

Information and Communication Technology Skills of Finnish Students in Particular by Gender

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Abstract : Digitalization touches every aspect of contemporary society, changing the way we live our everyday life. Contemporary society is sometimes described as knowledge society including unprecedented amount of information people face daily. The tools to manage this information flow are ICT-skills which are both technical skills and reflective skills needed to manage incoming information. Therefore schools are under constant pressure of revision. In the latest Programme for International Student Assessment (PISA) girls have been outperforming boys in all Organization for Economic Co-operation and Development (OECD) member countries and the gender gap between girls and boys is widest in Finland. This paper presents results of the Comprehensive Schools in the Digital Age project of RUSE, University of Turku. The project is in connection with Finnish Government Analysis, Assessment and Research Activities. First of all, this paper examines gender differences in ICT-skills of Finnish upper comprehensive school students. Secondly, it explores in which way differences are changing when students proceed to upper secondary and vocational education. ICT skills are measured using a performance-based ICT-skill test. Data is collected in 3 phases, January-March 2017 (upper comprehensive schools, n=5455), September-December 2017 (upper secondary and vocational schools, n~3500) and January-March 2018 (Upper comprehensive schools). The age of upper comprehensive school student's is 15-16 and upper secondary and vocational school 16-18. The test is divided into 6 categories: basic operations, productivity software, social networking and communication, content creation and publishing, applications and requirements for the ICT study programs. Students have filled a survey about their ICT-usage and study materials they use in school and home. Cronbach's alpha was used to estimate the reliability of the ICT skill test. Statistical differences between genders were examined using two-tailed independent samples t-test. Results of first data from upper comprehensive schools show that there is no statistically significant difference in ICT-skill tests total scores between genders (boys 10.24 and girls 10.64, maximum being 36). Although, there were no gender difference in total test scores, there are differences in above mentioned six categories. Girls get better scores on school related and social networking test subjects while boys perform better on more technical oriented subjects. Test scores on basic operations are quite low for both groups. Perhaps these can partly be explained by the fact that the test was made on computers and majority of students ICT-usage consist of smartphones and tablets. Against this background it is important to analyze further the reasons for these differences. In a context of ongoing digitalization of everyday life and especially working life, the significant purpose of this analyses is to find answers how to guarantee the adequate ICT skills for all students.

Keywords : basic education, digitalization, gender differences, ICT-skills, upper comprehensive education, upper secondary education, vocational education

Conference Title : ICERI 2018 : International Conference on Education Research and Innovation

Conference Location : Rome, Italy

Conference Dates : December 13-14, 2018