An Exploratory Study of Digital Video Editing as a Tool for Teacher Preparation

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The authors’ purpose was to examine teacher candidates’ perspectives of successful teaching through personalized video vignettes. Furthermore, the authors were interested in how participants’ written reflections might change as a result of creating these vignettes. This research used mixed-methods within the context of an exploratory multi-case study. Results showed that participants generally focused the video vignettes on themselves (rather than their students) and on what Van Manen (1977) called more technical aspects of their teaching. Some changes in levels of written reflections were observed that may have been caused in part by the video editing process.

Teaching for the first time can be an overwhelming experience. Beginning teachers encounter a variety of challenges including classroom management, subject matter expertise, teacher-parent communications, organization, location and selection of resources, and developing rapport with students (Calandra, Dias, & Dias, 2006). Differences in sociocultural identities between teachers and students as well as unique contextual factors in some classrooms (e.g., size; social, economic, and political inequality; limited language proficiency; etc.) may also face some beginning teachers (Sachs,
2004). Many beginning teachers—especially in low-income, urban schools—leave their position by their fifth year (National Commission on Teaching and America’s Future, 2003). This unique and pressing condition warrants research on methods for preparing individuals to teach in diverse, modern contexts.

Reflection is an important component of professional practice and professional growth (Dewey, 1933; Schön, 1983; Zeichner & Liston, 1987, 1996). It is especially important in the development of culturally relevant pedagogy (Howard, 2003). Termed reflective practice by Dewey (1933), Schön (1987) introduced the concept of “reflective practitioner,” by identifying two types of reflection: reflection-in-action (thinking on your feet), and reflection-on-action (retrospective thinking). Killion and Todnem (1991) extended Schön’s ideas to include reflection-for-action, the desired outcome to guide future action. Hence, the reflective process is not limited to only one timeframe but occurs in the past, present, and future timeframes.

Van Manen (1977) classified levels of reflection in three different stages: (a) technical means to reach a given goal; (b) practical reflection that involves analysis of assumptions and perceptions underlying actions; and (c) critical reflection that consists of aspects of the first two, but also includes moral and ethical measures.

Teacher candidates bring preexisting educational experiences and beliefs about teaching, learning, children, and culture to their teacher preparation experience. These powerful influences can create deeply ingrained schemata that can be difficult to alter (Feiman-Nemser, 2001). Effective reflection can serve as a means to reconstruct prior understandings and refine pedagogical thinking. For example, student teachers tend to focus on the technical or mechanical aspects of planning and teaching before addressing issues of student learning and challenges inherent to their work context (Trumbull, 1999). One school of thought suggests that the key to effective reflective practice lies in helping teacher candidates look beyond the technical aspects of teaching (Van Manen, 1977; Gay & Kirkland, 2003). Efforts to guide the reflective process have promoted reform-based beliefs and practices among preservice teachers (Richardson, 1996) while better equipping them to interpret and resolve dilemmas in the classroom (Korthagen, 2001; Zeichner & Liston, 1996).

Research has documented a variety of methods and media used for promoting teacher candidates’ reflectivity. Some of these include: (a) journal writing (Spalding & Wilson, 2002), (b) supervisory conferences (Zeichner & Liston, 1987), (c) structured microteachings followed with reflective teaching journals (Sparks-Langer, Simmons, Pasch, Colton, & Starko,
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1990), (d) multimedia cases (Hewitt, Pedretti, Bencze, Vaillancourt, & Yoon, 2003), (e) online discussions (Whipp, 2003), peer observation conferences (Collier, 1999), (f) portfolios (Jay & Johnson, 2002), (g) the use of critical incidents (Griffin, 2003), and (h) video (Wang & Hartley, 2003).

Wang and Hartley (2003) suggested that video technologies have the potential to document the rich contexts of teaching and learning, providing teacher candidates with the necessary perspective to observe and reflect carefully. Furthermore, editing video of their own teaching provides teacher candidates with immediate feedback on their lessons—evidence with an immediacy that is less susceptible to selective memory (Yerrick, Ross, & Molebash, 2005). Few studies exist, however, on teacher candidates using digital video to reflect on authentic, personalized teaching events (Yerrick et al., 2005). Six related studies are described next.

