



CARLA Presentation Series

Fall 2020 • Noon–1 p.m. (Central Time)

TODAY!

Widening the View:

Using Swivl Technology to Enhance Teacher Candidates' Reflections

Presenters: Dustin J. Hemsath and Karla Stone

Coming up:

Thursday, October 15: Teaching Idea Roundtable

Presenters: Celia Bravo Díaz, Vivian Hirlandy Franco Díaz, Chloe Mais Hagen, Sally Kessler, Hai Liu, James Ramsburg, and Katrien Vanpee

Thursday, October 29: Praxis and Ideology:

Analyzing Teacher Learning in a Translanguaging Professional Development

Presenters: Amanda Swearingen and Samuel David

Wednesday, December 2: Expanding Arabic Colloquial Instruction through Online Course Design

Presenter: Katrien Vanpee

Find information and get Zoom links: carla.umn.edu/presentations/

CARLA

Center for Advanced
Research on Language
Acquisition

UNIVERSITY OF MINNESOTA

Widening the View: Using Swivl Technology to Enhance Teacher Candidates' Reflections

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Setting

- Post-baccalaureate SLE Initial Licensure Program
- Purpose of video-recording Teacher Candidates (TCs)
 - Weekly peer reflections
 - edTPA
- Grant for Swivl from TETI
- Grant from CARLA
 - Pre-existing data

Introduction

- Video as tool in teacher education since 1960s (Fuller & Manning, 1973)
- “Traditional” video: single microphone, single camera
- Lack of new tools that may increase the ability for teachers to notice their practices (Rosaen et al., 2008; Sherin & Van Es, 2005).



Swivl

360° rotation base;
infrared marker
tracker

Compatible with
existing tablet or
other mobile
device



Multiple
wireless
microphones

Swivl

Cloud storage
and sharing,
collaboration,
editing, and
analysis

Luis Calvillo LuisCalvillo@gmail.com

≡ SWIVL™

< Mathematics lesson >

04/18/2018 & by Jason Harmon

Share Edit ...

Comments Notes

00:23:49 Arturo Campbell: I like this approach! Can you share this formula with other students?

00:33:20 Maria Trofimova: Thank you. This moment is very interesting.

01:23:13 Dusana Sremec: But I still have a question. Have you prepared this formula using specific rule?

Enter your comment here

Rubrics Filters ... Send

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Statistics Speech analysis

#mathematics_lesson #school_45 #new_york_mathematics

Problem

- Does the Swivl enhance teacher reflections from traditional video recording?
 - Unengaged students at the back of the room (Franklin et al., 2018)
 - Credit to Swivl. No description of logistics.
 - Swivl as data collection instrument. (Allen et al., 2016; McCoy et al., 2018)
 - Analyzed as traditional video
 - Capture “entire classes and lessons” (Swivl, 2014); “Crystal clear audio;” online collaboration/editing; no videographer needed (Swivl, 2016)
 - No mention of teacher reflections

Research Question

How can Swivl technology enhance teacher candidates' reflections on language output in K-12 classrooms?

Video vs. Memory-based Reflection/Observation

- Supplements memory (Rosaen et al., 2008)
- Allows new perspectives - observer POV (Kane et al., 2015)
- Increases critical thinking/analysis over time (Sherin & Van Es, 2005)
- Decenters teacher practice; Centers student thinking & learning (Borko et al., 2008; Sherin & Van Es, 2005)
- Catalyst for change (LeFevre, 2004)
- Increase cognitive learning of and attitudes and confidence toward best practices (Kpanja, 2001).
- Allows novice teachers to identify complexities of teaching. (Kane et al., 2015; Lampert et al., 2013)
- Creates more trust in supervisor feedback, higher teacher accountability, and motivation to apply changes (Kane et al., 2015)
- Teachers prefer video reflection over memory-based journal writing (Lakschmi, 2012)

Language Output (Teachers)

