Networking, Designing, and Using Digital Video: Bridging the Gap between Research and Practice

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Abstract
Institutions of higher education and school districts have infrastructures in place that inhibit collaborations between practitioners and researchers, especially when the focus is on complex instructional literacy practices. Although I am somewhat critical of the current systems, I am aware that these systems have deeply rooted social historical reasons for their infrastructures that were relevant when designed. My goal is to open up conversations about a more problem-centered approach (Bryk, Gomex, & Grunow, 2011) to research and change within complex systems, such as schools and university settings. This approach values a collaborative network approach where the researcher, practitioners, and other experts work with one another in addressing more complex pedagogical issues facing school districts, the children they serve, and the research conducted within the schools. In this paper, I first outline four potential barriers that divide research and practice from a university perspective: (a) job expectations, (b) perception of practical research as service, (c) minimal grant funding for new assistant professors, and (d) the perception that research design is primarily conceptualized by the researcher without the practitioner. Then, I describe barriers, concerns and reservations that exist within school systems which potentially impede the creation of effective collaborations, such as a quick reactionary stance to policy changes, perceptions that research is not relevant to job expectations, and expectations for how current professional development (PD) is provided. After discussing these barriers, Mary, an elementary principal, classroom teachers, and I share how we collectively made strides in bridging the gap between research and practice through developing a small collaborative network that recursively focused on pedagogical issue related to strategy instruction. I specifically focus our discussion on how: (a) our network evolved, (b) our PD was designed, and (c) how digital video (DV) was used as a tool to mediate the divide between research and practice. My goal in writing this paper is to contribute to
the conversation about bridging the gap between research and practice. Although this work is just first steps, they are steps that others can build upon to further narrow the research and practice gap. The paper begins in first person and moves to “we” as my coauthor is introduced.

**Research Infrastructures Impede Collaborations with Practitioners**

Many times research on complex issues regarding pedagogical practices used when teaching literacy concepts requires that the researcher invest in a long-term relationship with a school district, which results in a more lengthy data collection process. Research indicates that effective PD is intensive, sustained over long periods of time (Darling-Hammond & McLaughlin, 1996; National Institute of Child Health and Human Development, 2000), and incorporates modeling, opportunities for collegial inquiry, and feedback (Joyce & Showers, 1995). Collaborating with school districts on practice issues that are not a quick fix is time consuming and the current structure for the university promotion and tenure process does not afford new assistant professors the length of time necessary to focus on these types of complex collaborations. For instance, one area of research I am interested in pursuing is the implementation of an explicit strategy instruction model, Critical Elements of Strategy Instruction (CESI) (Almasi & Fullerton, 2012). Although previous research pointed to the effectiveness of various explicit strategy instruction models (Brown, Pressley, Van Meter, & Schuder, 1996; Duffy, et al., 1997), so few schools actually implement them. Furthermore, of recent, many school systems have identified the importance of developing strategic readers as an essential goal (Davis & Rimm, 2004). In spite of this, researchers have found little evidence that most teachers are prepared to implement or are implementing metacognitive teaching strategies with their students (Boekaerts, 1999; Fisher, 2002). Previous research indicates that the actual implementation of explicit strategy instruction in classrooms has been challenging due to the lengthy teacher preparation (RAND Reading Study Group, 2002) and lack of information on how to best help teachers improve their instructional practices on the development of strategic readers (National Institute of Child Health and Human Development [NICHD], 2000; Sailors, 2008; Snow, 2002). Lack of implementation by teachers is problematic, because research indicates that the level of teacher quality influences student achievement (Darling-Hammond, 2000). My research interest was focused on how to develop teachers who could self-regulate their thought and action around strategy instruction. I firmly believed that understanding and providing guidance as to methods and conditions to develop this metacognitive knowledge with teachers was crucial in educating our students.

