



Digital Competence for Lifelong Learning

POLICY BRIEF

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PREFACE

This policy brief has been prepared by the Institute for Prospective Technological Studies (IPTS)¹ as part of an ongoing collaboration between DG Education and Culture, Directorate A (Lifelong Learning: horizontal Lisbon policy issues and international affairs), in particular Unit A2 (Lifelong learning: innovation and creativity). Under this collaboration, IPTS will contribute to the strategic policy work of DG EAC, by conducting focused techno-economic research and prospective analyses on the use of ICT for creativity, innovation and lifelong learning for all.

The goal of this policy brief is to summarize key messages from recent IPTS research relating to the needs for digital competence for the purposes of work, leisure and learning in the European Information Society. The research contributing to this brief has been carried out by the Information Society Unit at IPTS under various research projects. More information on the research projects and results of the IPTS Information Society Unit can be found from the Unit website, <http://is.jrc.ec.europa.eu/>

¹ IPTS is one of the seven research institutes that make up the European Commission's Joint Research Centre.

IPTS POLICY BRIEF: DIGITAL COMPETENCE FOR LIFELONG LEARNING

Digital literacy consists of the ability to access digital media and ICT, to understand and critically evaluate different aspects of digital media and media contents and to communicate effectively in a variety of contexts. Digital competence, as defined in the EC Recommendation on Key Competences (EC, 2006) involves the confident and critical use of ICT for employment, learning, self-development and participation in society. This broad definition of digital competence provides the necessary context (i.e. the knowledge, skills and attitudes) for working, living and learning in the knowledge society.

Young people in the EU27 are quite well equipped with basic internet skills, as only 11% of 16-24 year-olds have not undertaken any internet-related activities, as opposed to 71% of 55-74 year-olds in 2007 (Eurostat). However, education is a differentiating factor as the percentage of people with no internet activities was 40% for the total EU27 population, but only 12% for the highly educated and 63% for those with low or no education (Eurostat). A large share of European internet users also engages in social computing activities (Cachia, 2008; Pascu, 2008). For example, in August 2007 there were 127.3 million social networking users in Europe, representing 56.4% of Europe's 15+ internet users (Comscore, 2007). Take up of internet and social computing varies in different European countries, as, for example, 51.4% of Spanish internet users visit blogs as opposed to 26.7% of German users. YouTube is one of the most highly visited internet sites (ranging from 2nd to 5th place) in almost all European countries (Ala-Mutka, 2008). Active take up of social computing and participative approaches has impact on public services such as government, the health sector and education and training (Osimo, 2008; Ala-Mutka, 2008; Punie, 2008; Redecker, 2008, Cachia et al, 2007).

Advanced digital competence does not automatically follow from the ability to use ICT tools. Skills and knowledge challenges for both young and old internet users relate to:

- *Privacy and security*: A high proportion (79%) of young internet users are not careful in sharing private information (Pew/Internet, 2005), and 40% of older (50+) social network users would give their real contact information online (OCLC, 2007). Knowledge and awareness of internet security issues is important with networks and user-created content (Ala-Mutka, 2008).
- *Ethical and legal use*: 32% of teenagers have been cyberbullied (Lenhart, 2007), which has caused schools to ban access to social media sites (Ala-Mutka, 2008). Research suggests that only 37% of students are aware of IPR rules with online materials (Chou et al, 2007).
- *A critical attitude in creating content* is important for employability: 22% of employers screen potential employees from social computing sites (Careerbuilder, 2008). 21.4% of US companies have detected exposure of sensitive information in blogs or similar tools by employees, leading to disciplinary actions in most companies. (Proofpoint, 2007).
- *A critical attitude in using content* is needed: Online content affects people's decisions and activities (Ala-Mutka, 2008). 34% of European internet users have decided, on the basis of information from a blog, not to buy a product. Online information has led 7.9% of eUser study respondents not to follow a doctor's advice, and 19.5% not to go to a doctor. Educational institutes are banning Wikipedia usage, as students have not shown they have the skills to use it critically and responsibly.