- Maximization of target language builds proficiency (Burstall, 1968, 1970; Burstall, Jamieson, Cohen, & Hargreaves, 1974; Carroll, 1975; Carroll, Clark, Edwards, & Handrick, 1967; Turnbull, 1999; Wolf, 1977)
- 90%+ target language use (ACTFL, 2010)
- WL teachers do not reach this expectation (Calman & Daniel as cited in Turnbull, 2001; Polio and Duff; 1994; Shapson, Durward, & Kaufman; 1981)
- Input may encourage output in time (Krashen, 1981)

Language Output (Students)

- Sociocultural learning (Vygotsky, 1978, 1986)
- Comprehensible output (Swain, 1985, 1995, 2005)
- Interaction hypothesis (Long, 1983)

Student Language Output - ESL

- Input and output must work together to notice linguistic form errors in writing (Izumi & Bigelow, 2000)
- Input-output show gains, but input alone does not (Izumi, 2002)
- Pragmatic response recognition improves with output activities (Jernigan, 2012)
- Phonological improvements increase with frequent input and practiced output (Trofimovich et al., 2012)

Student Language Output - WL

- Communicative strategy leads to high levels of comprehension, participation in TL, and student enjoyment, confidence, & progress (Dischley, 2012)
- TL questioning leads to more TL responses (Bernstein, 2018)
- Increases literacy and critical thinking about text (Weber-Fève, 2009)
- Leads toward “self-instructed” language learning (Wang, 2012)
- Provides students with “authentic” opportunities to use language (Garbati & Mady, 2015)
- Provides students opportunities to reflect on their own speaking abilities (Rondon-Pari, 2014)

Theoretical Framework

- Situated Learning (Lave & Wenger, 1991)
 - Experiences are complex learning opportunities - (Dewey, 1938)
 - Utilize experience as a tool for learning to teach (Feiman-Menser & Buchmann, 1985; Munby & Russell, 1994)
 - Intentionality
 - Reflection is a major part of improvement (Clancey, 1995)

Theoretical Framework

- “The classroom is a complex environment with multiple interactions occurring at the same time” (Sherin & van Es, 2005, p. 477; see also Borko et al., 2008; Brophy, 2004; Estapa et al. 2016; Rosaen et al., 2008).
 - Video as an artifact of practice/experience (Borko et al., 2008)
 - Video highlights aspects of classroom life that may be missed in real time (Clarke & Hollingsworth, 2000; LeFevre, 2004; Sherin, 2004).
 - Complexities best examined through “digital observation” (Harford & MacRuairc, 2008; Chilton & McCracken, 2017; Osmanoglu, 2016; McCoy et al., 2018)

“Situated learning environments are designed to immerse the learner in complex situations and thus, seem well suited for supporting novice teachers’ learning with video.”

(Blomberg et al., 2013, p. 98)

Method

- Film at least 1 lesson per semester
 - Fall – VideoAnt
 - No videos available
 - 1-hour Swivl Training from TETI
 - Spring - Swivl
 - 1 Swivl kit (1 base, 3 mics)
 - Filmed during live observations
 - Supervisor/TC post-observation debrief
 - 8 recorded lessons (analyzed)