Knowing that providing guidance in developing teachers who are metacognitive about their strategy instruction was my research interest and thinking about the job expectations at a Research I institution, I was hesitant to get involved in designing and examining a comprehensive PD model focused on strategy instruction until I earned promotion and tenure. As an assistant professor, I am evaluated in three main areas: research, teaching, and service. Although research, teaching and service are all important, it was made very clear that service would not lead to promotion, but approximately 12 publications in specific tiered journals, with strong teaching could potentially lead to promotion and tenure. Thus, I viewed developing and researching a
comprehensive PD model over a lengthy period of time as a barrier to achieving the quantity of scholarly publications necessary to achieve promotion and tenure. Further, my choice of research design, *Formative Design Experiment*, (Reinking & Bradley, 2008) was a “new, emerging way to conceptualize and conduct research” (Reinking & Bradley, 2008, p. 1). I wondered if this emerging design, without a long tradition, would be valued or would my work be seen more as service. If viewed more as service, my research would count very little in the quest to be promoted from an assistant to an associate professor.

Implementing a PD model without funding was also problematic because it meant that I had to lead the PD. I did not have the resources, human or monetary, to adequately prepare someone else with the depth of knowledge necessary to provide the PD. Because there is limited funding for educational research and development (Whittle, 2005), assistant professors do not often obtain grant funding. Funding agencies tend to award grants to researchers with an established track record and it is difficult to establish a track record for funding when funding agencies consistently reject proposals. This decision by funding agencies is well grounded due to overall lack of monetary resources, but becomes problematic for emerging scholars who wish to examine these more complex issues. In sum, from the perspective of scholars conducting educational research, when investigating complex issues facing schools today, job expectations related to the quantity and quality of scholarly work, perspectives on practical research being service oriented, and lack of funding are all potential forces that divide research and practice collaborations.

School District Barriers, Concerns, and Reservations

Now we turn the discussion to practices by school districts that can potentially create barriers between research and practice. Most school district change is in reaction to new policy being adopted at federal, state or district levels. For example, *No Child Left Behind* (2001) legislation resulted in major changes in how instructional time was spent due to the testing. Another new initiative, *Common Core State Standards* (CCSS) are already promoting the purchasing of more non-fiction books because of the increased expectation of reading nonfiction in elementary grades. With these rapid policy changes, school districts rarely have time or the means to study their current practices, develop materials, curriculum, or contemplate the practices within the school systems to test their effectiveness (Bryk, Gomez, & Grnuow, 2010). Instead money is typically spent on new materials and quick PD workshops. Consequently, teachers are expected to be experts and competent in implementing these new policies. This quick approach to PD does not allow sufficient time for teachers to be scaffolded in this process of change, nor does it provide the time necessary for school districts to comprehensively engage in an efficacy self-study. Hence, change tends to be very superficial because teachers’ individual learning needs are not met.

In addition to the dilemmas encountered because of the swift changes in policy and the responses to them the delivery of PD deserves more scrutiny. School districts spend a large sum of money on PD each year, and those providing the PD rarely research the impact of the instruction provided. How do we know if the PD provided was effective for this particular population of teachers? What aspects of the PD were effective in developing content knowledge and pedagogical content knowledge? These types of questions are
rarely asked. Typically, the mentor providing the PD is contracted for a specific amount of sessions, he/she presents the material, and it is expected that the teachers have learned enough from those quick one-day workshop sessions to effectively implement in the classroom. Furthermore, if the PD is sustained, there is rarely any data collected verifying teacher change such that the mentor can monitor and adjust his/her instruction to meet the teachers’ needs. Rarely (if at all) is data collected to support efficacy of the PD program. In addition, it is atypical for the same PD presentations to be used in multiple districts without extensive consideration of how a practice might change in diverse settings. Research is rarely seen as a part of PD teachers receive within school systems.

