

The Online “Supplemental” Workshop: Course Enrichment to Support Novice Teachers’ Analysis of Classroom Video

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Abstract

As online learning and video technology become more consistent components of teacher education, the opportunities to blend the affordances of both was piloted in a specially designed online workshop. This workshop was designed to help teacher candidates become more sophisticated in their ability to recognize and describe specific teaching behaviors in videoed lessons. Using QuickTime Pro, iMovie, and Blackboard, a self-paced, asynchronous workshop to introduce techniques for observing and analyzing teachers and classes on video was created. Through a series of video tutorials and activities, teacher candidates were guided through the process of viewing the same video clip through different lenses--they were asked to reflect on student response opportunities, teacher use of praise, and teacher feedback to student error. Results of its administration to a pilot group of 47 teacher candidates indicated that completing the training module increased their comfort level with video analysis, and that video-based activities may be uniquely suited to self-paced, online tutorials.

Keywords: online learning, video analysis, course format, teacher education, instructional design

Introduction

While online learning in teacher education is essential for students who are geographically remote from campus (Millett & Mayer, 2010), teacher education programs in urban areas have also begun to turn to it, especially for graduate level students who work full-time while completing their degrees (Ragan, Lacey, & Nagy, 2000). The flexibility that online learning provides to busy professionals has sparked interest in hybrid and totally online courses (Allen & Seamon, 2005), and the availability and opportunity to widely disseminate online learning in education is now seen as the essential remedy to the national and international shortage of qualified teachers (Banks, Moon, & Wolfenden, 2009).

Online learning may be uniquely suited to address some of the greatest challenges teacher education faces. First, online learning can address the need to connect theory to practice, with courses grounded in video-based examples from real classrooms (Hennessy & Deaney, 2009). Online courses can include embedded streaming video, thus providing opportunities for teacher candidates to view clips of teaching techniques and participate in guided discussion groups (Cannings & Talley, 2002; Skiera & Stirling, 2004). Second, online or hybrid courses can reach teachers across schools and districts in order to target key skills, responding to the compressed time available to most teachers (Hutinger, Robinson, Schneider, Daytner, & Bond, 2006). Lastly, web-based video technology has become a sought-after feedback tool in the development and assessment of teaching quality, as online environments can harness the adaptability, portability, and accessibility of viewing video for the use of evaluating teachers (AACTE, 2010; PACT, n.d.).

In spite of all its affordances, online learning is still relatively new to many education faculty; although numerous studies have shown that students learn as much, if not more, through an online format of the same course taught traditionally (Johnson, Aragon, Shaik, & Palma-Rivas, 2000; Kassop, 2003), there is still resistance among teacher educators to develop online courses (Mills, Yanes, & Casebeer, 2009). This may be a result of a number of factors, including lack of motivation to change practice (Bitner & Bitner, 2002); lack of proficiency with the tools or support to develop an online course (Zhao, Pugh,

Sheldon, & Byers, 2002); lack of time to devote to learning the skills required (Vannatta, 2000); or belief that the content simply cannot be communicated as effectively in the online modality. For these reasons, short-term online workshops might be more readily adopted by teacher education faculty.

The purpose of this paper is to share results of such an initiative, which engaged candidates in a teacher education program in an online learning workshop that was supplemental to a face-to-face course, in order to discover whether the online component had significant learning outcomes. The research questions guiding this inquiry were:

1. In what ways does a supplemental online workshop enhance course learning goals?
2. How do teacher candidates perceive a supplemental online workshop as a component of their course experience?
3. How is the online learning environment conducive to the review of video-based assignments?

Need for the Online Supplemental Workshop

At the authors' large, urban school of education, the conditions for developing a supplemental, web-based workshop to support the video analysis of teaching clearly emerged. Over the previous five years, a "Video Analysis of Teaching" (VAT) initiative had been implemented, which required teacher candidates in all programs to videotape themselves teaching and participate in an analysis of their teaching as part of their student teaching/practicum courses. From these full-length videos, teacher candidates needed to excerpt a 5-8 minute clip and annotate it for inclusion in a web-based database of videos of teaching. While these videos are protected from public view, an example can be viewed by entering *videodemo* as a password at this URL: [Video Analysis of Teaching Library-Demo](#)

Preparing Teacher Candidates for Video Analysis

While the teacher candidates were able to complete the task of video-recording, they were unable to successfully analyze their teaching on video, and many were even suspicious of the requirement itself. Without prior training with video as a feedback tool, teacher candidates were unsure about why they were being asked to videotape. As a result, valuable seminar time was lost by teacher candidates showing clips that did not generate discussion, while the faculty instructor attempted to guide teachers into more in-depth analysis. In addition, face-to-face time in seminars was only 90 minutes, so there was insufficient opportunity to re-wind and re-play videos of teaching during class. It became apparent that in order to analyze their videos in a meaningful manner, teacher candidates had to first understand why analyzing classroom interaction via video is a valuable professional development activity.