MAIN MESSAGE

Lifelong learning strategies need to answer to the growing need for advanced digital competence for all jobs and for all learners. Learning digital skills not only needs to be addressed as a separate subject but also embedded within teaching in all subjects. Building digital competence by embedding and learning ICT should start as early as possible, i.e. in primary education, by learning to use digital tools critically, confidently and creatively, with attention paid to security, safety, and privacy. Teachers need to be equipped with the digital competence themselves, in order to support this process.

RECOMMENDATIONS

Enable pedagogical innovation with digital competence

- **Teacher training.** Teacher training in all fields should include advanced digital competence for teachers and their teaching, not concentrating only on ICT user skills of teachers. These topics should be part of both initial teacher training and in-service training. The training should consider aspects of using ICT both as a learning tool within subject teaching and as a tool used by learners for their coursework and learning-related activities outside school settings.
- **Learning digital competence within context.** Students should be allowed and encouraged to use ICT for their learning, information searching and creation tasks. In this way, they learn to use and be creative with digital tools and media in different subject fields, taking into account the subject-specific considerations, such as searching for relevant information, evaluating online information reliability, IPR aspects, critical attitude in publishing online content.
- **Innovative learning approaches also support digital competence.** Mainstreaming ICT in education and training through innovative teaching and learning approaches is independent of the subject. ICT for learning has the potential to put learners at the centre and engage them actively in the learning process, promoting discovery and experiential learning, problem solving skills, etc.² These bring forward at the same time skills related to advanced digital competence, such as online collaboration with confident and critical use of the digital tools.

Embed digital competence in organizational strategies

- **Awareness of the importance of digital competence.** The importance of advanced digital competence needs to be emphasized for teachers themselves, for headmasters and managers of schools, and for parents. Systematic strategy for personnel training and skills updating should be established, and also support services and networks for teachers, embedding digital tools in the institutional learning environment.

² See IPTS policy brief: ICT for Learning, Innovation and Creativity

- ***Embed digital competence in its widest sense in all curricula.*** Educational policies should make sure that digital literacy in its widest sense is included in educational curricula in primary and secondary education. Education should start building digital competences as early as possible in primary education, through learning to use digital tools confidently, critically and creatively.
- ***Support digital competence in Lifelong Learning strategies.*** Digital competence needs to be a priority in lifelong learning strategies, as ICT is becoming an increasingly important tool for leisure, learning and work in all fields. Workplace training also needs to pay attention to these issues, to establish and promote norms for their workers' online interaction on job-related issues (Ala-Mutka, 2008).

Acknowledge technological innovations and benefit from them

- ***Revisit regularly digital skills strategies.*** Currently, the concept of digital competence is re-shaped by the emergence and use of new social computing tools, which give rise to new skills related to collaboration, sharing, openness, reflection, identity formation and also to challenges such as quality of information, trust, liability, privacy and security. However, as technologies and their usages evolve, and new skills and competences arise with them. Digital competence approaches should therefore be dynamic and regularly revisited.
- ***Support informal learning in the emerging online communities.*** Social computing tools are developing fast and continuously creating new communities around them. These new communities and technological platforms are important places for learning ICT skills, as they gather the knowledge of different users and motivate new people to use ICT (Ala-Mutka et al, 2008; Punie & Ala-Mutka, 2007). There is a need to develop resources that promote awareness and emphasize the need for advanced digital competence for these learners and communities, such as sites for specific target groups that can easily be shared between informal learners.³
- ***Bridge digital competence and eSkills.*** ICT courses provided in vocational and higher education, workplace training, and adult education should pay attention to advanced digital competence and not only to ICT user skills. Furthermore, providing an opportunity to learn eSkills embedded with other subjects would support the creation of interdisciplinary learning paths (technical + societal + business). This would prepare graduates and workers by equipping them with cross disciplinary perspectives and collaboration skills, which, in turn, would enable innovation and creativity with digital technologies.

³ See e.g. <http://teachtoday.eu> site that has been developed to help teachers and pupils with these issues.

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Abstract

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