Finally, because undergraduate and master’s level programs rarely focus on how research is relevant to the teaching professions, practitioners’ perspectives about research is often flawed and thus at a disadvantage. School district personnel have limited exposure to research, research design, or conducting research in ways that are relevant to their work. At most, teachers have an action research course while earning their master’s degree. The lack of attention to research across degree programs contributes to the perspective that research is done by others at the academy and thus, research does not appear to be relevant to teachers’ daily concerns. On a positive note, there is currently a shift in teacher focus on student data, which contributes to the idea that student data is relevant to understanding efficacy of programs and student achievement. Adding less of a divide between research and practice within undergraduate and master’s degree programs might enhance practitioners’ views whereas they see a space for them at the table with researchers. Because teachers are ultimately responsible for implementing many of researchers’ findings, it would be relevant to have them value and understand how research and practice come together. Likewise, it is advantageous for researchers to hear practitioners’ point of view while designing studies, such as interventions.

It is important to mention that many school district personnel have had less than gratifying experiences when involved in research studies, as many times the researchers collect data, analyze, and publish their work, but the change within the school as a result of the study does not meet the teachers, students or schools needs. Additionally, with all of the changes and criticisms of schools lately, teachers have very little time to implement a treatment designed by a researcher over a short period of time that is not relevant to the school’s vision. Having a researcher enter the school without teacher collaboration on the research design many times results in very little buy in, and often creates a lack of trust between universities and schools.

An example here may better illustrate my point. Upon reflection, Mary, the principal in our collaborative network, expressed similar concerns. Three years after our work began together, Mary asked various questions: Would there be a connection between the researcher and her school? Would I, as a researcher, understand the demands of a school? Could I come out of the university context and connect with teachers and students? Was I grounded in practices (instructional or does this relate to understanding the culture of the school?) the school used? Were our philosophies around literacy teaching and learning aligned? Mary searched for a researcher with a specific skill set, philosophy, vision, depth of knowledge, and interpersonal skills to connect with the teachers and students in her
building. As Mary indicated, “Until I found a person who had a vision that aligned with the school’s vision, I was not letting go of my teachers or students.”

Up to this point I have critiqued the barriers that exist within the infrastructures of Research I institutions and school systems collaborations. In the remainder of the paper, we show the possibilities of thinking outside the box. We share how we came together, designed a PD and research study, and specifically focus on how DV was an effective tool to promote teacher learning, mentor scaffolding, as well as a valuable data source for the researcher.

**Coming to the Table: Establishing Trust and Rapport**

Mary knew there was a need for more human resources to instruct her students who performed in what we would call the “gray area” in reading. The students were in jeopardy of not meeting the minimum test score standard. She had exhausted the use of teachers’ aides for interventions that she had access to, and no further monetary resources were available. Given that Mary is a problem-solver and advocate for students, she called the university wondering if there could be a way to collaborate. As I already stated there was no payoff to engaging in this type of collaboration when considering promotion, tenure, and job stability at a university level, so as she talked I thought through potential benefits in pursuing this challenge.

My initial thought was that this was difficult for us because at our university we did not have many course offerings during the day. Because we do not have an undergraduate program in teacher education, our master’s and doctoral level classes are generally offered 4:10 pm – 6:50 pm and 7:00 pm – 9:40 pm. More times than not our university students teach in neighboring schools during the day so we arrange classes after school hours for people who work in PreK-12 education. While I was reflecting on Mary’s inquiry, in the back of my mind I was thinking of an issue I was facing within my Classroom Assessment and Instruction course, which was due to lack of available teaching positions, more teachers were entering our literacy specialist program with limited classroom teaching experience. So maybe there was a way to assist these struggling readers and provide more sustained teaching experiences for these novice in-service teachers.

Mary and I agreed to meet and have further discussions. Initially my involvement was not research oriented, but teaching and service oriented. This type of involvement at the university level would be considered community engagement or outreach (i.e., service). For both parties, if organized efficiently this could be a symbiotic relationship where our in-service teachers and her students benefit from the relationship. However, at this point, the proposal was not relevant to research.

