

A Video Club in a Networked Improvement Community: Coupling C- and B-Level Activities to Access A-Level Expertise.

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This paper examines how a video club activity in the context of a Networked Improvement Community supported participants in converting their practice-based expertise into a resource for improvement across the network. NICs are an increasingly popular model of a research-practice partnership that relies on practitioner insight to improve the design of solutions. Therefore understanding how NIC activities generate the kinds of insight needed for network-level learning is critical to understanding the implementation of the model. Drawing on qualitative data collected during the initiation of a NIC, I show how a video club activity provided a way for educators to generate, select, and integrate improvement ideas into a subsequent design task. The analysis provides insight into how the features and sequence of activities can be organized to support problem-solving in a NIC.

Problem statement

Networked Improvement Communities (NICs) are a type of research-practice partnership that bring practitioners and experts together from different contexts to solve a common problem (Coburn, Penuel, & Geil, 2013). NICs use a social strategy of reorganizing research and development activities. This reorganization brings together groups with diverse expertise that are tasked with the iterative testing and scaling of interventions to identify what works, for whom, and under what conditions (Bryk et al., 2015). This collaborative design strategy requires a “reconsideration of when and how in the arc of problem solving this diversity of expertise is best exploited” (Bryk, Gomez, & Grunow, 2011, p.4). Therefore a key task for NIC leaders and researchers is to consider who participates, when, how, and to what effect in solving their common problem.

The question this paper addresses is, *how can NIC activities be organized to create the conditions that transform researcher expertise into a resource for improvement?* The paper draws on qualitative data collected throughout the initiation of PiPNIC, the Personalization in Practice - Networked Improvement Community, that brought together 21 educators from 5 schools around a common challenge in implementing personalized learning. The initial stages of the NIC were organized by the 90-day cycle (Park & Takahashi, 2013), which included four Saturday meetings. The analysis focuses on the features of two activities on the first Saturday meeting, a video club and design task, and the generation, selection, and integration of new ideas for improvement.

The first finding is that the networked video club activity sparked educators to share what they noticed about their own and other schools’ practices. These “noticings” became a resource for the improvement at other schools across the network when they completed a subsequent design task. The second finding is that coupling the networked activity with a design task provided a way for educators to leverage practice-level insights into improvement. These two findings locate when, where, by whom, and how improvement ideas were generated and integrated into solutions. In understanding the NIC as three nested layers of activity (Engelbart, 1992), these findings suggests that network, or C-level, change was motivated by providing access to local, or A-level, practice. These findings affirm the improvement science principle of gaining a deep understanding of local practice and conditions to motivate systems level change (Bryk et al., 2015). In this way, this paper explicates how the improvement structures of a NIC can work to get new ideas into action.

Theoretical framework

This case study relies on three constructs to understand the problem solving process: conferring in personalized learning, video clubs, and the improvement infrastructure of a Networked Improvement Community.

Conferring in personalized learning

Personalized learning is a pedagogical approach that combines new technologies and student-led learning by building flexible learning pathways around learners’ interests, goals, strengths, and needs (Rickabaugh, 2016). One strategy for educators to support these personalized pathways is a practice called “conferring,” which is a regular, data-informed conversation between an educator and student, during which educators capture information about student learning, record and document progress, and co-construct a pathway with the student (Halverson et al., 2015). Educators across different types of PL implementations consistently placed importance on conferring, yet they found little research to support this in a PL context. In the initiation of PiPNIC, the research team selected

the design and testing of conferring protocols as a common problem of practice. When the educators came together for the initiation of PiPNIC, they had limited knowledge of each other's practices or contexts.

Video club activity

To support participants in learning about each other's conferring practices, the first PiPNIC meeting was organized as a modified video club activity. In video clubs, educators share recent videos of their practice then discuss what they notice (Sherin & van Es, 2009), building a shared language of practice as a pathway to improvement (Frederiksen et al., 1998). Video clubs focused on mathematics teaching have been shown to support teacher learning, particularly in what they notice about students' thinking (van Es & Sherin, 2008). But where most video clubs focus bring together colleagues from the same school, we hypothesized that a networked video club design would provide a pathway for educators to learn from other participants in the NIC as they worked to improve the collective impact of conferring.