Explicitly Introducing Observation Skills

The viewing of teaching practice, either as model or as source for inquiry, assumes that the novice teacher possesses skills in classroom observation that may not yet be developed. When novice teachers were asked to analyze a video of teaching regarding "student engagement", many did not possess the vocabulary or exhibit the skills to do so. Textbooks on classroom observation (Good & Brophy, 2000) are full of suggested checklists, tallies, and observation guides that examine areas of classroom practice, yet these types of tasks may not be presented to teachers unless they are taking courses to prepare them for supervision of instruction. Additionally, in order for peer and self-observation to be meaningful, the observer and the observee must share a common vocabulary pertaining to classroom interactions (Baecher & Connor, 2010; Kong, Shroff, & Hung, 2009). This is a vital step in the analysis of teaching, whether on video or live, that is often overlooked. Without this common lexicon, faculty and teachers are likely not converging on the same meanings, and exploration will be fruitless.

Recognizing What Inexperienced Teachers "See"

Another need for the supplemental workshop was that novice teachers "see" less of the complexity in classroom events than do experienced ones, and novice teachers will tend to confirm previously-held beliefs, rather than accept alternative explanations of events (Yadav & Koehler, 2007). In addition, novices may not recognize the multiple interpretations possible when viewing the video (Rosaen, Lundeborg, Cooper, Fritzen, & Terpstra, 2008).

Structuring the Analysis of Classroom Video

Research that has described a variety of methods by which novice teachers might explore their own and others' classroom practice has consistently emphasized the need for the video review to be "scaffolded" by a viewer's guide, which either directs the viewer to look at specific items or prompts the viewer to choose his or her own items for investigation in response to guiding questions. These scaffolds support

novices both in the act of teaching and the act of classroom observation (Calandra, Dias, & Dias, 2006; Sherin & van Es, 2005). Teachers who are provided a tool with which to interpret their videos of teaching are able to go further in their interpretations than those who are left without such support (Copeland, Birmingham, DeMeulle, D'Emidio-Caston, & Natal, 1994; Paillotet, 1995; van Es & Sherin, 2002).

Research-Based Design of Online Supplemental Workshop

In order to fully maximize the potential of using video clips of teaching and to address the challenges to their effective use, an online supplemental workshop was developed as part of a faculty grant to support technology initiatives at our college. The authors, a faculty member and frequent practicum seminar leader, along with an instructional technology designer at the college, collaboratively developed the online workshop using Quicktime Pro, iMovie, and Blackboard.

Pedagogical Underpinnings of the Design

The online workshop was built to fuse several pedagogical premises supported by the literature, both best practice in the video analysis of teaching and in the design for online learning (organized in Table 1).

Table 1. *Pedagogical Constructs for Design of Online Workshop*

Research on effective video analysis of teaching shows:	Research on effective online instruction shows:
(1) the need for a high degree of scaffolding in order for novices to move away from evaluative and superficial viewing of classroom video (Lazarus & Olivero, 2009; Lerman, Hovanetz, Strobel, & Tetreault, 2009);	(1) in order to be motivating, the online tasks must be interactive and necessitate concrete action, rather than passive viewing, on the part of participants (Kim, 2009; Clary & Wandersee, 2009);
(2) the importance of causing teachers to experience cognitive dissonance by coming to “see” beyond their expectations (Calandra, Gurvitch, & Lund, 2008; Snoeyink, 2010; and	(2) that participants be able to participate asynchronously in order to proceed at their own pace (May, Acquaviva, Dorfman, & Posey, 2009); and
(3) the requirement to replay and review as a means to develop reflective skills (Welsch & Devlin, 2007; Yerrick, Ross, & Molebash, 2005).	(3) that the level of participant-content interaction be intense, especially since it would be unmoderated and completed independently (Bernard, et al., 2009).