Throughout the semester when our university course was taught in the elementary building, Mary described how she informally interviewed me to see if our guiding principles and philosophies aligned. Mary had a strong vision for her building and although influenced by policy, she always remained focused on what research indicated about instructional practices to be in the best interest of students. What was intriguing about Mary was that when new initiatives became a reality she did not jump on the first commercial product claiming to prepare students for the new challenge. Prior to making any changes, she methodically reflected on her guiding vision, evaluated
the programs currently in place, as well as considered the strengths and areas in need of development for all teachers in the building.

During our meeting, Mary asked questions such as: Tell me how you see the teaching of reading? What texts are you reading in your courses? She visited our campus and classes to observe what type and quality of instruction we provided. Through these observations Mary acquired information regarding our philosophies on teaching reading. She explained that through our discussions she was assessing my depth of knowledge. So through informal conversations, observations, and classroom teacher feedback, she informally interviewed me throughout the school year. This is where trust, credibility, and rapport began to develop between the two of us. As Mary noted after her observations, “You were well versed and our philosophies aligned. I knew I could let go.”

Mary was not the only one testing this relationship. I was also observing the building philosophy, pedagogical practices, and relationship between faculty, students, and administration. On occasion, I had opportunities to visit the school and observe Mary interacting with teachers. She would comment on the good work that teachers provided, and she always spoke to the children by name. It was not unusual for Mary to begin a brief conversation with a student, asking “And how is your day going?” What I learned was that Mary’s leadership was grounded in a long-term vision and she was a strong instructional leader who knew where she wanted to go next with PD, but recognized that her faculty needed to continue moving forward toward areas of instruction that she did not feel comfortable taking them. One semester together provided us with time to build rapport, understand each other’s visions, and develop credibility with each other and the teachers.

**Designing a Research Study and Professional Development**

Once our semester long courtship ended and we built enough trust and rapport with one another we tackled more complex issues focused on teacher development. In order to explore teacher development we: (a) expanded our relationship by building a small network, (b) determined a focus, (c) and simultaneously designed the PD and research study.

**The Network**

Before introducing you to our network, it is important to note that we are aware that a more comprehensive network could have been developed with more time and resources. Several players involved in the design process were the: (a) curriculum coordinator, (b) building principal, (c) teachers’ union representatives, (d) researcher, (e) Institutional Review Board, (f) Director of the university Center for Literacy and Reading Instruction, (g) teachers, and (h) graduate assistant. The union representatives, Director of the university clinic attended to provide advice as to whether or not this joint project was wise for an emerging scholar to assume, given the challenges of working toward promotion and tenure at a Research I institution. The union representatives served a similar role for the teachers as well as the Institutional Review Board provided protection for the participants in the study.
Protocol was established that kept the researcher on the appropriate trajectory and the teachers’ best interest in mind.

The curriculum coordinator, researcher, and principal determined the initial focus of the research and PD based on previous PD, teachers’ needs, and researcher interest. We designed the PD model as an initial draft and presented it to the participating teachers, who would then revisit the design and modify as necessary throughout the two years. We recursively involved the teachers in the planning, designing, implementing and evaluating the PD because research indicates that it is essential for adult learners to be involved in all of these phases (Terehoff, 2002). Moreover, teachers are the experts in their classroom and in this case, they assisted the researcher in understanding a PD program that was reasonable for their classrooms, students, daily commitments, and school culture. For my purposes, I verified the significance of the research topic and that the PD aligned with what research had identified as essential elements of PD (e.g., Dole, 2004; Hargreaves & Fullan, 1992; Guskey, 1995; Joyce & Showers, 1995).

