

Digital Literacy as a Prerequisite in Online Teacher Education

Introduction

Teaching technology in a rapidly changing technological world requires necessary digital skills. These skills change as technology changes and need to change to keep up with changes. An understanding of these skills and how they form is important for teacher education to prepare students for their future profession. In 2012, a study was conducted on mapping what kind of digital competencies and experiences new students in an online secondary teacher education report they have, and also their views on working with digital media in their future professions (Enochsson & Buskqvist, 2012). This study is similar to the 2012 study and conducted to see if there are any trends and/or changes in these competencies over time.

The changing conditions in line with technological developments mean that the skills of a person who is digitally competent or literate also change and have to change. Therefore, it is fruitful to avoid functional definitions (often lists of specific skills) and instead focus on conceptual definitions, i.e. where the objectives and use of digital competency are specified (Lankshear & Knobel, 2006; Buckingham, 2006). Gillen and Barton (2009) has chosen to use the plural form "digital competencies" which they define as "... constantly changing practices through which people make traceable meanings using digital technologies" (ibid. p.1).

In the European Commission's (2006) conceptual definition, digital literacy has three levels: (1) user competence, (2) critical understanding and (3) communicative abilities. Progression is highlighted: To be able to communicate effectively, thus becoming participating e-citizens, there must be practical skills to use various digital tools and resources as well as critical theory rooted understanding. In teacher education, we can talk about digital literacy at three levels in a similar way; an individual level, a society level and an educational level.

The Individual level is about the basic technical user skills. Due to technological development, this is problematic in that some of the practical skills students learn during their training may be obsolete a few years later. Nevertheless, it is necessary to build a foundation so when the students enter working life they are able to continue to keep up to date themselves. *The society level* focuses on the teacher's mission in a wider perspective, the technological development and the social implications that come with it. Teachers need to develop a theoretical competency of their young students' life-worlds, which are permeated by digital technologies. The third level, *the educational level*, focuses on how teachers can reach out to students, how technology can be used as learning resources anchored in different disciplines and teaching practices, and this was the starting point in the earlier study (Enochsson & Buskqvist, 2012).

The study from 2012 showed that the average student in secondary teacher education used the internet in a very traditional way compared to the average citizen of the same age group. Traditional use was defined as banking, shopping and lurking in social media. There were students commenting on difficulties to understand how the platform worked.

However, in general the students claimed they had good digital competence and lots of experience, but their self-reported competence did not correspond to the other results in the study (Enochsson & Buskqvist, 2012).

There are reasons to believe that the technological development, changing patterns of our use of these, together with changing demands on education concerning digital competencies (i.e. European Commission, 2015), has changed this situation. The specific research question is to compare competencies and experiences in the two student cohorts, but also to compare the students with the average citizen of the same age groups.

Methodology or Methods/Research instruments or sources used

The method is a survey distributed online to all students in the secondary teacher programme at a Swedish university. This specific secondary teacher education where the study was carried 2012 and where the present study will be carried out four years later, is available both online and on campus. In the online version, contact with teacher educators is kept through video conferencing and a few meetings per semester face-to-face at the institution and sometimes this is done with the campus students in the room.

Compared to traditional courses, this way of organizing studies requires a certain level of and sometimes specific digital competence on an *individual level*, even if all three levels are supposed to be developed during the years of education. This time, all students, and not only the new, will be given the opportunity to answer.

In the survey there will be, as far as possible, similar questions to those four years ago. A few questions have been altered, due to changed context and technological development. There are questions about the students' self-reported digital competencies, their experiences of digital media, and about which kind of digital equipment they have access to and how they use it. As a complement to these questions, there are also questions about their attitudes to using digital learning resources in their future profession.

In 2012, 64 students out of about 150, answered to the questionnaire. In total, there are about 800 students in the programme today. The exact number is difficult to know, since students drop-out continuously, and drop-out rate is quite high.

The respondents will be asked for an interview as a complement to the questionnaires. Four years ago, about ten students out of 64 agreed on being interviewed.

Conclusions, Expected outcomes or Findings

Earlier research has indicated that the average teacher, student teacher or teacher educator does not use technology to the same extent in private as other groups, in Sweden and in the US (CMA, 2009; Salaway, Caruso & [Nelson], 2008; Enochsson, 2010). The study from 2012 (Enochsson & Buskqvist, 2012) showed the same result; that students in teacher education do not use digital resources to the same extent as the average citizen. We also know that the variation is very big, there are teachers/student teachers/teacher educators who are very experienced and use digital resources in very creative ways, but there are also those working in the school system on different levels who do not give any priority to digital media. With

higher demands on schools to work with digital media, it is important to study if teacher education is still lagging behind or if it is catching up in this respect.

The questionnaire has been distributed in January 2017, but data collection is not finished. The results in the present study will be compared to the study from 2012 and also with studies on Swedish people's everyday use for the same age groups.

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