Improvement infrastructure

NICs combine individual problem solving with an intentional infrastructure to support collective impact, where infrastructure refers to the practices and technologies that support actions. The term "networked improvement community" comes from Douglas Engelbart's idea of learning at three organizational levels, where A-level is the core work of the organization, B-level is work that improves A, and C-level is work that improves B-level work (Engelbart, 1992). As an improvement infrastructure, the A, B, and C levels provide configurations that support the problem-solving tasks. In the context of PiPNIC, A-level activity is focused on the student-teacher interaction in a conferring meeting; B-level activity includes the actions of the school team to improve, such as reflective conversations amongst educators to align their conferring practices; and C-level supports the school team at getting better at how they improve conferring.

Research design

This paper is a design-based case study that draws on a range of data to explore a single phenomenon (the arc of problem solving for the Irving school team) within the design of the partnership (PiPNIC).

Partnership design

On the first day of the 90-day cycle, NIC participants shared videos of their current conferring practice with educators from other schools in a networked video club activity. Participants (21 educators and 10 researchers) were assigned to watch the videos of conferring in four small groups with at least one educator from each school. Having one person from each school in each group was meant to foster cross-school interactions and prevent one person from becoming the de facto spokesperson for their school.

One researcher facilitated each group. First, participants were asked to script the conferring session by writing down what they saw happen, second-by-second, in the conferring meeting. The researcher prompted participants to observe, rather than interpret, what they saw in the video. Researchers then guided subsequent discussion with two open-ended questions: (1) What is the goal of this session? (2) What are the parts of this session, and how long did each part last? The researchers recorded the answers to these questions on their facilitator's sheet. The observers' scripts and facilitator sheets were passed on to the school team to support the following design activity.

Next, each school met with their team to accomplish the design task of how they wanted to improve their conferring. Each team had one researcher to facilitate this conversation with three questions and record their answers on another facilitator sheet: (1) What did we learn from others observing us? (2) What did we learn from observing others' videos? (3) What would we like to do to improve? These questions begin with reflection then task the team with identifying a direction for improvement.

Data collection and analytic approach

PiP researchers, who were designers, facilitators, and participant observers, collected a wide range of data throughout PiPNIC. For this paper, I selected a subset of artifacts to focus on the video club activity and subsequent school team meeting. For the video club, artifacts included 131 pages of scripts (about 20 pages per school) generated in the video club activity and 20 pages (4 per school) of facilitator documentation on the discussion of each video. For the school team meeting, artifacts included 5 pages (1 per school) of facilitator documentation. I also selected relevant portions of the 95 pages of case memos (1 for each school and 1 for PiPNIC) that were written at the conclusion of the 90-day cycle, at which time they were cross-checked with members of the research team. The details of design decisions were verified with participating educators in preparing co-presentations of conferring protocols for three regional conferences.

The analysis looked at this subset of artifacts from two perspectives: locating the generation, selection, and integration of ideas about conferring and identifying the hypotheses embedded in the design of NIC activities. For the ideas, I used inductive coding of the scripts to identify what aspects educators noticed about other schools' conferring videos and triangulated this with what the researcher documented of the discussion. By locating the generation of ideas in the scripts, this supports that the ideas were generated in the context of the video activity, rather than being preconceived. For the features of the NIC activities, I attended to structures that impacted who participated, when, how, and to what effect. Inextricable from these design features is that I both co-designed the organization of activities and managed the data collection during the partnership. Thus an articulation of PiPNIC features is intertwined with my own actions, beliefs, and interpretations. For this reason, I use the theoretical framing of problem solving in NICs to consider features that organize the who, when, how, and to what effect of the NIC activities and ground the analysis in the artifacts generated by participating educators and researchers.

Findings

This section is organized into how the networked video club activity generated A-level insights and how the B-level activity supported the integration of these insights into design decisions. The analysis draws in particular on the actions of educators from Irving School District. Irving is a small, rural district where personalized learning is district-wide, standards-driven reform. The noticing and design decisions of the Irving educators is framed by a district focus on standards and traditional measures of academic achievement.