The curriculum coordinator, Mark, was an advocate for teacher learning and was instrumental in launching the PD. He demonstrated the respect he held for the teachers by securing funds and time for teacher learning. For example, part of the structure for using the DV was for teachers to watch three DVs that ranged from 30-45 minutes in length, and time stamp each time they saw a component of the CESI model in their own and two colleagues’ DVs. This learning experience needed to be completed outside of the school day. Mark secured funds to compensate the teachers for the time they engaged in this task. Time-stamping the DV was critical in preparing the teachers for the PD. Mark and I devised a budget to: (a) compensate teachers, (b) access equipment for data collection, and (c) purchase necessary supplies. Due to Mark’s limited resources he could not assist with the DV recording and copying. My graduate assistant’s time was used to create a technology workflow for both research and practice purposes. For the PD she collected, copied, and disseminated the DVs to the teachers and she organized the data, created back-up files, and began transcribing the data. Both the university and school systems came together to work within limited funding, using the human and monetary resources available.

**Professional Development: Focus and Design**

The focus of the PD and research was on implementing an explicit model of strategy instruction called CESI. Prior to my work in the district, the teachers engaged in long-term sustained PD focused on instructional methods for reading, such as read aloud, shared reading, and guided reading. After this PD relationship ended, teachers participated in a book club focused on reading strategies. They read *Strategies that Work* (Harvey & Goudvis, 2007) and *Reading with Meaning* (Miller, 2002). Furthermore, they discussed Pearson and Gallagher’s (1993) *Gradual Release of Responsibility* model, which was also relevant to strategy instruction. Beyond book club, there was limited support and guidance to apply new methods of strategy instruction in their own classroom. Figure 1 below is a final diagram of our PD model as it morphed and changed over the two years in response to teachers, researcher, and administrators’ feedback. The content and structure of the PD were repeatedly reviewed for modifications during all sessions.
Designing the PD and research design went hand in hand. Using the literature on literacy coaching and effective PD (e.g., Dole, 2004; Hargreaves & Fullan, 1992; Guskey, 1995; Joyce & Showers, 1995) we designed the PD. In the next three subsections, we provide a brief description of the three components of the PD model seen in Figure 1. It is important to note that the teachers cycled through Expert Guided Practice, Collaborative Planning, Video-Study Group (VSG), and then returned to their own classroom practice repeatedly over the two-year period. Recursively cycling back to classroom practice is essential because research indicates that teachers benefit from consistent practice in their own classroom contexts (Fullan, 1991; Hodges, 1996; Smylie, 1995).

**Mentor guided professional development.**
The Mentor Guided Professional Development included information being conveyed about the CESI model, discussions, and demonstrations (i.e., modeling and viewing DV of self and others). After the introductory session, mentoring was embedded within the Collaborative Planning and the VSG. The embedded mentoring focused in three areas: (a) misconceptions teachers developed which the researcher/mentor learned about while studying the data, (b) the strengths and areas of growth identified through viewing the pre, mid, and post DVs, and (c) in the moment scaffolds based on teacher conversations and questions. For example, when beginning the VSG, the mentor started the session by sharing movie clips of teachers’ strengths purposely pointing to aspects of effective implementation. We concluded with each participant setting an individual goal and together the group set a goal. The group goal was often set by the feedback the mentor provided after viewing all of the lessons. In this example, the researcher/mentor embedded teaching points related to strengths during the movie clip sharing and areas of development through the group goal setting. Mentoring occurred through each component of the model.

**Collaborative planning sessions.** In Collaborative Planning sessions teachers planned their next strategy lessons by sharing materials, readings, and ideas for implementation. After each Collaborative Planning session, the teachers, who came from two different elementary schools within the same school district, returned to their own classrooms to apply the CESI model again. Returning to practice in one’s own classroom was essential because previous research indicated that it takes approximately 20-25 attempts at classroom implementation before this new method becomes part of their routine repertoire (Joyce & Showers, 1995) and research on strategy instruction claims that it takes teachers two to three years to become proficient (e.g., Almasi, 2003).

