Use Of Digital Storytelling In Teacher Education For The Development Of Student Teachers’ Digital Competence

Research shows that teacher education is lagging behind schools with regards to adopting and integrating ICT into their programs (Tømte, 2013), and has been criticized for not sufficiently preparing student teachers in using and teaching with digital technologies in a pedagogical and didactical manner (Kirschner, Wubbels, & Brekelmans, 2008). According to Krumsvik (2014) “there is a danger of a gap being created between teacher education programs and the practices that student teachers encounter when they graduate” (Krumsvik, 2014, p. 270) as is the case in Norway which has a high technology density, one-to-one laptop programs, and a focus on ICT in all subject curricula. In Norway, digital competence has been introduced as the fifth basic skill in the Norwegian National Curriculum (Ministry of Education and Research, 2006), and is thus seen as important for pupils’ learning along with other competences like reading, writing, arithmetic, and speaking. Each subject curriculum, in this case English, has a range of competence aims which require pupils and teachers to utilize digital tools for teaching and learning. In order for future teachers to be prepared to meet the demands of the curriculum and to teach in today’s technology-rich schools, there is a need to develop their digital competence in teacher education (Røkenes & Krumsvik, 2014).

Digital storytelling is an instructional method involving the creation of short narrated videos using software such as Movie Maker or iMovie focusing on specific topics using pictures and narrator’s voice (Ohler, 2013). Currently, several educational research studies on digital storytelling focus on teachers’ approaches to the method in the classroom (Aagaard, 2014), or
pupils’ subject learning and self-representation (Silseth, 2013). In contrast, there is limited research on the use of this method with student teachers in teacher education (Heo, 2011), and this is also the case when it comes to Norwegian teacher education (Haug, Jamissen, & Ohlmann, 2012). Therefore, the purpose of this study is to examine how digital competence in student teachers qualifying to teach English as a Second Language (ESL) in secondary school can be developed in teacher education through the use of digital storytelling. The aim is to contribute to our knowledge about the use of digital storytelling in teacher education, and our understanding of how pedagogical, didactical, and professional use of ICT can be integrated in teacher education.

Approaching from a constructivist and sociocultural perspective on learning, the study draws on the theoretical work of Vygotsky (1978) while focusing on the interplay between social processes, tools, and mediated action (Säljö, 2001; Wertsch, 1998). Following Wertsch (1998), learning is understood as a process of mastery and appropriation of cultural tools. While mastery describes an individual or a group’s ability or “knowing how” to use a tool, appropriation can be understood as making a tool “one’s own” (Wertsch, 1998, p. 55).

Digital competence is understood as “the teacher’s...proficiency in using ICT in a professional context with good pedagogic-didactic judgment and his or her awareness of its implications for learning strategies and the digital Bildung of pupils and students” (Krumsvik, 2011, pp. 44-45). Moreover, Krumsvik (2011, 2014) developed a conceptual model for digital competence development based on sociocultural learning theories which focuses on the teacher’s professional use of ICT for teaching and learning. In addition to the abovementioned constructivist and sociocultural perspective on learning, this understanding of digital competence and model is used in this study as a theoretical research lens for analyzing and interpreting the data.

The research question addressed in this study is: How does a digital storytelling workshop contribute to developing digital competence in ESL student teachers?

Method

This study follows a case study methodology (Yin, 2009), and examines an educational workshop aimed at teaching Norwegian student teachers how to use digital storytelling in foreign language teaching which was held at a Norwegian teacher education program. The study draws on a design-based research approach (McKenney & Reeves, 2012) including several iterations of design and redesign, multiple sources of data, and collaboration with practitioners and educational designers in an authentic setting. Two iterations of the workshop were examined, the first spring 2013 (n = 110) and the second spring 2014 (n = 120), where the workshop iterations lasted for 3 hours each. The sample population consisted of Norwegian postgraduate student teachers (n = 10) qualifying to teach English in the secondary school grade, and were selected based on purposeful sampling (Maxwell, 2013). Data consists of field observations, semi-structured interviews, reflection logs, and digital stories. The data was analyzed in NVivo 10 through coding and categorization following approaches from grounded theory (Corbin & Strauss, 2008). Beforehand, the study was approved for ethical considerations by the Norwegian Social Science Data Service, and study participation was voluntary.

Expected Outcomes

Tentative findings from the two workshop iterations show that a combination of instructional approaches (Røkenes & Krumsvik, 2014; Tondeur et al., 2012) for promoting student teachers’ digital competence development including teacher educator modeling, metacognition, and student-active learning enabled many of the ESL student teachers to master and appropriate the cultural tools involved with digital storytelling. The student teachers expressed in the interviews and in their reflection logs that the workshop and exposure to the digital storytelling method increased their awareness of how they could integrate ICT into ESL teaching. In addition, several student teachers argued that through the workshop’s hands-on activities and collaborative environment, they had become more confident in using technology and applying their digital skills, and were more motivated to introduce it in their future classrooms. Furthermore, digital storytelling was also perceived as a purposeful pedagogical and didactical way of integrating ICT into the English curriculum, which could be used to cover both ICT and non-ICT related competence aims. A core argument was that the method stood out as an example of how they could promote pupils’ basic skills and English language skills through the use of technology in a student-centered, cost effective, and user-friendly way. However, a comparison of the two iterations shows that a number of variables such as time constraints, workshop preparations, and teacher educators’ support and assessment play a crucial role in the student teachers’ learning outcome.

Study limitations include small sample size, lack of time for multiple design and redesign iterations, and lack of quantitative data sources. Further research should include multiple sources of data with bigger sample populations including the use of pre- and post-surveys, and follow up student teachers’ integration of digital storytelling while they are in their school practicum.
References


Author Information

Fredrik Mark Røkenes (presenting)
Norwegian University of Science and Technology
Programme for Teacher Education
Trondheim