcome unforeseen problems due to cultural differences and the importance of considering mobile technologies to overcome limited access to the technology in developing countries and to ensure continuous interaction among learners and with tutors.

We tend to accept phenomena like mobile or online learning merely for special cases, like in case of marooning in the example by Wang and Huai below. The real evolution in learning culture typically demands us to generalise particular solutions into more global approaches. Typically, this is the case if we take the message by Wang and Huai seriously: learning needs a flexible remote link in order to survive urgencies and crises. If we look into the real life of students and families, we may acknowledge that crises are not so rare at all. In other words, WWW-links for learning are essential for the mainstream situations in general.

- 3 In “An analysis of learning behaviour in a Virtual Learning Community: a case study of teacher professional development geared to the need of infomatisation” Wang and Huai use three online teaching teachers during SARS outbreak in Beijing in 2003 as the case subjects, analyse their understanding on the technical product and methods, and their students’ learning behaviours when they used ‘Capital Normal University Virtual Learning Community’ network instruction support platform to teach students. According to the technical product, one of these three teachers is experienced teacher and the others are novice teachers. The results illustrate that the instructional practice community formed by the novice and the experienced teachers has a bigger positive effect to the teacher professional development geared to the need of ICT; and that there is not much difference on both a role of a guide and a manager between the novice and the experienced teachers. However, there is a large difference in both the role of an organiser and a learning assistant. The role of organiser is dominated by the role of guide and manager. The novice teacher finds it difficult to perform a learning assistant role. It was found that the teacher’s behaviour affects the student’s behaviour. However, its effects are not same for the novice and the experienced teachers.

More and more, we see that video fragments become integrated in learning material. Just like, we need feedback from the audience during shows, we need a careful analysis of the various interactions between students and the learning support systems once a video sequence has been retrieved and played. In the underlying abstract of De Boer and Tolboom, it becomes clear how their article touches the sensitive point of making learning environments more smart and effective. The message is clear: let us look critically and carefully to what the students tell us in their subtle reactions like interrupting and resuming the video play, making interlaced excursions, etc. Especially, when it concerns larger numbers of involved students, it is an indispensable asset: the fingerprint of logged interactions. We as designers are morally obliged to derive meaningful conclusions from it and optimise a next edition or the external reuse of the videos indeed. Imagine how it may trigger the larger life cycle of precious video fragments once they are integrated in the situation of calamities like described in the article by Wang and Huai.

- 4 In “How to interpret viewing scenarios in log files from streaming media servers” De Boer and Tolboom present the situation when video is offered to students in a Web-based Learning Environment (WLE) through a streaming video server. Digital traces of their viewing behaviour can be collected in session log files. The analysis of log files from e-learning systems tells the authors about studying behaviour. The subject of their explorative research is the patterns in log files from streaming media servers. Students did not authenticate themselves on the streaming media server. In

order to relate events to the same viewing session, we did not filter out the IP addresses recorded in the log files. The presence of zapping indicates the need for improvements to either the instruction video or its accompanying task. Any improved version should strengthen the relevance of the video to the task and work to reduce or actually prevent zapping. The authors defined four viewing scenarios: one-pass, two-pass, repetitive and the zapping scenario and revealed traces of these scenarios in the log files taken from the streaming media server. No student admitted to zapping. It seems as if zapping can be prevented to some extent by reinforcing the link between the task and the video for the lesson. Fewer than 20% of the students watched the videos in one uninterrupted pass. More than 80% demonstrated learning behaviour showing at least some user interaction with the video.

A vital challenge is to imagine how innovative media solutions may finally penetrate in 'normal' public schools. The summary of the article by Chen Wang articulates this aspect quite vividly. Indeed, it is the essential question: in how far does educational technology finally affect mainstream schooling paradigms? It will be clear that technological innovation can never be a valid goal in itself; yes, it may act catalytically as a trigger for excavating latent values that underlie learning cultures. Seen the innovative landscape as a whole, however, we may conclude that opportunistic technologies act as a vitamin for improving learning and training. Please read the message in the article by Chen Wang as summarised below.

- 5 In "Technology integration in public schools: generalising from Northeast Ohio to a global setting" Chen Wang describes that schools are conservative by nature, embodying as they pass along the wisdom and skills of an earlier generation to those who must function in future. It is found that when schools attempt to integrate technology into education a major cultural clash ensues. The article provides a snapshot of that cultural clash as it currently exists within one region of the USA, discussing four different aspects of technology integration: curriculum, pedagogy, administrative issues and professional development. In each case, problems and solutions are described. This article concludes with a description of those dilemmas, which remain unresolved, accompanied by a list of 'best practices' recommendations for educators working to integrate technology into the public schools of any country.

International consortia like under the umbrella of the Leonardo project stream, it is likely that new understanding on successful paradigm migration is evolving. In the article by Stejskal and co-authors, it is clear that the link between didactic and administrative staff is an underestimated one. Especially as learners become 'web citizens' it is clear that administration disciplines need to be updated in order to be kept cost-effective.

- 6 In "The analysis of the public administration officers' education background" Stejskal and co-authors, focus on the survey results of the public administration officers' education background in project partner countries – Spain, Greece, Poland and Czech Republic. This project was financed from European program Leonardo da Vinci. Its goal is to find officers training needs and according to this to find the education topics.

Though there is a quick tendency to see the learner as the main stakeholder in his/her learning process, still it is hard to overestimate the normative factor of the future employer in education as a whole. The underlying study by Michael Logothetis

exemplifies what factors play a role in the adoption/abolition of new teaching methods for engineering education. Here, we see clearly how innovation and the gravity of traditional stakeholder priorities compete.

- 7 In “Need of a semi-self evaluation scheme for education in Electrical/Computer Engineering in Europe” Michael Logothetis presents studies that were carried out worldwide, addressing the quality of engineering education and the quality of vocational training. Most of these studies are carried out by independent experts. Its resulting recommendations, in most of the cases, are not adopted by the academic institutes, unless the academic institutions are obliged by an accreditation board to adopt them. The aim of this paper is to propose a semi-self evaluation scheme for an in-depth evaluation on a trans-European basis.

As final stage, we bring forward the notion of ‘performance support systems’ that bridge the primacy of the domain with the more subtle cognitive stages that may dominate the learner’s processes. Here, we see a vast landscape of new tools and software practices, still rather unexplored by traditional learning/teaching practices. The article anticipates the more essential debate on the balance between problem-based vs. theory-driven exercises.

- 8 In “Performance support system in higher engineering education – introduction and empirical validation” Stoyanov and Kommers define and validate the concept of performance support system in higher engineering education. The validation of the concept is based upon two studies: a pilot and an experiment, on the effect of performance support system on achievements and attitudes of students. The experimental study confirmed the expectation that the performance support system produced significantly better results than the traditional method of teaching when achievements of students were compared. The analysis of the students’ attitudes towards the method revealed that the operationalisation of support was better implemented in the performance-support software application than performance.

As epitome, we may state that we still need a better awareness on how to instigate ‘learning mentality’ within curricular contexts. Mobile-, ubiquitous- and collaborative-learning may instigate pragmatic choices whereas empirical evidences may correct the ideology of so-called ‘new learning’.