Romano and Schwartz (2005) conducted an exploratory study that investigated different technological tools (i.e., electronic portfolios, online discussion, and video) for teacher candidates’ reflection. Results indicated that teacher candidates perceived the VHS video recording of their own teaching as the most effective means for fostering self reflection. Particularly, the teachers valued the opportunity for instant reflection and the objectivity that the video technology provided. No video editing, however, was done—perhaps due to the complexity of working with the VHS format.

Crawford and Patterson (2004) examined how seven teacher candidates’ reflections using video footage of themselves teaching changed when the reflection process was scaffolded. They found that guided video reflections helped the teacher candidates look beyond superficial commentary, and write more robust reflections. They also found that timely feedback from their supervisors increased the depth of their participants’ reflections.

Spurgeon and Bowen (2002) examined the effects a process of digital video editing (for a multimedia portfolio) had on the quality of teacher candidates’ critical reflection. They randomly assigned 22 participants to one of three treatment groups: (a) control, (b) experimental-reflection, and (c) experimental-reflection with multimedia (video) production (Spurgeon & Bowen, 2002). Although there were no significant differences between groups, a large difference in levels of reflection between the control and experimental groups was found to be encouraging.

Sherin and van Es (2005) conducted two studies examining how video could be used to assist preservice and inservice teachers in “learning to notice” what was happening in their classrooms. In the first study, four middle school mathematics teachers met in video clubs and discussed excerpts from videos of their own classrooms. The meetings were facilitated by the researchers who asked a series of open-ended questions to prompt discussion.
among the teachers. Through examining the discourse in these video clubs over the course of 10 monthly meetings, the researchers noted that the teachers shifted their focus from pedagogy (i.e., what the teacher was doing) to student learning (i.e., mathematical thinking of students).

In the second study, six math and science teacher candidates participated in three facilitated sessions of one hour in length in which they used the Video Analysis Support Tool (VAST) to review video footage from their own and others’ teaching. VAST allowed the users to import digitized footage from the classroom and annotate it using a series of textual scaffolds embedded within the software. Sherin and van Es (2005) observed that during the VAST sessions, participants began to organize their reflections around significant aspects of teaching and learning rather than just providing literal descriptions of the events as they occurred. Finally, the teacher candidates in both groups changed “how” they discussed what they noticed. More specifically, the participants’ analyses in both studies changed from more purely evaluative (i.e., whether the activity went well or not) to more interpretive (i.e., why this may have occurred) comments in their discussions.

Yerrick, Ross, and Molebash (2005) worked with digital video to foster beginning science teachers’ reflections. The authors utilized an instructional approach that emphasized the exploration of their participants’ own planning and teaching as they (the participants) edited their own video accounts. Shifts were observed by Yerrick et al. in participants’ reflections regarding planning and instruction informed by reflection, and notions of teaching expertise and requisite knowledge. In addition, shifts were also observed in participants’ reflections regarding children’s thinking. The latter observed shift however, may have been prompted by participation in a video activity in which participants were asked to interview children on the topic of perceptions of the nature of science. This activity was done before participants edited video of themselves teaching.

Calandra, Dias, and Dias (2006) conducted an exploratory investigation of how an urban, teacher candidate worked with digital video while reflecting on her teaching. The participant attended a one-on-one, two-hour workshop on digital video capture and editing with one of the researchers. She was then asked to film herself during two separate teaching cycles, edit each cycle for teaching incidences that were meaningful to her, and discuss the edited clips with her cooperating teacher. Data sources included the audio-taped conferences, full videotapes of her teaching, the edited clips, a debriefing session with the participant on her experience using video, and, after reviewing the data, a final interview.

Although the participant’s level of reflection was not high during her unguided reflection (level of reflection was evaluated using the Framework
for Reflective Thinking, (Sparks-Langer et al., 1990), she showed remarkably high levels during a final interview/stimulated recall session in which she made connections between theory and practice and discussed racial and cultural identity. Given the data set, however, it was difficult to identify whether or not this was a result of her using digital video. Major implications of the study were the following: (a) meaningful teaching incidences needed to be operationally defined; and (b) the participant would likely have benefited from an initial reflection guide.