Components of the Design

Since the online workshop would be an addition (either before the first class meeting or early on in the semester) to the regular face-to-face meetings of the course, it was labeled “supplemental,” and its components had to meet the pedagogical design criteria in a compact format, which could be completed in less than 5-6 hours. The components involved:

- (1) A pre- and post-test, which asked teacher candidates to select a video of K-12 teaching from a choice of either grades K-2, 3-5, 6-8 or 9-12 and respond to several open-ended questions regarding student engagement as viewed in the video. Viewers responded to the same 5-minute video in both the pre- and post-tests (See Appendix A for pre- and post-test questions). These questions and video were part of the Blackboard course and were conducted using the test instrument.
- (2) An introduction and conclusion movie, which framed the purpose and value of video observation for teacher development. The introduction movie to the online workshop can be viewed by clicking on this hyperlink: [Online Workshop Introduction Movie](#)
- (3) Three observation tasks, which were each introduced with a model and an example. The three observation tasks required teachers to use an observation worksheet to examine who the teacher is calling on to respond, the nature of the teacher’s praise, and third, how the teacher responds to student error. The “trick” was that each of the three observation tasks showed the same 5-minute clip of teaching. These foci for the online observation modules were taken from the Classroom Observation Scoring System (CLASS) for use in live observations of classroom teaching, and each teaching behavior has been shown to correspond to quality of student engagement (Pianta, La Paro, & Hamre, 2008).



Figure 1. Screenshot from Introduction Movie of Online Workshop on the Video Analysis of Teaching

The activities within the online training were designed with the pedagogical constructs of Table 1 in mind. For example:

- (1) The content had to be reviewed intensively and actively, as observation worksheets had to be completed through multiple playbacks of the teaching video, and the lack of time constraints afforded by online learning enabled teachers to self-pace.
- (2) With regard to the video analysis of teaching, the modules increased in difficulty, thereby acknowledging the complexity of video observation; vocabulary for describing teaching behavior was made explicit; multiple review of video was built in; the use of the same video under different foci fostered dissonance and multiple interpretations; and the use of targeted observation worksheets provided the necessary supports.

Methods

The pre-test, post-test, and all three online training modules were completed within Blackboard by a pilot group of 47 teacher candidates in the Teaching English to Speakers of Other Languages (TESOL) Masters program in lieu of a course session during the fall of 2010. Pre- and post-test responses were captured in Blackboard as a test, and responses to the activities in the three modules were uploaded as assignments in the course site. Data analysis involved downloading all of the responses and analyzing them using both simple quantitative descriptive statistics, as well as qualitative analysis using the constant comparative method (Glaser & Straus, 1967). Each response was coded and categorized, and the pre- and post-test responses were matched and compared.

Results and Discussion

Results showed that participants successfully completed the three training modules and indicated they found the online training informative and valuable. Future qualitative analysis of their written responses to the videos viewed in the pre- and post-tests, along with a follow-up test is expected to provide further information about the nature of how the online training influenced participants' video observation skills.

Performance in Training Modules

Data collected at the conclusion of the three online modules indicated that 90% of participants were successfully able to see, code and describe the behavior they were being directed to observe. Although

these were novice teachers, almost all were able to label and provide evidence for the observable teaching behaviors targeted in each observation. The first observation task was completed with close to 100% accuracy, while the second and third decreased to 90% and 80% respectively. This could have been because (1) the participants became tired by this point in the online training; (2) the tasks slightly increased in difficulty each time; or (3) the checklist options were more subjective in the latter categories. For example, in the first task, teachers had to identify who was responding to the teacher's questions, whereas in the second and third tasks, they had to make judgments about what type of praise or correction the teacher was providing, according to a set of categories. Based on conversations in class with participants, it seemed that the third module involved too wide a range of categories for teacher candidates to feel confident about their choices, and the example provided was a simple rather than a more complex one.

Participants' Perceptions

Overall, participants reported feeling more comfortable with conducting video analysis of teaching after completing the online workshop (see Table 2).

Table 2. *Participants' Degree of Comfort with Video Analysis Pre- and Post- Online Workshop N=47*

	Pre-Online Workshop	Post-Online Workshop
Uncomfortable	0%	0%
A little comfortable	9%	5%
Somewhat comfortable	51%	40%
Very comfortable	40%	55%

Participants' increased comfort with the learning objective, analyzing classroom video, seems to be related to the online environment itself. For example, almost all of the participants commented on needing to replay the videos in order to correctly transcribe the interactions between teachers and students.

