

Video Clubs as Professional Development for Mathematics Teachers

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### **Purposes of Professional Development for Teachers**

Teachers of all grade levels and content areas participate in professional development of some sort. There is much debate over what constitutes effective professional development. Professional development is becoming more of a collaborative activity, with “a growing consensus regarding the value both of creating opportunities for teachers to work together on improving their practice and of locating these learning opportunities in the everyday practice of teaching (Borko, Jacobs, Eiteljorg, & Pittman, 2008).” For teachers, “learning happens through participating in discourse and practices within the constructs of social contexts (Borko, et al., 2008).” While many professional developments do not focus specifically on teachers’ content knowledge, in-service professional development for mathematics teachers has a central goal to improve student learning of mathematics. However, many researchers recognize that for this to be successful, there must also be an emphasis on teacher learning (Sherin & Han, 2004).

According to Sherin and Han, “professional development should not present teachers with a prepackaged set of new pedagogical strategies. Rather, the goal should be to increase teachers’ awareness of the potential for learning (2004).” Sherin and Han continue to say that professional learning should allow teachers to take responsibility for their own learning and be actively engaged in creating meaningful experiences (2004). There is a history of research that attempts to document links between teacher knowledge, teaching practices, and student learning. Much research focuses on how two of these three effect one another; the use of video clubs allows for researchers to investigate all three at once (Kerstig, Givvin, Thompson, Santagata, & Stigler, 2012). It has been proposed by Shulman that the most important type of knowledge is pedagogical content knowledge. He describes this as “knowing content in pedagogically useful ways” and “the intersection of teaching and learning” (Kerstig et al., 2012). A content focused

video club can provide teachers with all of these characteristics of purposeful and effective professional learning.

### **Purpose of Video Clubs as Tool for Professional Development**

A video club is most simply defined by Sherin and Han as “meetings in which groups of teachers watch and discuss excerpts of videotapes from their classrooms (2004).” Video clubs allow for teachers to remove themselves from the hectic nature of a classroom to focus on the specific occurrences. Video can “highlight aspects of classroom life that a teacher might not notice in the midst of carrying out a lesson, and can capture the social fabric of a classroom (Borko et al., 2008).” This is not possible through transcribing a lesson or sharing a classroom occurrence verbally with another colleague. In addition to what the teacher notices, videos allow for the possibility of capturing small group conversations and one-on-one conversations using microphones that could have gone unnoticed (Borko et al., 2008). Having strong content or pedagogical knowledge is not enough; teachers must be able to share that and apply that in the classroom. Video clubs are unique in that they assess “not just what teachers know but also what knowledge they are able to access and likely apply in the course of classroom instruction (Kersting et al., 2012).”

Videos can be analyzed and manipulated (stopped, replayed, etc.) to focus on specific features of the classroom (Borko et al., 2008). When watching videos, teachers can take more time to be reflective. This reflection is not available to teachers during instructional time (Sherin & Han, 2004). Sherin cites this opportunity as one for teachers to “develop a different kind of knowledge for teaching – knowledge not of ‘what to do next’, but rather, knowledge of how to interpret and reflect on classroom practices (2004).” For video clubs to be effective, “the explicit

goal is to use the video excerpts to question, reflect on, and learn about teaching (Sherin & Han, 2004),” not to demonstrate exemplary models or to ask teachers to recreate the scenario presented to them.

### **The Set Up of Video Clubs**

The most important component of a video club is the community created by the teachers and facilitators. Professional development leaders or facilitators need to “help teachers establish trust, develop communication norms that enable challenging discussions about teaching and learning, and maintain a balance between respecting individual community members and critically analyzing issues in their teaching (Borko et al., 2008).” The community-nature of the group leads to teachers feeling less vulnerable about sharing their classroom experiences. While there are many positive outcomes, as noted later, these outcomes are attributed to “a strong professional community, the establishment of discourse norms, an expanding ability and willingness to learn by analyzing and sharing ideas about classroom video, and increasingly focused and challenging facilitation (Borko et al., 2008).”

A purposeful facilitator plays a major role in the success of a video club. Video clubs promote inquiry-based reflection when facilitated effectively. (Sherin & Han, 2004). Facilitator provides guiding questions to help focus the group’s discussion (Borko et al., 2008). Another option for the leading of video clubs is to allow the teacher who is portrayed in the video to choose the topic of discussion for that particular meeting (Sherin & Han, 2004). Even if the model chosen is one that is led by the facilitator’s questions, allowing teachers to have input in the topics of conversation helps to create a stronger community and fosters ownership amongst

the group. Research shows that there is value in using prior knowledge and experiences as a starting point for learning (Van Es & Sherin, 2008).

Another key component in a video club achieving its potential is the selection of videos that are viewed by the teachers. Experimental studies compared the experiences of teachers who used videos from their own classrooms and teachers who watched videos from other classrooms (those not in the video club). They found that the teachers who focused on videos from their own classrooms found it to be more helpful and noted the program had more potential (Borko et al., 2008). This connects strongly to the influence and guidance a facilitator must use to make sure the video club is continually focused on reflecting over teaching practices and student thinking. Video clips chosen by the facilitator “served a pivotal role in influencing the teachers’ thinking (Van Es & Sherin, 2008).”

