PD3: A Handheld Observation Tool to Support Instructional Leadership

Mark Chung, William R. Penuel, SRI International, 333 Ravenswood Avenue, Menlo Park, CA 94025
Email: mark.chung@sri.com, william.penuel@sri.com

Abstract: We designed and developed a handheld classroom walkthrough to support data-based decision making about professional development and school improvement planning. We used methods of participatory design to maximize the usability and value of our technology to policymakers, school leaders, and teachers, who had different and conflicting goals and concerns. We describe design decisions that met their constraints and led to a tool with potential for wide adoption, and impact at the local level.

Introduction

An enduring goal of school reform has been to prepare principals to be better instructional leaders in the school (Andrews & Soder, 1987; Bossert, Dwyer, Rowan, & Lee, 1982; Hallinger, Bickman, & Davis, 1996; Spillane, Halverson, & Diamond, 2001). Although scholars and reform advocates differ in their definition of what constitutes instructional leadership, there is agreement that it involves principals taking a more active role in guiding the improvement of instruction in the school. To guide instruction, principals need to know what is happening in classrooms, and one model that has gotten increasing attention among state, district, and local school leaders is a "classroom walkthrough," first brought to the research community's attention by Elmore's (1997) examination of leadership in New York's District 2.

A classroom walkthrough is a brief visit by a principal designed to give an instructional leader a snapshot of what is happening in a teacher's classroom. The focus of the walkthrough can be on teacher's instructional practice, the content they are teaching, or on student engagement. Principals can use the data to determine whether teachers may need immediate coaching to improve instruction (as in the District 2 model), to inform professional development and school improvement planning, or as part of a collective data-based decision making process at the school.

In 2004, the Miami Museum of Science (MMOS) contracted our research team to design a handheld tool and Web site to support principals in conducting walkthroughs focused on mathematics and science instruction. MMOS had observed that few principals felt comfortable making judgments about their teachers' mathematics and science instruction and believed a handheld tool that could prompt principals what to look for when making a visit to a classroom could help them and that data from the tool could also be used to inform professional development decision-making at the school level. Using methods of participatory design (Schuler & Tamioka, 1993), we sought to maximize the value of our technology to policymakers and school leaders by involving them in design. As part of our project, MMOS staff, district administrators, and school leaders and teachers contributed to scenario development, requirements analysis, interaction design, and user testing. In this poster, we illustrate some of the design decisions we had to make along the way and explain why the contributions of stakeholders were so critical in framing the SRI team's discussion of those decisions and in ensuring that the technology could yield valid data about teachers' instructional practices.

Design Decisions We Faced

Developing a Common Understanding of Goals

Our stakeholders – state policymakers, district staff, principal trainers, and former teachers – had different and conflicting goals and concerns. State policymakers were interested in a tool that would become part of a principal's toolkit for becoming better instructional leaders. Principals were eager to have a decision support tool and wanted to give feedback on visits to teachers. Teachers wanted assurances of privacy - that the data could not be linked back to them - and were concerned about accurate representation of their teaching. We worked with the stakeholders to develop a set of personas, or fictitious users to inform our design process, and scenarios of usage involving the personas. To address the privacy issue, we initially proposed not collecting teacher IDs, but ultimately put this decision in the tool for maximum flexibility across schools and districts.

Observing Content: Who Can Be a User?

We felt that being able to matrix instructional strategies with the content taught was important for selecting among subject-specific professional development opportunities. However, there was disagreement among the stakeholders as to whether principals would be able to identify the topic of a lesson reliably. District content specialists had little confidence in the ability of non-subject matter experts to discriminate between benchmarks. They maintained that content experts should observe content and principals should observe instruction. This would create a validity problem for the matrix approach. Principals countered that they have scope and sequence documents to know what to expect each week. Another option for them is to ask the teacher; if visits were scheduled in advance, the principal could ask the teacher what topic was to be covered – but this would not work in unannounced visits. We decided to allow the principals to select the high-level strand as an alternative to selecting a benchmark, since we had consensus that a principal would be able to determine the strand with sufficient accuracy.

Selecting Displays of Data

We presented a focus group of retired principals with a task that asked them to decide on teacher professional development opportunities given a variety of data displays we were considering including in the tool. The participants wanted the display to be simple and easy to use with no memorization, and said that the time they could spend using the application was extremely limited. They wanted the tool to indicate deficiencies in professional development and indicate a course of action. Given the low number of visits anticipated, it was unrealistic to expect the tool to do an analysis, and prescriptive use of the tool was beyond our scope of work. Instead, we addressed the desire for simplicity and a minimal number of visits required by repositioning the tool as part of a larger data collection process for school improvement and limiting the number of representations to two: box plots and scatter plots.

Discussion

We argue that our project illustrates an important general theoretical principle that should guide learning sciences research if it is to have impact at the local level: stakeholders' own goals, expected uses of designs, and constraints on their time must all be considered when developing tools intended to have a positive impact on the educational system. Future research using this tool could investigate its direct effects on principal leadership practice and its indirect effects on classroom instruction and, more distally, student learning.

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