

## **Digital competence and ICT in relation to education and life long learning**

Lars Birch Andreasen  
Assistant Professor, PhD  
Department of Educational Anthropology  
The Danish University of Education  
lba@dpu.dk

I see digital competence as what is needed for being able to act and interact; to learn, play and work in a society, which is more and more depending on digital, computer-mediated networks. ICT is in different ways becoming an integrated part of the working life, the education, and the everyday life, and therefore practically everybody – a nurse, a child, an unskilled worker – must know how to handle ICT in different circumstances.

However, digital competence is not just a question of knowing technically how to handle the technological facilities. A certain amount of technical knowledge is of course necessary, but this cannot stand alone. What is needed is a broader understanding of the digital possibilities.

This includes a focus on communicative competencies, for instance to be able to communicate in different physical and virtual spaces. In a classroom most people know how to raise their hand if they want to ask a question or make a comment. In a personal conversation most people know the meaning of raising your eyebrow or nodding your head. – But how do you raise your hand in a computer conference? – How do you nod in a chat room? – And what kind of new communicative possibilities arise through the digital media? These are questions relating to communicative competencies as part of digital competence.

Another aspect is the need for collaborational competencies. To use digital media for problem solving, and for developing and sharing of knowledge, you must be able to interact and collaborate in different kinds of virtual spaces.

We must relate to the fact that communication and collaboration can take place on many different kinds of platforms – often at the same time. Therefore we must accept that it is difficult to control, and difficult always to maintain a planned development. It is necessary to know how to navigate in a chaotic and changing environment.

An example is the Danish Master's Programme in ICT and Learning, which The Danish University of Education offers in collaboration with four other Danish universities. The education takes place in a combination of physical and virtual environments. Every second month the students are gathered for two-day-seminars and in-between there are courses and project work on the net. The education has an integrated use of computer conferences, that is asynchronous, net-based, written communication, and the students are very experienced computer conference users. However, it is interesting that when the students work independently, they often use many different net-based tools for communication and collaboration, which has other facilities or ways of expressing them selves. An overview of the activity must therefore encompass different virtual as well as physical environments.

At The Danish University of Education we have a Research Programme on Media and ICT in a Learning Perspective. The programme has its focus on the potentials of digital media for learning in institutionalised as well as non-institutionalised settings.

A number of research projects in different areas of the educational field have been carried out, for instance dealing with:

- creation and sharing of interactive learning materials,
- children's use of chat rooms for learning and creating their identity,
- computer games as a field of research,
- the possibilities of students to interact and collaborate in net-based learning environments,
- the changing role of the teacher,
- or how ICT may support students' project-oriented work.

Proposals for research:

A research area, which could be of potential value to develop in this international network of universities, could be:

- Investigations into the barriers that exist for teachers and students in using ICT-based facilities as an integrated part of their education. What are the common problems that teachers as well as students experience? And what are their different needs that are not met in the existing ICT-based educational activities?

Another area could be development of platforms for learning:

- In every net-based facility for learning, there is always a pedagogy that has been shaping its possibilities. And the existing platforms for e-learning, or so-called learning management systems, have mainly been developed to facilitate the distribution of learning material from the teacher to the students.

Even though there are often discussion boards or other ways of feedback, it is difficult to support other activities and ways of organising the teaching and learning in these systems. Therefore there is a need for developing new tools, or rather developing new uses of existing tools, as a way of augmenting the possibilities of the e-learning platforms that we know today.

One way could be by giving students their own voices by integrating the use of weblogs, where every student can be editor of his or her own home page as a continuing reflection on the learning. Another way could be by supporting not only text-based communication, but also communication through sound, which has become more and more easy to integrate and use.

Summing up, I will point out that in matters related to education and life long learning, we must be aware that the generations of students that are coming have to a much higher degree been growing up with the possibilities of computers and the internet than most teachers and decision makers have. Therefore they are more experienced, and it is an important challenge how the competencies that they bring with them can be not only be acknowledged, but also built upon and integrated in the future development of uses of ICT in education.

Lars Birch Andreassen