

Video cases for teacher learning: Issues of Social and Organizational Design for Use

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ABSTRACT

This paper provides the foundation for an interactive symposium on the design of web-based systems to support teachers' professional development with videos of exemplary teaching practice. Five existing systems are examined against a common framework examining their design in terms of the models of use that they support.

Keywords

case-based learning, teacher learning, use models, design research

INTRODUCTION

Over the past several years, researchers in the Learning Sciences have undertaken a variety of efforts to use interactive media to design systems that ground teacher learning in reflective examinations of practice. This paper considers five such projects that each provide teachers with access to videos of exemplary teaching practice delivered over the web. While all of the projects integrate video, they do so in varied contexts and employ very different use models for the role of video in supporting professional development. It is the understanding the strengths and challenges of these diverse activity frameworks that is of central importance to the CSCL community. The goal of the paper is to set the stage for a critical examination of the use models as well as the task and activity structures underlying each project. We begin with a brief description and comparison of the systems.

THE SYSTEMS

The Living Curriculum (Shrader, 2000; Shrader & Gomez, 1999) and Knowledge Networks on the Web (KNOW) each couple video of exemplary teaching practice to project-based science curricula as a way of supporting the in-situ use of those specific materials. NetLearn also features videos of exemplary practice, but as the focal point for site-based communities of teachers and instructional leaders seeking to implement standards-based reform. NetLearn video clips are part of a suite of tools designed to help teachers and administrators develop an "eye" for teaching that enacts the "Principles of Learning" (Resnick & Hall, 1998), and assist them in understanding their interdependencies. In a related way, The Inquiry Learning Forum (Barab, MaKinster, Moore, & Cunningham, in press) uses teaching video as the focal point for a distributed community of educators interested in building their capacity to employ inquiry-based instructional strategies in their classrooms. These videos and their accompanying reflective case studies serve as anchor points for online discussions and community building. Finally, the IPLP Video Case project makes use of the Teachscape professional development system in a pre-service context. In the tradition of Lampert & Loewenberg-Ball (1998), faculty are working to integrate the use of video cases focusing students on exemplars of theory in action into their courses.

THE FRAMEWORK

Like any technological innovation, online professional development must be responsive both to the needs of learners and of the social and organizational contexts in which they work. Each project makes different assumptions about the kinds of activity structures through which teachers will interact with video cases of teaching, and how these can be integrated into the organizational settings of schools and districts. Our goal is to initiate a discussion that unpacks and analyzes those assumptions. In preparation, we describe each of the projects against the following framework.

How are teachers intended to use the video cases? Both the Living Curriculum and KNOW are designed as performance support systems providing opportunities for teachers to learn as they plan and teach the underlying project-based science units. Teachers browse the lesson plans online where they can view the associated video and examples of student work. KNOW adds a community discussion tool for teachers, which serves as a source of community-generated knowledge. In NetLearn, teacher leaders and administrators examine video examples of teaching practice in relation to the Principles of Learning, annotating and discussing these videos with online tools. In the IPLP project teachers in university based teacher preparation courses use Teachscape video cases as part of

their course work. In the ILF, inservice teachers use the videos as part of workshops and professional development opportunities, while pre-service teachers use it as part of their course work.

What are teachers expected to learn through interaction with the video? Living Curriculum and KNOW users are expected to learn how to employ project-based science methods, including the integrated use of educational technology, in their classrooms. NetLearn users are expected to learn to recognize the Principles in action and how to assist their own teachers in implementing these principles. The goal of the IPLP project is to improve teachers' ability to reflect on teaching practice as well as their mastery of content, pedagogical and pedagogical content knowledge relevant to the teaching methods courses in which they are enrolled. Teachers in the ILF project are expected to gain a richer perspective on the contextualized practices of their colleagues, with the video serving as a jumping off point to rich discussion.

How is the use of cases motivated by CSCL-relevant theory and research? The Living Curriculum was conceived as a case-based performance support system designed to provide teachers with a just-in-time learning resource to support their transition to project-based pedagogy. KNOW uses individual teaching sessions as the unit of analysis for teachers. The use of video cases in NetLearn is itself motivated by the Principles being studied, including Accountable Talk and Learning as Apprenticeship. The use of cases in the IPLP project is intended to connect the theoretical propositions taught in teacher preparation courses to concrete exemplars in practice. The use of the videos in the ILF project is as starting points towards building a community of practice.

How is the activity around the cases supported? By linking video directly to lesson plans the Living Curriculum affords teachers an opportunity to learn from cases as part of their planning process. In addition, designers assumed that teachers would find the system useful as a resource to find solutions to instructional challenges that arise when they teach the projects. KNOW is used as one component of a broad professional development effort. NetLearn is unique in providing technology to support the activities of an existing national community of educators. It is intended to extend the work of this community beyond limitations imposed by face to face meetings. IPLP faculty integrated the use of video cases into courses by developing a series of assignments. In one assignment students utilize video cases as a resource to design instruction to meet specified learning goals. In the ILF, in addition to having information about the videos (class context, lesson plans, examples of student work, connections to standards, and other relevant resources) the videos themselves are situated in a larger framework of multiple types of participant structures (asynchronous discussions, library of resources, bounded groups of teachers with similar content interests, professional development modules) with the goal of connecting teachers to teachers.

CONCLUSION

An examination of these questions is essential at this time because their answers define models of use through which teachers may or may not interact with the learning environments. Like any technological innovation the critical limiting factor for these systems is not the technology design (though that is a precondition for use) but the social and organizational design through which technology systems are integrated into work practices. The “bets” placed on use models and activity structures are critically important to the eventual success or failure of these efforts. Moreover, as systems like these enter the commercial marketplace the questions driving future research are not how to build and scale the underlying technologies, but how and under what circumstances such systems can effectively be woven into the organizational lives of teachers and schools. We offer this session as a benchmark of current progress and as an opportunity to refocus our research enterprise on questions of use.

REFERENCES

- Barab, S. A., MaKinster, J., Moore, J., & Cunningham, D. (in press). The Inquiry Learning Forum: A new model for online professional development. *Educational Technology Research and Development*
- Lampert, M., & Loewenberg-Ball, D. (1998). *Teaching, Multimedia and Mathematics: Investigations of Real Practice*. New York: Teachers' College Press.
- Resnick, L. B., & Hall, M. W. (1998). Learning organizations for sustainable education reform. *Daedalus*, 127, 89-118.
- Shrader, G. W., & Gomez, L. M. (1999). *Design Research for the Living Curriculum*. Paper presented at the Computer Supported Collaborative Learning, Palo Alto, CA.