**Video-study group.** Prior to attending the first VSG meeting, teachers learned: (a) CESI, (b) analyzed their own baseline DV using CESI, (c) set goals for changing their practice, and (d) collaboratively planned their next lesson. With goals set from the first two PD meetings, all nine teachers...
signed up for a time to video and audio record their strategy lessons. Two-weeks prior to attending the VSG, each teacher received a partner analysis packet that contained: (a) three DVDs (i.e., one lesson per group member), (b) partner analysis forms (see Appendix A), (c) Gradual Release charts (Pearson & Gallagher, 1983), (d) Almasi (2003) Scaffolded Instructional Support for Strategic Processing charts (p. 63), and (e) directions for playing their DVDs.

The structure of the VSG was based on research related to adult learning and the use of video as a feedback tool. According to Knowles (1980), adult learners need to recognize a reason to change their current practices. By viewing themselves teachers became aware of potential areas of growth as well as areas of strength. Over the two years by analyzing the baseline, pre, mid, and post DVs the teachers and the researcher became aware of the level of teacher change. Because previous research on the use of video for learning indicated that viewers who did not have a task when viewing typically focused on the teacher’s personality (Miller & Zhou, 2007; Tochon, 2007) or became overwhelmed with the amount of information available through video (Newell & Walter, 1981), we asked teachers to view the DV and independently time-stamp (see Appendix A) when they observed themselves or their colleagues using a component of CESI. Additionally, both the Gradual Release and the Scaffolded Instructional Support charts were used to identify where their lesson fell within both constructs. In the VSG context, the teachers sat together in groups of three with one laptop per group and their partner analysis packets.

Bridging the Divide between Research and Practice through Digital Video

After presenting our PD model we narrow our discussion to focus on the VSG and how DV assisted the teachers’ in understanding their practices, the researcher’s examination of teacher learning and change and the mentor’s evaluation of teacher learning in the PD model. In the next three sections, we reveal how DV functioned for teacher learning, research, and mentor feedback.

The teachers. In the PD teachers used the DV as a tool to: (a) build their content and pedagogical content knowledge, (b) self-reflect on their own teaching, and (c) see multiple representations CESI being implemented. As previously mentioned, the teachers’ time-stamped the video in order to facilitate and focus the video analysis of their implementation of the CESI model. There were three major purposes of the time-stamping activity. One purpose was to focus the analysis on the CESI model and not other issues within the lesson. The second purpose was having teachers recognize the CESI model components, which provided an opportunity for the teachers to develop both content and pedagogical content knowledge (authors, under review). Third, the video analysis process allowed teachers resources and discussion time to reflect-on-practice (Schon, 1983).

Through the teacher interviews we get a view of their experience when using the DV as a tool to learn the CESI components. For example Caroline helped us to understand the impact of this process.

“At first when you said to time stamp, I was like, what’s going on? This is so stupid. It was perfect, because you got to see how often. Like how long were you talking
before you started to check for understanding? How long did you talk before you actually told them what the strategy was? Like, I think the declarative should happen sooner than later“.

When you can watch yourself teach it’s a totally different way of thinking about it.

Through Caroline’s comments it is clear that having her focus in on the identification of the CESI model components provided her with a way to self-reflect on her own implementation. Through the self-analysis she was able to metacognitively critique her implementation of CESI.

The nine-teachers involved in this study and PD embraced the time to analyze the video and reflect on their implementation. Nancy’s comment is representative of the group’s perspective:

“ I think that’s the most powerful experience, to watch your self teach. You’ll always be more critical of yourself than somebody else will be. It is nice having a description [timestamp] of what you are looking for. I am being cognizant of how many times I’ll go back to the what, the why and the how. Going back and saying, ‘I just said the how again, this is how we’re going to do it’. It made me aware of my pacing. It made me aware that they could have easily turned to a neighbor and that would have given them a better opportunity to verbalize.”

Here Nancy points to the power of video-self analysis in critiquing ones own practice and the importance of having a guiding framework (i.e., partner analysis sheet) to focus the analysis. Through both Nancy and Stephanie’s comments it is evident that in order to engage in self-analysis they had to use the content and pedagogical content knowledge to participate in the VSG. Both teachers’ comments point to the importance of having the opportunity to reflect-on-action (Schon, 1983) with a guiding framework, and interestingly both specifically point to their own areas of development.

