

Influences of video technology on preservice teacher self assessment

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Short Description

Recent research demonstrates the capacity of video technology to capture teaching practice to support teacher professional development (Stigler 1999; Pea 2004; Sherin 2005). The goal of this paper is to introduce how new methodologies are being merged with emerging video technology to further our understanding about how preservice teacher professional development is influenced by the view of video. The intent is to delineate the methods and tools we develop as support mechanisms for continuous growth and how they influence preservice teacher self assessment of classroom practices. The research results inform the future design of evidence-based methods and tools utilized for self assessment.

Abstract

Need to Research

Since the 1980s, incorporating video technology into teacher education curriculum as a way to link theory and practice has been advocated and used sporadically in mainstream teacher education (McIntyre, Bryd, & Foxx 1996). One reason for this situation is lack of basic research on how teachers view and understand video of classroom practice, or even on how teachers view their own practice. Recent research (Frederiksen, 1998; Stigler, 1999; Friel, 2000; Sherin, 2002, 2005; Author et al, 2006) has given us insight into methods (See Sherin & Van Es, 2005; Author et al, 2006) and technology tools (See DIVER, 2006; Lesson Lab, 2006; VAT, 2006) peel back the layers of complexity and understand challenges to self assessment. Clearly, more research is needed in this area – specifically there is a need to clarify how preservice teachers begin the self assessment process and what evidence or triggers stimulate them to focus on improvement.

The current situation of preservice teacher self assessment is often unsystematic and not focused on a course of action for improvement. The widely used process of reflection has become relegated to journaling and open discussion. This is in direct contrast to the original intent of reflection (Schon, 1983). Preservice teachers, for example, are often thrust into field-based teaching experience as means for them to experience and learn what it is like to be a teacher. Preservice teachers often reference student teaching as the

most powerful and informative part of their preparation to be a teacher (NCTAF, 1996). Yet, there are few high quality support mechanisms that are on-demand as define by the needs of preservice teachers, or otherwise available for focused inquiry into practices. It is critical we improve the support mechanisms of the field experience education that engage preservice teachers into the processes of self assessment in order to grow professionally. Through continuous self assessment using evidence-based approaches to decision making they can set a path to improvement.

We propose to use classroom live practices as clear evidence to trigger preservice teachers' self assessment. Our research refines and extends the current Evidence Based Decision Support (EBDS) methodology previously implemented in teacher education and the Video Analysis Tool (VAT) developed in the [Author] (Author et al, 2006). So far, we have developed the web based VAT and taken the methods through iterative cycles of development, piloting, and refinement in Science, Math, Elementary, and Special Education programs. Users can access their video through any broadband Internet connection using a typical computer. This discussion will primarily focus on the extent to which the video of live classroom teaching practice combined with lenses (instruments for assessing practice) will help preservice teachers self assess their own teaching.

Research Questions

1. What is the basis for a student teacher to define a need of self assessment?
2. To what extent does evidence influence the decision to self assess?
3. To what extent does the availability of video capture of live classroom practice support student teacher self assessment?

Research Design

Participants are preservice teachers from a large college of education in the southeastern United State, who volunteer to join our research. Preservice teachers capture their classroom live, use VAT for post-event analysis, and self assess their practices embedded in the video evidence. Pre and post interviews enable us to gain insight into what the preservice teachers are interested in improving, how they use the pre-planning process to focus on elements of practice, and then reflect during post event.

One class in each of four weeks teaching practices is captured and loaded into VAT for analysis. Each participant reviews, analyzes and annotates the video —specifically focusing on elements of practice that are strengths and weaknesses of their teaching. During post event reflection the preservice teachers generate explanations and define solution to improve upon recent enactments. Cooperating teachers and teacher educators participate in the external analysis of the practices, assist with the selection of appropriate lenses for analysis, and assist the student teacher in developing a course of action focused on the improvement of fine-grained attributes of practice.

Data Analysis

Video capture of classroom practice is converted into Windows Media Streaming File first and then loaded into our VAT system. Participants chunk the corresponding videos into multiple smaller clips according to the point they would like to focus. Then participants reflect on the clips through the predefined lenses provided in VAT and make comments to annotate the event. Cooperating teachers and teacher educators could help participants during the process of continuous self assessment. The data about the comments, pre and post event interviews will be collected as the recourses to see how self assessment change by the view of video.

Expected Result

We expect to deeply understand how preservice teachers think self assessment is necessary for their professional development and how video can support the process of self assessment. Further knowledge is about how the video tools can be designed better to help preservice teachers to find evidence, and to what extent the evidence can trigger preservice teaches to self assess their teaching and make progress in next step. Our research is intent to contribute to the knowledge of understanding how preservice teachers view their own teaching video and how a systematic process of lenses influence their looking at very specific attributes of practice that can be improved.

Reference

Authors. (2006). Direct Evidence and the Continuous Evolution of Teacher Practice. In P. Adamy & N. Milman (Eds.), *Evaluating Electronic Portfolios in Teacher Education*. Greenwich, CT : Information Age Publishing, Inc.

Frederiksen, J. R., Sipusic, M., Sherin, M. G., & Wolfe, E. (1998). Video portfolio assessment: Creating a framework for viewing the Functions of Teaching. *Educational Assessment*, 5(4), 225-297.

Friel, S. N., & Carboni, L. W. (2000). Using Video-based pedagogy in an elementary mathematics methods course. *Journal of School Science and Mathematics*, 100(3), 118-127.

McCurry, D. (2000). Technology for Critical Pedagogy: Beyond Self-Reflection with Video. In Crawford, C., Willis, D., Carlsen, R., Gibson, I., McFerrin, K., Price, J., & Weber, R. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2000* (pp. 6- 11). Chesapeake, VA: AACE.

National Commission on Teaching & America's Future. (1996). *What Matters Most: Teaching for America's Future*. New York N. Y.

Pea, R. D. (2005). Video-as-data and digital video manipulation techniques for transforming learning sciences research, education and other cultural practices. In J. Weiss, J. Nolan & P. Trifonas (Eds.) *International handbook of virtual learning environments*. Dordrecht, Kluwer Academic publishing.

Schon, D. (1983). *The reflective practitioner: how professionals think in action*. Basic Books: New York.

Sherin, M.G., & van Es, E. A. (2002). Using video to support teachers' ability to interpret classroom interactions. In Crawford, C., Willis, D., Carlsen, R., Gibson, I., McFerrin, K., Price, J., & Weber, R. (Eds.), *Proceedings of Society for Information Technology and Teacher Education International Conference 2002* (pp. 2532-2536). Chesapeake, VA: AACE.

Sherin, M. G., & van Es, E. A. (2005). Using video to support teachers' ability to notice classroom interactions. *Journal of Technology and Teacher Education* 13(3), 475-491.

Stigler, J.W., Gonzales, P., Kawanaka, T., Knoll, S., & Serrano, A. (1999). *The TIMSS videotape classroom study: Methods and findings from an exploratory research project on eighth-grade mathematics instruction in Germany, Japan, and the United States*. Washington, DC: National Center for Education Statistics.