- *I watched the video several times and took notes on the lesson...*
- *I watched the video twice and I would stop and rewind...*

The self-paced, online environment allows many replays of the videos, unlike the traditional classroom setting. This ability supported teachers' ability to become comfortable with video, which increases efficacy in analyzing classroom interaction.

Comments made by teachers in the pre-test showed that they were initially reluctant to analyze the videos because they were excerpts from full-length lessons. Several of their pre-workshop comments illustrate their resistance to interpreting what they saw, citing a need to see more of the lesson and know the background and context, rather than focus on only one aspect of teaching in the video clips.

- *It is sometimes difficult to tell when only viewing a section of the lesson.*
- *It is not easy to judge a teacher's performance, based solely on a small clip...I don't have a lot to go on since I only saw a little bit of his lesson.*

The common misconception that an entire lesson must be seen on video in order to analyze any component of it, was addressed by the online workshop. Video contains such rich material that it is better used as a tool for close examination than large-scale review. It was intended that after doing the fine-grained analytical work on the same 5-minute segment of video, participants would be able to recognize that much can be learned from a short clip. This seemed to have occurred, based on many participants' comments from the post-test, indicating that they realized multiple viewings of a short clip can enable them to go deeper in their analysis.

- *I was able to pay more attention to detail after taking the training.*
- *I was even more comfortable than the first time I viewed the video after having been primed to see one teaching sample from many different angles.*

- *I was more comfortable than I was prior to the training, as I was able to look more closely and impartially at the dynamics of the instruction, student responses, and student engagement. I did not feel as much that I was involved in judgment of the teacher, but rather involved in constructive observation.*
- *Watching and reviewing the video several times made me comfortable in answering questions 1-4. Specifically, knowing what to pay attention to as I watched was helpful in focusing on certain aspects of the lesson.*

Overall, participants seemed to recognize the value of video observation for their own practice, which was the overarching purpose of the online workshop. The workshop was intended to begin a process that would continue through the teacher candidates' educational program and career.

- *I was more comfortable than I was prior to the training, as I was able to look more closely and impartially at the dynamics of the instruction, student responses, and student engagement. I did not feel as much that I was involved in judgment of the teacher, but rather involved at constructive observation.*
- *[The online workshop] helps me see how valuable a tool the videotaped lesson can be. It helps prepare me for the fact that I will undoubtedly be shocked at my own glaring missteps in the classroom when I see myself on video. But most importantly, I understand that requiring us to videotape ourselves in the classroom has an extremely useful purpose: to help us quickly grasp the misconceptions we may have about what we are doing in the classroom and how effective our teaching practices really are (or aren't)--with an eye to cutting to the chase and honing our craft.*

Considerations in Implementation

Some of the limitations of the study also lead to considerations for future iterations of the online workshop. For instance, the same online activities could have been conducted in a school-based computer lab in order to determine sufficiency in achieving the learning outcomes, and the amount of time actually involved in watching, rewinding and responding to the online materials could have been built in to the research design. For instance, while most participants reported taking about 3-4 hours to complete the modules, it is possible that others took much longer, or returned to complete each module at separate times. However, results of this pilot suggest there are many benefits to incorporating an online workshop as a supplement to a traditional course. In planning or designing such a workshop, the following suggestions may be helpful:

- When developing texts, locating visuals, creating movies, or laying down audio voice-overs to a video, allow many hours of labor for the production of a few minutes in an online project.
- When students access and participate actively in online experiences, they will also believe they can complete them as quickly as text-based assignments. However, based on the degree of interactivity, the online assignment might take 3 times as long. Consider limiting the number of high-intensity tasks, as participants may lose energy as the workshop progresses.
- Build in a pre- and post- assessment of the online workshop, so valuable feedback can be collected in order to re-tool for the next group of participants. In addition, consider allowing participants access to view their pre-workshop statements while composing their post-statements.
- For every step or activity, consider creating an example, with video or screenshots, so participants will be able to clearly understand directions. Simple text directions are often insufficient. In addition, tasks that require interpretation or multiple possible answers are more difficult to score than straightforward, measurable ones.
- Consider building the supplemental online workshop with other department members for a course with multiple sections or for use across different courses. Once the time and energy have been invested in its creation, wide dissemination and usage by students should be a goal. If it is housed in a course management system such as Blackboard, other sections of subsequent courses can have it made available.
- If using video in the online workshop, make sure that the sound and image quality are as high as possible, to foster accurate and in-depth analysis.