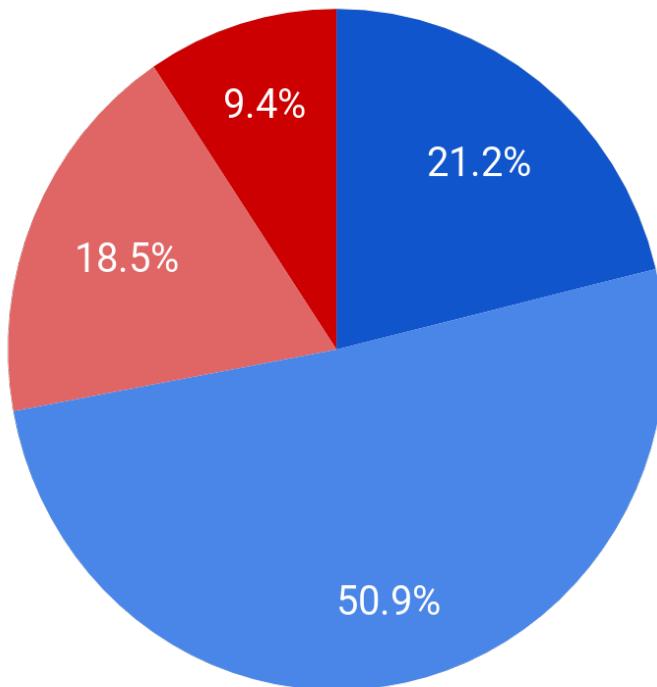
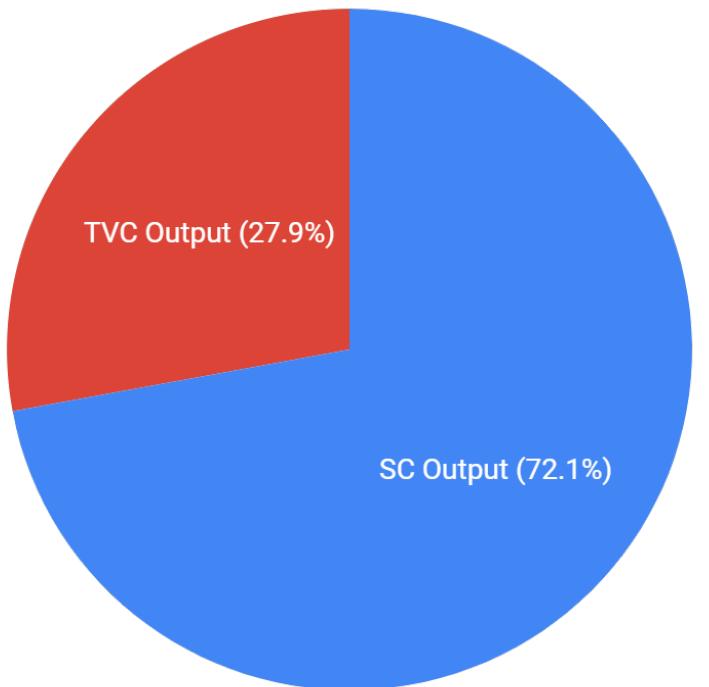
Method

- Choose a 3-minute video clip(s) for group analysis/discussion (not recorded)
 - General noticing
 - Student language output
 - Teacher language output
- Write a 1-2 page reflection on the peer video analysis (Analyzed)
 - Fall - 5 TC reflections + 1 request for feedback
 - Spring - 6 TC reflections
 - Consider videos for edTPA

Analysis

- Coded all recorded videos for supervisor perspective on teacher and student language output events
 - Swivl capture vs. Traditional Video capture
- Openly coded all Fall (VideoAnt) and Spring (Swivl) video reflections
 - General Themes
 - Language teacher practices
 - noticing of language output

Findings



- SC Teacher Output (21.2%)
- SC Student Output (50.9%)
- TVC Teacher Output (18.5%)
- TVC Student Output (9.4%)

First Impressions

“I have avoided using the SWIVL.
Why do I need to use something that does the
same thing as my iPad?”
(Cassandra)

Swivl's Namesake - 360° Rotating Video

I love the ease of how the Swivl does follow me as the teacher and picks up on all of my microphone use.

(Francis)

I generally noticed that the audio and video was better when I used the SWIVL than when I would film without it (by propping my iPad on a shelf in the back of the classroom).

