CAN I SELL YOU A BRIDGE?
VIDEO ANALYSIS LINKS THEORETICAL TO PRACTICAL

KIRSTEN KOETJE, SPU | AILACTE CONFERENCE FEBRUARY 2019
WHY VIDEO ANALYSIS?

What practices are effective for training new teachers?
PRESENTATION OBJECTIVES

1. Overview & recommendations of video analysis for teacher learning
2. Causal comparative study of video analysis edTPA Task 2 scores
3. Group Discussion: Share video analysis strategies
BRIDGE THEORY WITH CLASSROOM PRACTICE
SELF-EFFICACY BELIEFS DETERMINE HOW PEOPLE

- feel
- think
- motivate themselves
- and behave.

(Bandura, 1994)
4 AREAS OF SELF-EFFICACY IMPACT (BANDURA, 1994)

1. Mastery successes (self)
2. Vicarious successful observations (similar others)
3. Social persuasion via external encouragement
   - “Efficacy builders”
4. One’s own somatic/emotional state
BENEFITS

- Multiple viewings allows multiple lenses and viewers
- Rewind, slow motion, isolate incidents, sound- or video-only
- Removed from immediate emotions and stimulus
- Bird’s eye view (see whole picture)
- Do not have to rely on subjective memory recall
- Teachers found motivating (64%) and authentic (91.2%) (Seidel et al., 2011)
RESEARCH QUESTIONS

1. Does more structured practice with video self-analysis have an impact on teacher candidates’ edTPA Task 2 Instruction scores?

2. How do candidates and supervisors experience the online supervision model?
<table>
<thead>
<tr>
<th>Summary of Performance on Internship Evaluation Criteria</th>
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<tbody>
<tr>
<td>1. Expectations: The teacher communicates high expectations for student learning.</td>
</tr>
<tr>
<td>2. Instruction: The teacher uses research-based instructional practices to meet the needs of all students.</td>
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<td>3. Differentiation: The teacher acquires and uses specific knowledge about students’ cultural, individual intellectual and social development and uses that knowledge to adjust their practice by employing strategies that advance student learning.</td>
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<td>4. Content Knowledge: The teacher uses content area knowledge, learning standards, appropriate pedagogy and resources to design and deliver curricula and instruction to impact student learning.</td>
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<td>5. Learning Environment: The teacher fosters and manages a safe and inclusive learning environment that takes into account: physical, emotional and intellectual well-being.</td>
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<td>6. Assessment: The teacher uses multiple data elements (both formative and summative) to plan, inform and adjust instruction and evaluate student learning.</td>
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<td>7. Families and Community: The teacher communicates and collaborates with students, families and all educational stakeholders in an ethical and professional manner to promote student learning.</td>
</tr>
<tr>
<td>8. Professional Practice: The teacher participates collaboratively in the educational community to improve instruction, advance the knowledge and practice of teaching as a profession, and ultimately impact student learning.</td>
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</table>
MARKERS AND COMMENTS

Classroom Observation #1 - Lesson observation #1

Wed 31 Oct 2018 3:57 PM

Comments

<table>
<thead>
<tr>
<th>Time</th>
<th>Marker</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>01:29</td>
<td>E</td>
<td>Expectations (1)</td>
</tr>
<tr>
<td>01:30</td>
<td></td>
<td>Students continue to work on Appetizer. 1.3 Lesson shows clear structure.</td>
</tr>
<tr>
<td>03:20</td>
<td>L</td>
<td>Learning Environment (5)</td>
</tr>
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</table>

End Note
Ex-post facto causal comparative design

Compared 4 groups’ ($n = 79$) edTPA Task 2: *Instruction* scores

ANOVA between all four groups

Planned contrast independent samples $t$-test

Two 2017-2018 online groups
1) 2016-17 online cohort *without structured* video self-analysis (*n* = 22)
2) 2017-18 online cohort using *semi-structured* video analysis (*n* = 12)
   - 2+ videos of self with comments
3) 2017-18 online cohort who completed *little-to-no* video analysis (*n* = 13)
   - <2 videos of self with comments
4) 2017-18 *blended cohort* who were supervised *in person* (*n* = 32)
SURVEYED SUPERVISORS AND ONLINE STUDENTS FROM 2018 \((n = 13)\)

- Role (supervisor or intern)
- 5 Likert-scale questions
- 1 multi-answer question
- 3 short answer
- 13 of 31 responded (42% response rate)
Results of ANOVA

- Assumed homogeneity of variance with Levene’s test of $p = .856$
- Outperforming groups
  - Semi-structured video group ($M = 15.25, SE = 0.61$) & in-person cohort ($M = 15.33, SE = 0.33$)
- Lowest performing
  - Without structure online cohort ($M = 14.68, SE = 0.49$) & little-to-no video analysis ($M = 14.62, SE = 0.55$)
- Not statistically significant (4 groups)
  - edTPA Task 2 scores, $F(3, 75) = 0.66, p = .578$. 
RESULTS

Task 2 Total Scores

- 16-17 Online: 14.667
- 17-18 2+ Analysis: 15.25
- 17-18 F2F: 15.328
- 17-18 <2 Analysis: 14.62
RESULTS T-TEST PLANNED CONTRAST

2017-18 Online Cohorts
1) Semi-structured & 2) Little-to-no

- Not statistically significant
  - Task 2 edTPA scores, $t(23) = 0.78, p = .444$
  - Cohen’s $d = .31$
    - Positive, small (to medium) effect
#2--EXPERIENCE THE ONLINE SUPERVISION MODEL?

