

Chapter VII

The Information and Communication Technology (ICT) Competence of the Young

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ABSTRACT

This chapter discusses the information and communication technology (ICT) competence of the young. The discussion focuses on students at lower and upper secondary school, especially young people aged 10-18. It explores how the strategic initiatives and implementation efforts of ICY have reached out to the level of young citizens. The aim is to consider their ICT competence as well as their use of ICT in school and during the leisure time. The authors also consider the significance and role of gaming, the gender differences regarding ICT skills and use, and the differences between the young and adults in their skills and use of ICT.

THE KNOWLEDGE SOCIETY AND EXPECTATIONS OF ICT IN EDUCATION

The rapid distribution of information and communication technology (ICT) in almost all areas of society has also occurred in education, and all OECD countries have invested heavily in ICT for educational use (OECD, 2004). The same trend

regarding heavy ICT investment in education has become evident in many developing countries, especially in South-East Asia (see Pelgrum, 2008). Worldwide, the utilization of information technology in education has been regarded an essential factor for economic growth, and the concept of the information society¹ is based on the belief that knowledge is the driving force for technology development and that the knowledge work

and knowledge workers form a relatively large proportion of the employment. In policy discussions, the arguments for using ICT in education are often based on promoting the information society, which sets demands for improved teaching and learning. The new jobs require new skills, namely, those needed for interaction with the new technology (European Commission, 1998), but also more general skills, such as collaborative knowledge creation and sharing as well as metacognitive skills, as Kozma (2005) suggests based on pedagogical theories. ICT has also been regarded as a strategy to improve teaching and learning and to implement and facilitate the new pedagogy of the information society (Cuban, Kirkpatrick, & Peck, 2001; OECD, 2004; Voogt & Pelgrum, 2005). For the knowledge economy, it is not only a question of whether people can access information but also how well they can process and utilize this information as well as create novel information (Hargreaves, 2003). Education is essential to answer the needs of technology and society (Waters, 1998), and it is regarded as not only as the means to meet the ICT revolution but also the means to keep pace with the continuing ICT development.

This emphasis on ICT in the knowledge society also has practical consequences. As early as 1996, the European Commission emphasized the need to exploit new ICT in education, and to achieve this it was necessary to target teachers (and trainers) in introducing ICT into education and to link schools into the full networking potential of the information society (European Commission, 1998). In the same year, President Clinton laid out four similar goals in the USA: computers accessible to every student, classrooms wired to one another and to the outside world, educational software to be integrated with the curriculum, and teachers to be ready to use and teach with technology (Cuban, 2001). During the last decade, policy initiatives and diverse educational master plans around the world have generated national implementation priorities for ICT use at schools,

such as the provision for ICT-infrastructure, teachers' professional development, and technical and pedagogical support for teachers (Pelgrum & Law, 2008).

During recent years, there has been an obvious strategic shift in the focus from merely utilizing ICT to generating knowledge-based growth. The focus has also widened from the core promotion of work and employment purposes to efforts to contribute to the general well-being of people in their daily life, both at work and in their leisure time. This shift can be seen, for example, in the most recent Finnish knowledge society strategy which has as its general vision the promotion of a good life for all citizens vis-à-vis the information society (Prime Minister's Office, 2006). The three main sectors of reformation concern competent and learning individuals and work communities, an innovation system in which ideas are turned into products and services, and the building of a human-centric and competitive service society. According to Ståhle (2007), the major challenges for enhancing learning in the global information society centre on gaining an understanding of virtual and actual knowledge creation processes, steering and managing such processes, and integrating them with other activities. Diverse new learning technologies such as social software and sharing technologies (wikis, blogs and RSS services) facilitate online learning in networks and within and across different communities and virtual learning environments, thereby expanding learning outside formal education for different age groups.

This interest in information technology has often developed even into enthusiasm; Selwyn (2002) calls it 'techno-romance'. The introduction of computers in education gave even rise to the expectations that they would revolutionize both learning and teaching (see Law, Pelgrum & Plomp, 2008). As a result, the role of information technologies in educational development is established – even to the extent that it is believed there would be no educational development without ICT (Nivala, in press; Selwyn, 2002; Waters, 1998).

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