Conclusion

At school sites that do not typically conduct courses online or for faculty unsure about the value of online learning, the integration of a supplemental workshop may be appropriate to develop certain skill sets. Even an online self-paced workshop as brief as 4-6 hours in duration may develop key concepts or understandings, that can be later built upon during in-class sessions. For topics that affect a wide swath of students, the time invested in an online workshop could reap significant dividends, being more cost-efficient, but also being a medium to provide a consistent, quality component of instruction. For instance, if many students require an introduction to observation skills across programs and majors, a faculty expert on this topic could develop an online workshop with the aid of an instructional technologist. The online workshop can then be made available to many more students than the faculty could ever personally teach, thus widely distributing expertise.

This online workshop met the specific goals of recognizing common patterns in classroom interaction, as well as the more general pedagogical goals of developing an appreciation for the richness of video analysis, and the possibility of multiple and deep analysis of short segments of video as a jumping off point for teacher candidates to begin to methodically and carefully analyze their own teaching performance.

The online format is one that may be particularly conducive to activities involving observation in video, as video is a tool specifically designed for freezing, rewinding and replaying. To further this line of research, it would be worthwhile to better understand the extensive scaffolding needed to begin the process of analyzing video in a meaningful way. For instance, understanding more about how collaborative interpretations of video could add value in an online format would be a likely next step to this project. By combining the affordances of the collaborative online environment with video analysis, participants could be offered the benefits of self-pacing with those of student-to-student interaction, increasing the potential of online learning to reach deeper understandings about the subject area.

If the benefits of supplemental workshops are shown to be strong and positive, more education faculty might be willing to supplement their courses with online learning experiences, thus potentially paving the way for greater use of online learning in teacher education. Additionally, for content that needs to be communicated repeatedly, across many departments and programs, web-based workshops could provide consistency and quality, and opportunities for more widespread contact between faculty experts and teachers.

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Appendix A

Pre- and Post-Test Questions for Online Supplemental Workshop

Pre-test

One of the most powerful ways to understand teaching and learning is to observe classroom interaction on video. Before proceeding through the training tasks of this module, let's first try out observing a short video to determine how you currently approach observing through video.

First, select the video to watch of the grade level you are most familiar with: K-2, 3-6, or 7-12. Then, view the video as many times as you would like. You will then be asked several questions about the teaching and learning in the video.

[VIEW]

1. What do you think the teacher's goals for this activity might have been?
2. What do you think the students were learning?
3. How would you describe the students' level of engagement with the task?
4. What techniques would you say the teacher was selecting in order to gain student interest?
5. How comfortable were you in answering questions 1-4? a. very comfortable b. somewhat comfortable c. a little uncomfortable d. very uncomfortable
6. Briefly explain your answer to question 5.
7. Have you ever received training as to how to conduct observations in the classroom? (live teaching) a. yes b. no
8. Have you ever received training as to how to conduct observations of teaching on video? a. yes b. no
9. Have you ever video taped yourself teaching? a. yes b. no
10. How many years have you been teaching (K-adult)? a. 0-1 b. 2-4 c. 5-10 d. more than 10
11. In what field of education are you pursuing a degree at Hunter College?

Post-test

You may have been surprised by being asked to view the same video of teaching several times, each time with a different lens. The observational techniques you just applied asked you to put "blindness" on, thereby increasing your attention to certain aspects of the lesson. There are virtually infinite observation foci, and hence, techniques that have been developed. Selective application of these observational techniques can yield meaningful data about teaching and learning, helping you identify your own practices you may not have been aware of, and in turn, generating alternatives to the approaches you may currently be taking.

Before concluding this training session, let's return to the short video you looked at in the introduction to determine whether the training tasks may be now applied to your observation of video.

Return to the same K-2, 3-6, or 7-12 video you selected previously. Then, view the video as many times as you would like. You will then be asked several questions about the teaching and learning in the video.

[VIEW]

1. What do you think the teacher's goals for this activity might have been?
2. What do you think the students were learning?
3. How would you describe the students' level of engagement with the task?
4. What techniques would you say the teacher was selecting in order to gain student interest?
5. How comfortable were you in answering questions 1-4? a. very comfortable b. somewhat comfortable c. a little uncomfortable d. very uncomfortable
6. Briefly explain your answer to question 5.
7. What was valuable to you in participating in this online training module?
8. What would you like to know more about or have answered in regards to video observation?

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