Results of the studies mentioned in this review appear to point toward digital video editing as a strategy that may enhance teacher candidates’ ability to think more deeply about their own teaching practice. The authors’ purpose became the following: (a) to examine video vignettes developed by teacher candidates to represent their own teaching; and (b) to examine how participants’ written reflections might change with limited external guidance as a result of the video editing process.

METHOD

This research used mixed-methods within the context of an exploratory multi-case study. As suggested by Yin (2003), the case study design is an appropriate way to investigate the causal links and the context relating to an intervention. It is also useful when there is little or no control over the behavioral events. The unit of analysis was each of three video reflection cycles that are described in the next section.

Participant Selection and Context

Ten teacher candidates enrolled in a physical education program at a large urban university in the southeastern United States volunteered to participate in this study. All participants were enrolled in a secondary methods course taken the semester prior to their student teaching field experience. The intensive course included both theoretical and practical components integrated into a four-hour day during a four-week time-frame. At the beginning of their four-week course, participants were provided a one-time workshop on the basics of digital video capturing and editing using iMovie.

Three consecutive times throughout their course, participants taught a 45-minute lesson that was videotaped. Participants were then asked to report on whether they felt the lesson had been successful and why. Next, participants were asked to briefly describe incidents in their 45 minute lesson that
supported their description, and to create video clips representing those inci-
dents. Each clip was to be no more than three minutes in length due to hard-
ware constraints. Participants were encouraged to discuss how the video
clips were selected and why the chosen clips represented their teaching. See
Appendix A for the Video Reflection Protocol. Each of the three times this
series of events took place will be referred to as a teaching cycle.

Three of the participants failed to complete all three sets of video re-
fection documentation. Of the remaining seven ($n=7$) participants, one was
an African American male, three were Caucasian males, and three were Cau-
casian females. Their age range was from 22-35. All students recorded their
teaching experiences at Barnes High School (pseudonym), located in an ur-
ban setting in a metropolitan school district of a large city in the southeastern
United States.

Data Analysis

In accordance with case study methodologies, (Miles & Huberman,
1994; Yin, 1998) pattern matching, within case analysis, and cross case
analysis were used to address the research questions. Data were generated
through three different sources: (a) videotapes of the entire 45-minute les-
sons, (b) participants’ edited vignettes, and (c) participants’ written reflec-
tions. All data were reviewed at least twice by two or more of the research-
ers—two physical education teacher educators and one instructional design
and technology expert.

The researchers first examined the teacher candidates’ unedited 45
minute tapes. Observed patterns and ensuing discussions provided context
for a deeper analysis of the teacher candidates’ edited video vignettes. The
edited video from each reflection cycle was then reviewed and observation
notes were taken. Two categories emerged: (a) the focus of each incident
(i.e., teacher or student); and (b) whether or not the incident was a positive
or negative representation of the teacher candidate’s lesson. It was observed
that there was a relatively high level of congruence (90%) between what was
seen in the edited clips and what the participants described (Table 1).
Next, two of the researchers (who were physical education teacher educators) conducted a priori coding of the edited vignettes based on the West Virginia University Teaching Evaluation System (WVUTES)—a teacher observation framework for physical education (Hawkins, Wiegand, & Bahneman, 1983). Prior to the analysis, inter-rater agreement was established by reviewing selected clips and comparing notes. WVUTES was employed to systematically examine teaching and learning behaviors portrayed in the participants' edited vignettes. The reviewers searched for a total of five teaching behaviors (i.e., general observation, specific observation, management, verbal instruction, and modeling) and five (student) learning behaviors (i.e., motor appropriate, cognitive, off task, on task, and waiting). See Appendix B for descriptions of each category. As the edited video clips were overwhelmingly teacher focused; only teaching behaviors were recorded.

To examine levels of teacher candidates' reflection, two of the researchers independently analyzed the teacher candidates' written reflection papers. This was done using a priori coding based on the seven-part critical reflection framework developed by Sparks-Langer et al. (1990). See Appendix C. Each researcher reviewed the written reflections twice. The researchers determined the coded data segments to be acceptable if there was no more than one-level of difference between their observations. During each analysis phase, the researchers examined for discrepant evidence and rival themes in order to insure the rigor of the analysis.

