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Video-enhanced Teacher Learning: New Scenarios for Teacher Development

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Teacher education faces the challenge of supporting the development of effective teaching practices through the growth of teacher competence in the many domains that characterize the complex work of classroom teaching (Borko, 2004; Seidel, Blomberg & Renkl, 2013). In this vein, the use of video has become a prominent teacher learning tool that facilitates the bridging of theory and practice (Brophy, 2004; Gomez, Sherin, Griesdorn & Finn, 2008). Video represents the complexity of real classroom situations (Goldman, 2007), constitutes a situated and contextualized stimulus for activating knowledge about teaching and learning (Seidel & Stürmer, 2014; Kersting, 2008) and offers secondhand teaching experiences, allowing teachers to be immersed in a classroom without the pressure of having to interact (Miller & Zhou, 2007; Sherin, 2004). However, with regard to an effective use, video has to be employed with clear objectives in mind, as it is a tool for delivering content rather than a body of content in and of itself (Brophy, 2004; van Es, 2009). Depending on the teacher learning purposes, three major approaches in the use of video can be distinguished: (1) illustration of practice, (2) development of interpretation and reflection skills that enable teachers to make sense of classroom practice and, (3) guidance and mentoring to facilitate change and improvement of teaching practices (Blomberg, Sherin, Renkl, Glogger & Seidel, 2014). During the last twenty years, significant advances have been achieved in the systematic investigation of video as a tool for these three purposes. Increasing evidence has been collected about the effects of the use of video in teacher education and professional development settings on teacher knowledge and on skills for analyzing student thinking and teaching-learning processes (Santagata, 2009; Santagata & Guarino, 2011; Sherin & Han, 2004; Star & Strickland, 2008).

However, when we consider the question of whether video is an effective tool for supporting the improvement of classroom teaching, evidence is still sparse. In an attempt to move this field of research forward, this issue of Form@re presents research and experiences focused on designing and studying video-enhanced teacher learning environments that aim to support teachers (at different stages in their career and from different countries) in changing their classroom practices.

The issue includes articles representing scholars from seven countries (Canada, France, Germany, Italy, Norway, Switzerland, and the United States). This provides evidence of the popularity of video as a teacher learning tool at the international level. Among the research articles, Dalehefte and Rieck report on a science teaching professional development program for primary German teachers (the "SINUS" program) in which participants were videotaped to document their development of standards-based practices. Gaudin, Flandin, Ria, and Chaliès examine two different approaches to video-enhanced

teacher preparation (i.e., normative and developmental approach) and investigate their impact on the teaching activity of French secondary pre-service teachers from various disciplines. Kiemer, Gröschner, Pehmer, and Seidel summarize the findings of a research project that investigates the effects on classroom discourse practices of a professional development program (the "Dialogic Video Cycle") that uses videos of teachers' own practices as a tool for reflection and group discussion. Their study involved German secondary math and science teachers. Lussi Borer, Ria, Durand, and Muller examine the impact of a video-enhanced teacher professional development program (the "Collaborative Video Learning Lab") on the teaching activities of secondary novice and experienced French teachers working in a high-poverty school. Finally, Meyer, Lampron, and Gazé explore Canadian secondary pre-service teachers' interactions around video of teaching in a distance-learning environment.

Together these five projects include a variety of measures of program effectiveness. Four of the five projects utilize video not only as a tool for engaging teachers in professional development, but also as source of data on the effects of video-enhanced professional development on teacher classroom practices. Videos of teaching are supplemented by other measures, such as videos of professional development sessions, teacher interviews about the professional development experience, teacher self-confrontation and cross-confrontation interviews, analyses of teachers' online interactions, and students' questionnaires. The data generated through these measures captured the richness of teacher video-enhanced learning experiences and highlighted the complexity of designing measures that document this richness.

The article by Maltinti in the Reflections section describes an increasingly popular form of teacher professional development originated in Japan that sometimes supplements live observations of classroom lessons with video recordings: Lesson Study. A close analysis of the teaching and learning process are at the center of these experiences and evidence is accumulating of their effects on participating teachers' classroom practices and on their students' learning.

Finally, another form of teacher professional development that makes use of the affordances of video technologies is the Teacher Video Club. In the invited article, van Es describes in detail how video clubs can be designed and implemented by groups of teachers. This article is an invitation for readers to experiment with video in ways that research has proven to be successful in improving both teachers' noticing skills and classroom practices.

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