(Danielle)

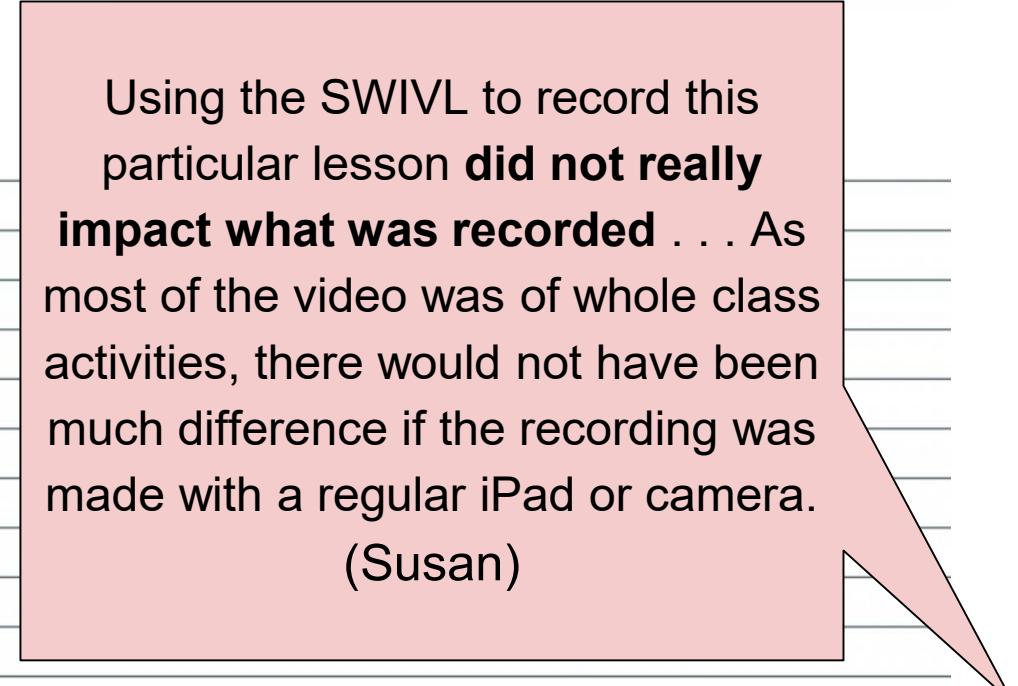
Using SWIVL gave me the opportunity to **truly analyze** what was happening in my classroom **from different perspectives.**

(Nikki)

Swivl's Namesake - 360° Rotating Video



I could have gone without the video moving around and following me.
(Cassandra)



Using the SWIVL to record this particular lesson **did not really impact what was recorded . . .** As most of the video was of whole class activities, there would not have been much difference if the recording was made with a regular iPad or camera.

(Susan)

Multiple Wireless Microphones

“I believe the Swivl . . . allows for teachers to . . . reflect on . . . how students are performing and how they are using language.” (Francis)

“I can see the usefulness of the various microphones and being able to isolate different groups of students’ voices in other lessons.” (Susan)

“I liked having my own microphone so my voice was clear on the video. I also liked having the kid’s voices be heard clearly on the video.”
(Cassandra)

Multiple Wireless Microphones

“I generally noticed that the audio and video was better when I used the SWIVL than when I would film without it (by propping my iPad on a shelf in the back of the classroom). Due to this factor, I relied on the SWIVL to get my submittable film for the EdTPA.” (Danielle)

“The ability to hear what my students were saying when I wasn’t near them helped me to better assess not only student understanding, but also student engagement in different tasks and discussions.” (Nikki)

“[The video] clearly showed student output in both whole/small group discussions.” (Charles)

Online Analysis

Share

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Comments



Francis: It was nice to be able to evaluate how much teacher talk there was and how much student talk there was, which would not be possible without a Swivl.

Nikki: The asynchronous video analysis was also very beneficial to my teaching practice.

Danielle: Overall, I am satisfied with the feedback I did receive [online], even if it was just from two peers, because I appreciate the quality of what they wrote.