Participant averages to Likert survey questions

<table>
<thead>
<tr>
<th>The video coaching platform was a useful tool for classroom observations.</th>
<th>3.46</th>
</tr>
</thead>
<tbody>
<tr>
<td>I felt that I had sufficient support in how to use the platform.</td>
<td>3.62</td>
</tr>
<tr>
<td>As a technology, the video tool was easy to use.</td>
<td>3.15</td>
</tr>
<tr>
<td>Watching the classroom recordings allowed me to reflect more deeply on the lessons.</td>
<td>3.31</td>
</tr>
<tr>
<td>When I watched a video, I had a particular focus in mind (e.g. an IPC criteria, a guiding question, a student of interest, etc.) (All 13 participants)</td>
<td>2.54</td>
</tr>
</tbody>
</table>

| Supervisors \((n = 5)\) | 3.20 |
| Interns \((n = 8)\) | 2.13 |
PREFERRED VIDEO ANALYSIS FEATURES

- Written comments (92.3%)
- Markers (69.2%)
I could get specific insight into how students were interacting in POGIL groups and whether they were actually collaborating and sharing ideas, or just going along with what others were saying. I also had a better idea of where students were struggling as I went through the video of class discussions. It's hard to see some things in the moment, but afterwards it is helpful to reflect.

Honestly, I was able to see myself improve over a period of time with the video recordings. I could see how I began to change and relax with my students, [sic] this was great to see with my own eyes. Thank you.
SUMMARY OF RECOMMENDATIONS

- Guiding theoretical purpose/question to each viewing
- Chunk viewing to small increments (may watch multiple times)
- External observations and feedback—“efficacy builders”
  - Note commendable successes
- Paired with structured reflection—conversation or written introspection
- Structured observation checklist or rubric
- Emphasize positive, molar outcomes
- In sum, intentionally use video analysis

Reduce cognitive load
1. If you use video analysis in your educational context, how do you structure it? Do you have a particular form or checklist? How is it received in your organization? Benefits? Concerns?

2. If not, how might you implement video analysis to foster teacher learning?
THANK YOU!

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REFERENCES


### Instructional Skills Rubric Example from Nagro et al. (2016) (Danielson Framework)

<table>
<thead>
<tr>
<th></th>
<th>1 Unsatisfactory</th>
<th>2 Basic</th>
<th>3 Proficient</th>
<th>4 Distinguished</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Communicating Expectations For Learning</strong></td>
<td>□ I never told students what they were learning</td>
<td>□ I gave little explanation about what students were learning</td>
<td>□ At some point during the lesson, I stated clearly what students were learning</td>
<td>□ I explained what students were learning and why it was important</td>
</tr>
</tbody>
</table>
| **2. Communicating Directions for Activities**   | □ My directions did not include examples, models, or strategies for student thinking | □ My directions were purely procedural, with no strategies for strategic student thinking | □ I described different strategies students might use and modeled for students when needed | □ I invited students to explain the content to classmates and to suggest strategies for approaching challenges | □ I proactively addressed possible misunderstandings
EXAMPLE STUDY: AUDIO VS. VIDEO FEEDBACK (YUSUF, 2006)

- 40 undergrad students in Microteaching course at Nigerian university ($N = 40$)
- 20 assigned to audio recording feedback group, 20 to video recording feedback group
- Taught two 10-minute micro lessons to peers (pre- and post- feedback interventions)
- Skill-based instrument focusing on communications skills and questioning skills (120 points total)
- ANCOVA—pre-test as covariate
- Video feedback post-test mean (70.20); Audio feedback post-test mean (68.80)
- $F$-value between groups (.376) not statistically significant; $p = .544$
- Yusuf’s recommendation: Microteaching with recorded feedback should be a requirement of all Nigerian teacher education programs (audio suitable alternative)
1) META-ANALYSIS OF VIDEO FEEDBACK

Fukkink, Trienekens, and Kramer (2011) Netherlands

- 33 studies of video feedback. Qualifying:
  - Self-analysis (not others)
  - Interactional professions (counseling, health, teaching)
  - External scoring of some sort
  - Quantitative data of some sort
1. VF interventions combined with additional instruction (e.g. explanation of target behavior, modeling behavior, discrimination training) are more effective than those without any supplemental instruction. *(Unsupported)*

2. VF that uses a structured observation form is more effective than VF with no such form. *(Supported)*

3. VF intervention effects are smaller for experienced participants compared to more novices. *(Unsupported)*