Not only did the VSG provide a time to engage in self-analysis, it was also a time to share what the CESI model looked like when used at different grade levels and with different populations of children. Stephanie shared the importance of viewing a colleague’s lesson:

“I loved watching other people’s lessons. I think that was probably the biggest learning experience. It was like walking into someone else’s classroom and seeing a different way to do it. And a way to do it at a different grade level. A different style of getting the strategy across. I thought that was wonderful.”

Seldom did these teachers have opportunities to see how their colleagues taught within their building or the other elementary building in the school district. Video analysis provided a way for them to see how: (a) the grades below or above theirs approached the teaching of strategies, (b) teaching styles differed, and (c) teaching changed with different groups of students. The teachers valued how DV provided them with the ability to peek into someone else’s classroom and learn from a colleague. Participating in discussion of the DVs afforded the teachers an opportunity to hear different perspectives and appreciate how others taught. As Donna shared, “I liked hearing what other people noticed, because they noticed different things than what I noticed. They complimented different things that I wouldn’t have thought were my
strengths.” Having a chance to hear other colleagues’ analysis provided different points of view was essential in their collaborations and learning.

Rarely do teachers have any documentation of their progress during the PD experience. Kelly mentioned that one of the most essential aspects of engaging in VSG is that: “Through video you can see your own growth. You need to see growth. You just say here is my starting point and this is my ending point. We all start somewhere as long as we see growth, focus on one thing at a time.” Kelly mentioned the value of seeing growth over time, which is a critical benefit to using VSG in teacher development. Not only was seeing growth over time essential for the teachers, it is also critical to the researcher and the mentor. In the next section, I discuss how this VSG data was utilized by the researcher/mentor.

**The researcher/mentor.** As the researcher/mentor there were multiple data sources available through the VSG: (a) DV of teachers’ strategy lessons, (b) lesson plans, (c) audio recording of VSG discussions, (d) partner analysis forms, and (e) gradual release chart. As a researcher, I was interested in examining how the participants’ teaching changed over the two-year period. Through the lens of a researcher, the baseline, pre, mid, and post video over two years was used as a data source to measure growth over time in their application of the CESI model. As a mentor, I used my ongoing video data analysis to inform the next steps in the PD and to differentiate instruction as needed. For example, one teacher was unaware that she repeatedly used a synonym for the strategy name. When she checked for students’ understanding it was clear that students could not recall the name of the strategy. Data revealed that she said the name of the strategy 15 times, used synonyms 98 times, and missed 37 opportunities to say the strategy name again. Missed opportunities were described as a time the teacher said words like “it” or “thing” instead of the strategy name. After analyzing how recursive her use of the strategy name synthesizing was, we recommended that she seize the chance to have the students repeatedly hear the name of the strategy so that they could learn that new strategy name, which was also a new vocabulary word for these students. This information was helpful in subsequent PD and as mid-year data for the analysis of change over time.

Triangulating audio recordings of teacher’s conversations during VSG with the video was critical to me as the researcher when investigating the teachers’ level of understanding of the content and the pedagogical content knowledge. Through coding these conversations, as a researcher, I learned about their strengths and misconceptions. In the mentor role, I used the same information to structure the PD. For example, there was one conversation where it was very clear that several group members had misunderstood the CESI component of verbalization. Because I was not standing next to this group during the discussion, I did not hear the conversation and was unaware of their misunderstanding. After analyzing the DV of the lesson they discussed and their conversations, I knew that I had to reteach that particular component. Thus, the data I was using to learn about the nature of talk in VSG was informative on a PD perspective to monitor and adjust my instruction as a mentor. As a researcher/mentor, I had their lessons and VSG conversations as verifications of their levels of understanding the CESI model. The important point thus far is that the data collected as a researcher was also important as a mentor. I do not argue that all
researchers should be mentors, but researcher, mentors, and teachers working more collaborative might lead to more transformative learning and a more relevant view of research among teachers.