Equipment Setup

Cassandra

"[I] was intimidated by the idea of having to set-up the stand and microphones . . . Having **someone** else come and set up the technology made the process great."

Francis

"It was set up when we came into the class and I had not had a chance to explain to them what it was and how it worked. . . It was a little hectic."

Danielle

"I am glad that **my supervisor** was able to bring it along and **set it up** for my student teaching observations."

Nikki

"From the perspective of a teacher candidate, I appreciated the simplicity of the set-up. Having **our supervisor organize the technology beforehand** allowed me to focus on the lesson I was about to teach rather than ensuring the functionality of the recording devices."

Pedagogical Uses

“Because . . . I did not prepare a lesson that would have utilized the Swivl more, it was a little hectic. . . I want to plan **more deliberate language tasks for students to use the other microphones.**”
(Francis)

"There was an attempt at a turn and talk that would have been captured in a different and **useful way** if the students had produced more language . . . I can see the **usefulness of the various microphones** and being able to isolate different groups of students' voices in other lessons." (Susan)

The ability to hear what my students were saying when I wasn't near them helped me to **better assess not only student understanding, but also student engagement in different tasks and discussions.** (Nikki)

General Impressions

“Using the Swivl technology was **nice** because I knew no aspect of my lesson would be missed while I went through the demands of teaching.” (Francis)

“Using the SWIVL is an **asset** to teachers in a classroom environment.” (Cassandra)

"I **really enjoyed** the opportunity to use SWIVL to assess and improve my teaching practice." (Nikki)



Discussion

- Extant Literature
 - 10-12 reflections starts showing shifts in who, what, and how in noticed events (Estapa et al., 2016)
 - Notice effective teaching practice, connect theory to practice, and consider their situational contexts (Sherin & van Es, 2005; Osmanoglu, 2016).
 - More focus on students than themselves (Rosaen et al., 2008)
 - More “productive” conversations (Borko et al., 2008)

Not enough data to see in this study to detect enhancements

However . . .

- Traditional video presents a limited view of the classroom.
- Accurate interpretation requires as much of the situation as possible.
- Swivl technologies capture more of the situation than memory and traditional video recording.

“Will you have fully portrayed the complex reality?
Again, no – but you will have gotten a lot closer.
Shoot for better approximations to the fullness
you need for future knowledge application, and don’t
worry too much that **you’ll never get all the way**
there. It’s still a lot more than we had before.”

Spiro et al. (2007, p. 95)

- We agree with Spiro and colleagues (2007) that the goal of video should be to present the complexities of language teaching as they naturally occur in as approximated a manner as possible.
- “Ideally, it should represent the complexity of classroom interactions while **not being overwhelming**” (Blomberg et al., 2013, p. 106).
 - Structuring pre-service teacher’s reflections of artifacts of practice/experience (Borko et al., 2008) whether with supervisors or with peers will make input more manageable (Baecher, 2020; Baecher et al., 2014; Center for Education Policy Research, 2015; Borko et al., 2008; Tripp & Rich, 2012)

Limitations and Suggestions for Further Research

- Too few video reflections
 - Swivl needs to be applied in ways suggested by previous research and video reflection experts (Center for Education Policy Research, 2015; Baecher, 2020; Estapa et al., 2016)
- Tech training
 - How to use it, where to place it, etc.
 - Additional features (e.g., mic gains, editing, speech analysis, etc.)
 - Avoid overlapping audio data

Limitations and Suggestions for Further Research

- Teacher-centeredness of Swivl
 - More thorough and critical analyses of the tech is needed
 - Suggestion of dual cameras, but does not consider \$\$
 - Advancements in 360° video capture may merit some further investigation
- Pedagogical uses
 - TCs were only aware of its observational function yet realized its potential for pedagogy.
 - How might using Swivl as an assessment tool affect language teaching and learning?

Widening the View: Using Swivl to Enhance Teacher Candidates' Reflections

Questions?

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