Records of Practice: Means for engaging students in the examination of how the complex and adaptive practices of teaching might be learned.

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Theoretical Framework

- Teacher educators at the UofM and elsewhere are redesigning the curriculum of teacher education so that it is more focused on the practices of teaching.
- Teacher educators are increasingly using video to help TE students to learn how to "see" and "do" effective teaching practices (Grossman and Hatch 2009, Sherin and van Es, 2005).
- While teaching is identified as complex (Lampert, 2001), Teacher Education in the US is perceived as incoherent – inconsistent language and TE practices (Cohen, 2010-2011).
- The complexity of teaching and the incoherence in TE complicate the strategic use of video RoPs (Sherin and van Es, 2005).

Can the same exemplar video record of practice support students' understanding of teaching as (1) adaptive (2) complex and (3) learnable around planned goals and the enactment of teaching moves to reach these goals?

Methodology

Part 1- Design Methodology: *Identification of RoP*
- Conducted literature review for characteristics of 'exemplar' RoPs
- Reviewed video and artifacts with faculty mentor and constructed "Memorandum of Understanding"

Cross Disciplinary (Humanities-STEM) Collaboration
- Followed "Backwards Design" to create an instructional intervention..
- Conducted literature review to define theoretical framework for collaborative vocabulary; checked framework with faculty mentor
- Rehearsed instructional intervention to ensure consistency across courses
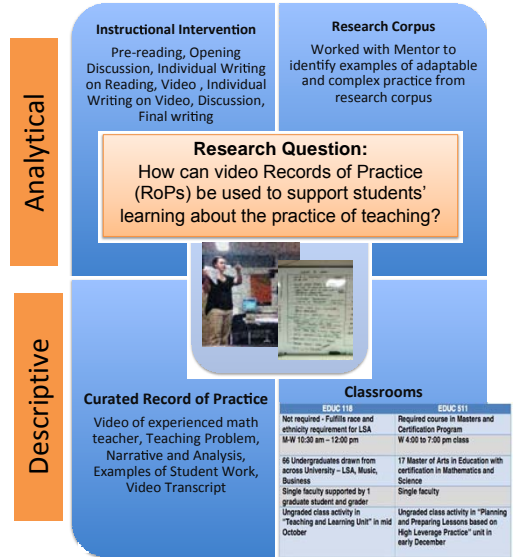
Part 2- Instructional Research:
- 60 minutes of in class instructional time spent on intervention
- Analyzed student work with grounded data approach (Glaser and Strauss 1967)
- Researchers reviewed student work by class to identify broad themes
- Reviewed student work by class to identify representative thematic examples

Results

Step 1 Students' Work with Written RoP	Step 2 Students' Work with Video RoP
Descriptive use of text to understand students' role in classroom: participants reiterated explicit knowledge – quoting directly from text. "The reading emphasizes how each student learns differently which causes a dilemma for the teach. Ex: fraction bars worked for some students but not Saundra" (SG_26). "…teaching is more than engaging students in academic activities. According to this reading, teachers need to encourage and develop skills such that students will motivate themselves to engage in academic activities" (CD_13).	**Analytic use of video to understand students' role in classroom: students independently explored components of classroom instruction, building off of text and/or identifying instances of complexity of practice in context** "Little details matter: diff color chalk, models" (SG_26, 2) "There was a range of student knowledge in the content (fractions). Saundra appeared to be struggling compared to Shahroukh. Facilitating students that have a range of prior knowledge requires multiple strategies and representations" (CD_13, 2).
Descriptive use of text to portray teachers' work adapting instruction "In a classroom where there are multiple ways of knowing, a teacher has to be able to adapt the way they present material to conform with different students style of learning" (SG_23). "Teachers must make resources and tools usable to help students' understanding with the content. Teachers must also be willing to make decisions without notice that benefit students with minimal disruption and alienation" (CD_07).	**Analytic use of video to recognize teachers' work adapting instruction to individual student needs** "[the teacher] changed her methods or goals while teaching the children to adapt to their different levels of understanding (labeling the bar or having students talk about their agreements/disagreements)" (SG_23, 2). "The teacher must adapt the lesson to Saundra's needs as she expresses a misconception about the difference between 5/6ths and 5/12ths (CD_07, 2)

References:

Cohen, David K. 2010-2011. Learning to Teaching Nothing in Particular: A Uniquely American Educational Dilemma.

Glaser, Barney G., and Anselm L. Strauss. 1967. *The discovery of grounded theory; strategies for qualitative research, Observations.* Chicago: Aldine Pub. Co.

Grossman, Pam, and Thomas Hatch. 2009. Learning to look beyond the boundaries of representation: using technology to examine teaching (overview for a digital exhibition: learning from the practice of teaching). *Journal of Teacher Education* 60 (1):70+.

Lampert, Magdalene. 2001. *Teaching Problems and the Problems of Teaching.* New Haven: Yale University Press.

Sherin, Miriam Gamoran, and Elizabeth A. van Es. 2005. Using video to support teachers' ability to notice classroom interactions. *Journal of technology and teacher education* 13 (3):475-491.

Analytical

Instructional Intervention
Pre-reading, Opening Discussion, Individual Writing on Reading, Video , Individual Writing on Video, Discussion, Final writing

Research Corpus
Worked with Mentor to identify examples of adaptable and complex practice from research corpus

Research Question:
How can video Records of Practice (RoPs) be used to support students' learning about the practice of teaching?

Descriptive

Curated Record of Practice
Video of experienced math teacher, Teaching Problem, Narrative and Analysis, Examples of Student Work, Video Transcript

Classrooms

Implications for Teaching

- Developed a set of common instructional tools and language for use across our teacher education program
- Defined the critical components of a curated record of practice – a video enriched by detailed written analysis of practice, instructional decisions, instructionally salient information about students, and classroom context
- Designed an instructional process to use RoPs analytically and strategically to learn about practice(s) of teaching
- Elaborated how shared records of practice and instructional designs/interventions might be used across different courses to achieve similar purposes.
- Explicitly developed mentoring relationships in order to build common language and to identify and design course resources for using RoPs.

Acknowledgements