For a moment I remove my mentor hat and focus solely on my research agenda that included the investigation of VSG focused on the DV as a data source. As a researcher, I had multiple studies focused on the use of DVs and the VSG. Table 1 below outlines the various studies underway.

| TABLE 1 |
| Research Focus | Research Questions |
| VSG mediation of teacher learning | 1. How did the structure of the video study group mediate teachers’ learning of strategy instruction? |
| Significance | 2. In what ways did teachers’ implementation of explicit strategy instruction in VSG facilitate the development of professional relationships? |
| Teacher Change: Application of CESI | 3. What was, if any, did teachers’ implementation of strategy instruction change from pre to post in year 1? |
| Significance | 4. What was, if any, did teachers’ implementation of strategy instruction change from pre one to post year 2? |
| Teacher’s use of non-verbal communication to scaffold strategy instruction | 5. How much of the teacher’s language related to learning the strategy of visualization (e.g., schemata, descriptive words, mental pictures) included some form of visual grounding? |
| Significance | 6. Is there a difference in the teacher’s use of gestures and artifacts that ground abstract instructional language around visualizing? |
| Teacher’s use of non-verbal communication to scaffold strategy instruction | 7. Is there a difference in a teacher’s use of gestures and artifacts that ground abstract instructional language around visualizing? |

This is a rich data set with multiple research questions related to teacher learning in a VSG context. The analysis and findings from these research questions were not only important to the researcher, but equally important to the teacher and mentor. By using DVs a mentor can provide the teacher with more specific feedback as to the application of the CESI model, teachers can use the information from the DV to recognize areas of development and strength in their own teaching, and the researcher can investigate multiple aspects of teacher learning and change.

### Conclusion

In this paper we argue that too often the infrastructures in both school districts and universities impede collaborations between practitioners and researchers. Those involved in our network found DV to be a powerful tool for both research and practice. Providing in-service teachers with opportunities to collaboratively reflect on their practice through the use of DV helped teachers’ understanding both content knowledge and pedagogical content knowledge (author, under review). Further, teachers engaged in critical self-analysis as they learned a new method of practice. As a researcher, DV was essential in understanding teacher change periodically throughout the school year and over two years. The results of this analysis were also valuable to direct, monitor, and adjust the PD. In our work, we found that DV was a tool that served multiple roles in narrowing the gap between research and practice for researchers, teachers, and mentors. DV is a tool that can potentially bring all involved to the table to engage teachers in transformative learning and truly contribute to research and PD that impacts practice on in-depth, not surface levels.

When reflecting on ways researchers and those providing PD could collaborate more closely, there should be: (a) some accountability for the efficacy of the PD provided, (b) differentiation of PD based on teacher learning and understanding, (c) a cycle of support in PD when teachers are learning the new methods and using it in their classrooms, and (d) instruction that specifically addresses the culture of the school district that the mentor is working. Research is rarely seen as part of the PD that teachers’ receive within school systems. There is potential for close collaboration between PD and research.

In closing I am not advocating for teachers or mentors to become researchers or for researchers to become teachers or mentors. I argue that a tool, like DV, can be of benefit.
for all people at the table. Because of the expectation to conduct research, I had resources to conduct microanalysis, compile and share findings in ways that advanced teacher learning in a PD model. Conversely, the teachers also engaged in self-analysis that led to enhance their understanding and implementation of CESI model. The teachers assisted the researcher in designing the PD model that was manageable in the school’s culture. Each profession has its strength and weaknesses in addressing the improvement in practice, but taken together when working in a collaborative network, imagine how research could inform practice and how practice could inform research. I envision the rich discussions with all members at the table together sharing what they have learned, what is and is not working, and conceptualizing next steps. This will result in a productive conversation where all networking members are valued as important pieces to the puzzle of change and contributing to building effectiveness.
References


