Learning to fail better - Preservice teachers' talk about problems of practice using video as an instructional resource

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A particular concern in mathematics teacher education is to prepare preservice teachers' (PSTs') to adopt a teaching approach that supports intellectually and socially ambitious visions for student learning (e.g. NOU 2014:7). Several researchers in mathematics education (e.g., Franke, Kazami, & Battey, 2007; Lampert et al., 2010; Stylianides & Stylianides; 2014; Sun & van Es, 2015) use the term "ambitious" to distinguish this particular instructional system with more traditional modes of teaching which seems to still dominate mathematics classrooms internationally (e.g., Hiebert et al., 2003) and in Norway (e.g., Klette, 2007).
In an intervention study I have chosen to follow a strand of research which have addressed these concerns by seeing teaching as the central element of learning teaching (e.g. Grossman, Hammerness, & McDonald, 2009; Lampert et al., 2010). As part of the design, the PSTs are moving back and forth between campus and practicum to collaboratively investigate and enact ambitious mathematics teaching in lower secondary mathematic classrooms. The overarching goal of the intervention is for PSTs to develop commitment and capacity to enact ambitious mathematics teaching practices, such as leading mathematical productive classroom discussions (Stein et al, 2008) in authentic classrooms. A central part of the design is to supply opportunities for PSTs to open up their teaching decisions and judgments to one another and the teacher educator using videos of their attempts as an instructional resource in teacher education classrooms. In order to embrace their tryouts and failure, *golden moments used and lost* are utilised as resources to attend to problems of practice and possible solutions in order to learn from practice. In this paper I focus on the nature of PSTs' talk about their teaching. Especially, if and how attending to golden moments supplied opportunities for substantive talk about problems of practice and possible solutions characteristic of ambitious mathematics teaching practice.

The data material for the study is video and transcripts of three groups of PSTs' presentation of their planning in campus, their attempts to lead whole class discussions about defining and classifying quadrilaterals in their practicum class, and the groups' presentation and corresponding discussion about the chosen golden moments used and lost in campus after the attempts. To understand the role the golden moments played in the PSTs' talk about their teaching I identified the expressed problems of practice in the chosen moments and analyzed the whole class talk about them. Using Horn and Little (2010) framework I looked for evidence that the talk did more than just report on problems or provide what they call normalizing conversational routines that supply reassurance and establish solidarity. Preliminarily findings show that the teacher educator had a central role in turning the discussion towards the problems of practice and possible solutions characteristic of ambitious mathematics teaching. The teacher educators' role is especially to embrace failure not as failing but as trying out things to learn from practice.