Table 1
Congruence Between Researcher and Participant Observations

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Congruence</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Observed</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Due to a technical difficulty, one video clip in the third cycle was not viewable.
Initial Categories

*Teacher focus.* The researchers compared the accumulated time (in seconds) of each clip during which the teacher was the focus of the clip to the total duration of each clip. If more than 50% of the edited clip time was teacher focused, researchers categorized the clip as “teacher focused.” Analysis of the edited video clips revealed that 90% of the clips were focused more on participants’ teaching (teaching behaviors) than on their students’ learning (learning behaviors, Table 2).

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Clip focus</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teacher</td>
<td>Student</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>7</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Table 2
Focus of Each Clip

In most cases, participants also focused their written reflection on their actions as teachers. Common expressions they used were: “I was talking too fast,” or “I was able to explain what I was going to go over.”

WVUTES was used for a priori coding to more systematically observe those teaching behaviors represented in participants’ edited video clips. Resulting data demonstrated that participants edited their 45 minute lessons into clips that mainly represented their classroom management (34.12%) and verbal instruction (34.47%) over other ALT-PE teaching behaviors (Table 3).

Table 3
Percentage of Edited Video Clip Dedicated to Each Teaching Behavior

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Management</th>
<th>Verbal instruction</th>
<th>General observation</th>
<th>Specific observation</th>
<th>Modeling</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>39.68</td>
<td>30.02</td>
<td>8.86</td>
<td>4.97</td>
<td>6.88</td>
</tr>
<tr>
<td>2</td>
<td>35.82</td>
<td>39.81</td>
<td>3.68</td>
<td>2.61</td>
<td>7.83</td>
</tr>
<tr>
<td>3</td>
<td>26.87</td>
<td>33.57</td>
<td>14.06</td>
<td>7.02</td>
<td>2.52</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td><strong>34.12</strong></td>
<td><strong>34.47</strong></td>
<td><strong>8.86</strong></td>
<td><strong>4.86</strong></td>
<td><strong>5.75</strong></td>
</tr>
</tbody>
</table>
Participants also focused their written reflections on classroom management (e.g., "I ran out of time," "I brought the students together," or "I've seen that if you do not stay on top of them, they go crazy and out of control.") and verbal instruction (e.g., "I did well in checking for understanding," or "I went over the focus of the day's lesson"). Much less written focus was dedicated to other teaching behaviors characterized by WVUTES—although the phenomenon did change slightly across teaching cycles. For example, time spent on management and verbal instruction decreased by the third cycle while general observation time increased.

**Positive or negative examples.** Two of researchers (physical education teacher educators) noticed that 85% of the edited clips contained incidents that represented generally positive teaching examples from their lessons (Table 4).

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Clip Incidents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
</tr>
</tbody>
</table>

This phenomenon was supported by evidence from participants' written reflections. Some common introductions to their reflection papers were: "Today's lesson went very well," or "I felt my lesson went well." In some instances, however, participants' opinions of these incidents changed in their written reflections as they were exposed to video footage of their lessons. For example, in the first teaching cycle, Student three began his reflection with, "After I finished the teaching day, I thought the lesson went pretty good. Then reality set in...and I watched the videotape. I would have to say that my lesson was unsuccessful..." Other students addressed elements of their lesson that they felt could be improved upon in their written reflections. Student one began his reflection with: "I think that this lesson went very well..." which changed to, "After reviewing the videotape, I also saw that there are several areas that I need to work on." Some other examples were: "I could have used my time better," or "I need to work on giving feedback although it was difficult to maneuver around to the most effective areas to instruct today."
Analysis of Reflection

The researchers first coded participants’ written reflections as two data sets. Participants’ reflections prior to (initial) and after (final) editing for representative incidents were reviewed as stand alone pieces. Some change in level of reflection was observed in all teaching cycles from initial (pre-editing) to final (postediting) pieces. A general increase also was noticed in levels of reflection across teaching cycles. See Table 5 for results of the a priori coding using the Framework for Reflective Teaching (Sparks-Langer et al., 1990).

