

Student teachers' discursive voices of the meaning of digital case material for their professional learning

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Abstract: This study explores student teachers' discursive voices regarding the meaning of digital case material for their professional learning in teacher education. The analysis of the students' reflective essays shows that future teachers hold a repertoire of positions via which they inscribe their relationship with technology. These positions are important to acknowledge since they strongly mediate the potential enabling role of digital case material for teachers' professional growth.

Introduction

The uptake of digital media has provided teacher education with broadened landscapes to support the professional development of teachers. In particular, the potential of digital video telling cases has been recognized in their power to create social and discursive spaces for pre-service and in-service teachers to investigate and reflect upon teaching and learning practices in local and distant classrooms (Brophy, 2004; Lampert, & Ball, 1998). Moreover, the investigation and reflection upon video telling cases in socially-shared learning situations has been identified to bring to the surface the tacit knowledge and beliefs student teachers hold of their professional practices as well as to support the integration of theoretical and practical knowledge (Dolk, den Hertog, & Gravemeijer, 2003; Kumpulainen, 2004; Toom, 2006).

Although there has been a strong interest in developing and using cases in teacher education, there is relatively little empirical research currently available on the impact of digital video telling cases for reflective practice and teacher learning. Now that digital technology has brought up new opportunities for inquiry-oriented teacher education, it is even more obvious that research in this field is necessary.

This study examines student teachers' positions towards the application of digital case material in teacher education. Bahktinian concept of voice has guided the analysis of the students' positions as constructed into being in their reflective essays (Bahktin 1987; Wertsch, 1991). Theoretically, this study draws on social learning theories (Wenger, 1998; Wertsch, 1991) as well as on discourse analysis (Bahktin, 1987).

The study

The empirical study discussed in this chapter is embedded in two mathematics pedagogy courses organized as a part of a Finnish international teacher education program. Altogether 37 students participated in the courses. The mean age of the students was 24. The courses purposefully employed digital video telling cases from a European data corpus on teaching and learning of mathematics. The courses were based over nine weeks. The instructional methods used during the course included inquiry learning, collaborative investigations and reflections, as well as the construction of personal reflective essays.

The study reported in this paper is based on the student teachers' reflective essays written at the end of the course. In the essays, the students were asked to consider their aims and expectations of the course, the course as a whole, their collaboration and the meaning of the course and its technological tools for their professional learning.

In this study, we focus on the analysis of 74 reflective essays, written by 37 student teachers. The data analysis was conducted via qualitative content analysis and discourse analysis (Bahktin, 1987; Wertsch, 1991). In the analysis, attention was paid to the student teachers' discursive voices that focused on technology, especially on the role of digital case material in supporting their professional development. The analysis was supported by NVivo program.

Results

The analysis of the student teachers' reflective essays revealed three distinct themes describing their relationship with technologies. These are: 1) Technology as a tool, 2) technology as a mediator, and 3) technology as an enabler.

The data analysis also reveals four various uses of language, i.e. discursive voices that the students used when describing their relationships with digital case technology: *Practical*, *Critical*, *Collective* and *Developmental voice*. Figure 1 summarizes these voices and highlights their intersecting nature.

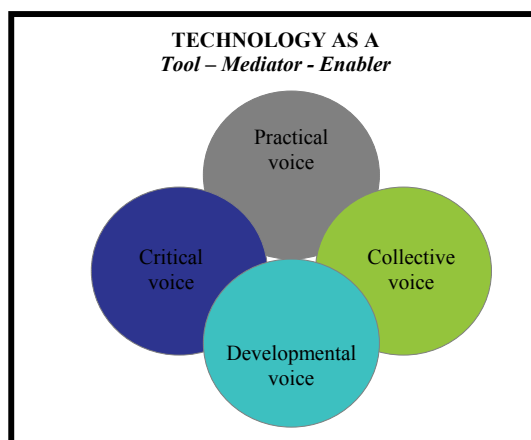


Figure 1. Student teachers' discursive voices towards technology.

Discussion

In this study, the *Practical voice* was the most dominant voice. The possibility to investigate authentic classroom practice was seen as highly important by the students. The importance of collective discussion and sharing of viewpoints was emphasised in the student teachers' *Collective voice*. The *Critical voice* illuminates opposing and argumentative positions that the student teachers had towards digital case technology and its use for professional learning. Within this voice, the students criticized the organisation of the course or insufficient support. Also the contents of the learning environments were criticized and the meaning of digital technology for teachers' professional development was questioned. When using the *Developmental voice*, the student teachers considered their professionalism and its growth via the use of digital technology. The students felt that they had learned something or that they had realised something that they had not considered before. This voice was really positive and honest in relation to the students' developmental needs. The *Collective voice* appeared often together with this voice.

Conclusions

The results of this study illuminate the student teachers' multi-voiced positions towards digital case material for their professional learning. These personal and culturally-bound voices highlight the student teachers' attitudes, values and expectations of the use of digital case material for their professional learning. These voices are important to acknowledge since they strongly mediate the potential enabling role of digital case material for their professional growth.

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