The first finding is that the networked video activity supported access to A-level, practice-based expertise. For example, when educators from Irving watched the Franklin video, they noticed that the Franklin teachers spoke more than the students. Several educators across video groups brought up the balance of educator and student talk as a rough indicator of student participation. This prompted research team discussions throughout the 90-day cycle about the ratio of educator to student talk as a potential practical measure of conferring. Irving educators noticed in the Lewis video how the high school student led the organization of the conferring meeting, with the Lewis educators primarily asking probing questions. This insight highlighted the conversational moves educators and students make as an indicator of student ownership of the conversation and, by extension, of their own learning process. Irving educators noticed that in their own videos, the teacher dominated conversation prompts in the kindergarten and third grade meetings, but in the middle school conferring meeting, the student was identifying her own areas of struggle and asking for feedback. In this way, the A-level insights were sparked from watching the conferring meetings at other schools in the network.

The second finding is that educators integrated these A-level insights into B-level design decisions during the subsequent design task. Using Irving again as an example of how this played out, Irving educators met with their researcher to reflect on what they and others had noticed about their conferring practice. First, educators from other schools noticed that conferring at Irving was driven by standards-based performance assessments and that educators dominated the initiation and structure of the meeting. They noticed that the Irving teachers would occasionally interrupt the students or even answer the questions for the students. Educators from other schools suggested that Irving educators should "help guide students to discovery," rather than provide answers; that students should do more of the talking; and that teachers should not "take over" the conversation. The Irving educators reflected on the contrast with Jackson High School's focus on conferring as a time for reflection with their students.

When prompted to decide their direction for improving conferring, Irving educators began to envision a goal of a K-12 continuum of conferring, where students would have more voice and choice as they got to high school. They decided they wanted to spend more time "digging deeper into student's thoughts," as one educator described. As their conversation turned to what they would be interested to improve, several different ideas emerged: older students could create their own agenda for conferring; younger students could identify what they wanted to confer about or what came next in their learning pathway; educators for upper elementary and middle school students could integrate reflective questions. The team began to tie these ideas together around a common thread of student ownership of their learning process, and, as students got older, an expectation for students to make more of the decisions about their learning, supported by gradual release of control over the organization of conferring sessions. The A-level insights from the video club directly informed their B-level design decisions.

Discussion

The features of the NIC activities had consequences for Irving educators in generating, selecting, and integrating ideas into the direction for improving conferring. First, the networked configurations of the video club activity and open-ended discussions sparked ideas for improving practice. Notably absent were signs of professional defensiveness when sharing and receiving critique of one's practice (Argyris, 1991). Second, the design task that immediately followed provided a context for considering others' insights, reflecting on their own vision for their

school, and deciding a common direction. From the perspective of the design of the activities themselves, the intentional coupling of these C- and B-Level activities provided a sequence of generating ideas with the networked groups then considering and integrating those ideas with school teams. The integration of ideas from across the network into individual schools' designs legitimates the insights that were generated. In this way, the coupling of the activities leveraged the improvement infrastructure to generate insights as a resource for improvement.

These features have implications for the study and design of NICs more broadly. The use of a networked video club activity provided a strategy to generate practice-based insights; however, it was the *coupling* of this C-level activity with the school team design task that supported schools in generating, selecting, and integrating A-level insights for the subsequent design task. This suggests that attending to the *sequence of activities* of a NIC may itself a critical feature of the reorganization of the problem-solving process.

One limitation of this analysis stems from the use of Irving as an instrumental case. While elements of the Irving case were observed across all five schools, the Irving case provided the most complete case. The presentation of this case thus allows the exploration of the processes involved, though does not intend to argue that this was true for all participating schools nor for any NIC using a video club. The focus on design features of the NIC in analyzing the Irving case aims to identify how particular kinds of actions were encouraged, not determined. Finally, a future question to consider is how problem solving in NICs relies on the interactions of participants from different contexts. Whereas some NICs have been formed with educators from a single district, the analysis here suggests that the networked dimension of the video club was critical for generating new perspectives on current practices.

Conclusion

The question this paper addresses is, *how can NIC activities be organized to create the conditions that transform practitioner expertise into a resource for improvement?* By analyzing when, by whom, and how new change ideas were generated, selected, and integrated into proposed solutions, the paper identifies the organization of NIC activities, specifically the coupling of B- and C-level activities, as providing an improvement infrastructure to support educators in sharing their expertise with each other in a way that was useful in the design of proposed solutions.

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