Table 5
Summary of Observed Levels of Reflection

<table>
<thead>
<tr>
<th></th>
<th>Cycle 1</th>
<th>Cycle 2</th>
<th>Cycle 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initial</td>
<td>Final</td>
<td>Initial</td>
</tr>
<tr>
<td>Student 1</td>
<td>3</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Student 2</td>
<td>5</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Student 3</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Student 4</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Student 5</td>
<td>5</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Student 6</td>
<td>5</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Student 7</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Avg</td>
<td>3.71</td>
<td>4.29</td>
<td>3.71</td>
</tr>
</tbody>
</table>

Note: 1 = No descriptive language; 2 = Simple, layperson description; 3 = Events labeled with appropriate terms; 4 = Explanation with tradition or personal preference given as the rationale; 5 = Explanation with principle or theory and consideration given as rationale; 6 = Explanation with principle/theory and consideration of context factors.

The range of participants’ reflections was between two and six. This meant that, at the lowest level, they were simply describing what they saw in lay terms. For example, during the first reflection cycle, Student one wrote: “I was talking kind of fast and I was not clear when I should have been. The students were also not paying attention, so that was distracting as well.” At the highest level, participants were able to provide explanations for what they saw using principle and theory as well as context. During the third reflection cycle, for example, Student one wrote: “...we hadn’t had a normal class with its normal setting since last Wednesday. In spite of that challenge, the students were quickly on task and I was able to accomplish a good deal
in a short amount of time. I think this was mainly due to the fact that our group had firmly established our unit within the Sport Education Model." It should be noted that the reflections were scored and feedback was provided for participants after the study concluded. Improved reflection levels were not the result of feedback from the researchers or the class instructor.

DISCUSSION

The first objective of this study was to glean participants' perspectives on teaching using digital video cases. Eighteen out of 20 edited video clips produced by the participants in this study had a teacher focus. The use of first person in participants' written reflections mirrored this trend (i.e., I was a little nervous," or "I had so much to tell them"). Using the WVUTES framework it was also observed that the clips mostly consisted of teacher behaviors, more specifically, classroom management and verbal instruction. Participants' written reflections also tended to describe what Van Manen (1977) might call technical aspects of their teaching. Mean reflection scores from 3.71 – 4.71 out of a possible 7 on the Framework for Reflective Teaching (Sparks-Langer et al., 1990) were evidence of this. Some contextual examples included: "I felt like I had control of the class the entire time," and "I felt rushed handing out the award." The authors found this evidence of participants' perspectives on teaching to be in agreement with what the literature tells us about novice teachers' thinking (Hogan, Rabinowitz, & Craven, 2003; Trumbull, 1999). The authors would like to point out that participants in this study were not asked to choose or examine video segments of their teaching based on any sort of reflective or pedagogical framework; and recognize that previous studies have indicated that desired levels of video-based reflection are usually brought about through some sort of external guidance or scaffolding (Calandra, Dias, & Dias, 2006; Crawford & Patterson, 2004; Sherin & van Es, 2005, Yerrick, Ross, & Molebash, 2005). This could explain the generally technical and self-centered foci of the video reflection data. Rationale for not including scaffolded reflection as part of the study will be revisited in this section. That being said, a shift was noticed in some participants' foci both immediately after reviewing their video and over time, which leads to the second goal of the study.

The authors' second objective was to observe how participants' reflections may have changed after editing video, but with relatively little guidance. Measured levels of reflection seemed to increase somewhat over time. This may be expected regardless of whether or not the participants reflected
using personalized video vignettes or entirely from memory. The fact that the observed levels of reflections for some participants changed from pre video editing to post video editing, however, merits further investigation, especially since—although their video clips were mostly teacher focused—some participants began to notice their students and classroom context. One interesting, related finding was that, although participants tended to produce vignettes of what they initially thought were more positive representations of their lessons, some of their positive opinions of these events changed as a result of the video reflection. Furthermore, the researchers noted that some of the participants added comments in their written reflections indicating how they might improve their teaching. This was similar to evidence found in Yerrick et al’s study (2005), and resembled Killion and Todnem’s (1991) idea of reflection for action.