Facilitator guides teachers “to comment on what they found noteworthy upon viewing a clip and used their ideas as the starting point for discussions (Van Es & Sherin, 2008).” If teachers do not initially begin discussing student thinking and/or the mathematics of the problem, a skilled facilitator may then prompt the group by asking them to note ideas that students made in the videos (Van Es & Sherin, 2008). This prompting can guide the video club in a specific direction and can also help maintain group norms and dynamics. In the research conducted by Van Es and Sherin, the facilitator was determined to find clips from all participants’ classrooms that focused on students’ mathematical thinking. This was more difficult in some cases depending on the teacher’s current beliefs and classroom discourse (Van Es & Sherin, 2008). If teachers self-select video clips or the clips are chosen at random, it may take more guidance from a facilitator to focus the group on the task at hand.

### **Critiques of Video Clubs**

The most common reason cited for teachers non-participation is the required vulnerability that comes with sharing teaching segments with others. Borko notes that “the use of videos more readily exposes actual teaching practices and therefore requires a higher level of trust and respect (2008).” The community created by the facilitator and group members must be strong in order to foster this feeling of a collegial culture and this is necessary for the video clubs to work. For teachers to participate, they must “feel part of a safe and supportive professional environment. They also should feel confident that showing their videos will provide learning opportunities for themselves and their colleagues, and that the atmosphere will be one of productive discourse (Borko et al., 2008).”

Because of these fears, some teachers chose only to participate as viewers and not submit videos of themselves teaching. Sherin also noted that the outcomes seemed to still be productive for these two teachers as they were familiar with the curricular materials. They participated equally in the group (Sherin & Han, 2004) through discussion and reflection. Teachers who came into the program with concerns about self-consciousness, but chose to participate, showed a decrease in this feeling of embarrassment over time in the PLC; these concerns were “mitigated by an interest in tackling more challenging issues and a sense that the community was strong enough to dive into murkier territory (Borko et al., 2008).” One teacher, in a written reflection at the end of the 2-year video club, wrote that “the most valuable part of this year [was] watching the mistakes I made in forcing students toward a conclusion on the videotape. I have actively monitored myself since to not repeat this (Borko et al., 2008).”

Not only did teachers note personal growth, Borko et al. noticed that at the end of involvement in the video professional learning, teachers “appeared to feel more comfortable

addressing limitations in their understanding of the mathematics content, without continually making reference to their students or otherwise couching the conversation (2008).”

Teachers are consistently being evaluated by walk throughs and mandated observations. Often the critiques from these are evaluative and affect end of the year evaluations. As a result, many teachers entered the process worried about the evaluative nature of sharing a video clip with colleagues. Though those that finished saw this as a “resource for trying to better understand the process of teaching and learning (Sherin & Han, 2004).”

Another critique of video clubs is that teachers do not all respond to professional learning the same way. Teachers developed and changed thinking in multiple ways; veteran teachers were slower to develop more focus on student thinking, but had more insight into student thinking in discussions (Van Es & Sherin, 2008). Teachers’ beliefs about classroom norms also impacted their outcomes. Sherin and van Es cite the difference between a teacher who believes students learn mathematics by applying formulas and one who believes students learn best through explaining methods and engaging in discourse with other students (Van Es & Sherin, 2008). Both of these teachers used the meetings as a means to advocate for her particular style by offering advice; this does not align with the interpretative stance encouraged in the meetings. This resulted in neither teacher showing much focus on student thinking until the end of the video club cycle (Van Es & Sherin, 2008).

### **Positive Outcomes for Teachers who Participate in Video Clubs**

Teachers become more analytical and vocal within the group. Teachers conversations were more focused and in depth regarding specific issues and learning the selected mathematics (Borko et al., 2008). A facilitator, in discussing benefits of the video club, claims that the video

club helps teachers see different methods of solving problems, both those of their colleagues and those of the students (Borko et al., 2008). Teachers focused more on students and their mathematical thinking and there was a change in the way they discussed classroom interactions that was more student-centered (Van Es & Sherin, 2008).

The most valuable aspect of these video clubs, according to teachers, was the viewing and discussing of video clips. They could see what they were doing well and what needed improvement, learn new pedagogical strategies, appreciate students' mathematical reasoning, and realize that they all struggle with similar issues (Borko et al., 2008). Teachers were motivated to want to continue this learning after the conclusion of their video clubs (Borko et al., 2008). Teachers were motivated to find ways to better serve their students and their mathematical thinking (Sherin & Han, 2004).

All teachers in the study conducted by van Es and Shirin noted an increased understanding of students' thinking and the value of analyzing this information (Van Es & Sherin, 2008). Sherin and Han noted that prior research has shown that "increased attention to students is an important component of developing expertise as a teacher (Sherin & Han, 2004)."

Ken, who participated in a video professional learning group for two years, summarized many of the positive findings in his exit interview with researchers, saying "I have learned the most about my teaching by *watching* my teaching practice. Even better, though, was watching *others* teach a lesson that I also taught. My ideas have been sparked by others in the group. Having a safe place to watch ourselves and not feel like we were being criticized or evaluated was critical also (Borko et al., 2008)."

## WORKS CITED

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