CONCLUSION

Korthagen and Kessels (1999) suggested that, in immediate situations (i.e., teaching), a combination of feelings, values, conceptions, and other knowledge create personal meaning of a given situation and lead to a behavioral inclination. Korthagen (1993) used the term Gestalt to describe this “Dynamic and holistic unity of needs, feelings, values, meanings, and behavioral inclinations triggered by an immediate situation,” and proposed a model for how teachers could develop their knowledge about teaching (Korthagen & Kessels, 1999, p. 9). It became evident during this study that the student (teacher) generated video vignettes provided insight into their existing and developing Gestalts. Novices bring preexisting educational experiences and beliefs about teaching, learning, children, and culture to their teacher preparation experience. As emphasized by Sparks-Langer and Colton (1991), “teachers need the opportunities to construct their own narrative, context-based meaning from information provided by research, theoretical frameworks, or outside experts” (p. 43). A major challenge facing teacher educators has been connecting the theoretical body of knowledge presented to student teachers in their schooling with the immediate, personal perceptions that drive their decision-making while teaching (Korthagen & Kessels, 1999). Effective reflection can serve as a means to restructure prior understandings and refine pedagogical thinking; and efforts to guide the reflective process have aided in better equipping novices to interpret and resolve dilemmas in the classroom (Korthagen, 2001; Zeichner & Liston, 1996).

The first author would like to investigate in more depth how novice teachers can create multimedia (i.e., video) based representations of their
teaching for this purpose. The multimedia representations would aid the (action) research and development efforts of novice teachers, their peers, and their mentors. The assumption would be that what might change in their created representations of teaching would mirror internal change. The authors believe that the process of working with video vignettes in such a way could be especially useful for programs that are preparing teachers to work in challenging, diverse, and sometimes unfamiliar contexts.

References


**APPENDIX A: VIDEO REFLECTION PROTOCOL**

When producing your video vignette you are to complete the following steps:

Step 1: Teaching Reflection

Describe in writing how the lesson went. Was it a successful or unsuccessful lesson?

Step 2: Supporting your Reflection

Identify and describe briefly incidents from your teaching that support your overall feeling in step 1.
Step 3: Editing Teaching Clip

Select video clips of some incidents identified in Step 2 and create a video clip (max 3 minutes) that presents your feeling in Step 1.

Step 4: Final Thoughts Reflection

Describe why you selected the specific video clip, and how this clip represents your teaching that day

APPENDIX B
WVUTES DEFINITIONS USED FOR ANALYSIS

1. Management: the teacher is engaged in carrying out a non-subject matter task (e.g., setting up equipment, taking roll, collecting papers, explaining station rotations, etc.) The teacher may be directing students verbally in a management task.

2. Verbal instruction: The teacher is verbally describing to the students how to do a skill, or is using a verbal prompt to direct students in attempting a skill or activity. The activity must be a subject matter task in order to record verbal instruction.

3. General observation: the teacher is watching student groups or individuals engaged in any category of student behavior. The teacher must not be engaged in any other category of teacher behavior in order to record general observation. This category includes passive supervision, and there is no relationship of the observation to an instructional focus.

4. Specific observation: the teacher is watching one student engaged in a subject matter task for the purpose of providing feedback related to perfor-
mance. The teacher position must be proximal to the student position so that observation is clearly focused on a specific student who is performing. Specific observation could also be recorded when the teacher is watching pairs or small groups of students when the instructional focus is clearly on a group task (e.g., observation of 5 players executing a fast break during instruction on the fast break during basketball)

5. **Modeling**: The teacher demonstrates to students how to do a subject matter task, or participates with students in a subject matter task or activity. If the teacher utilizes a student to demonstrate a subject matter task, this category may also be recorded for the duration of the student demonstration episode.

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### APPENDIX C

**FRAMEWORK FOR REFLECTIVE THINKING**

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No descriptive language</td>
</tr>
<tr>
<td>2</td>
<td>Simple, layperson description</td>
</tr>
<tr>
<td>3</td>
<td>Events labeled with appropriate terms</td>
</tr>
<tr>
<td>4</td>
<td>Explanation with tradition or personal preference given as the rationale</td>
</tr>
<tr>
<td>5</td>
<td>Explanation with principle or theory and consideration given as rationale</td>
</tr>
<tr>
<td>6</td>
<td>Explanation with principle/theory and consideration of context factors</td>
</tr>
<tr>
<td>7</td>
<td>Explanation with consideration of ethical, moral, political issues</td>
</tr>
</tbody>
</table>