Global Networked Learning: A New Form of Collaborative Action Research

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Purposes

Connecting educational research with practice on a wide scale is an essential process in effective educational systems. Supporting inquiry toward continuous improvement is especially important for 21st century learning which emphasizes critical thinking, complex communication, adaptive problem-solving, and teamwork over traditional education's focus on delivering and reproducing facts and formulas. Collaborative action research that engages educators from universities and schools in efforts that both promote and study educational improvement is a rich strategy for conducting this kind of inquiry. Networked technologies offer new opportunities for supporting such collaborative action research. They enable participants to overcome logistical barriers by creating communication channels that bridge distance and time, make their thinking visible, facilitate review and revision of draft products, promote collaborative construction of knowledge, and create organized searchable archives of products.

This paper reports on the use of networked technologies to support a year-long collaborative action research project, involving researchers at WIDE World online professional development program based at Harvard University Graduate School of Education and a group of practitioner researchers based in a range of schools and educational agencies in several countries[1]. The goals of the project were three-fold: study the process and effects of online professional development structured by specific research-based educational frameworks, refine a model of systemic educational improvement that includes online professional development, and devise a new form of collaborative action research to support such work.

Theoretical frameworks

Several frameworks guided this work. The content and process of the online professional development programs were designed deliberately with research-based models of

[1] Participants in the project included A.B. Paterson College (Australia); Barker College (Australia); Huntingtower School (Australia); Jordan Education Institute (Jordan);6 Kentucky Public Schools (USA);3 New York City Public Schools (USA); Ngee Ann Secondary School (Singapore); Victoria School (Singapore). We acknowledge administrations of these institutions creating all the supports necessary for the successful completion of this study.

Teaching for Understanding[1] and Leading for Understanding[2] . These frameworks highlight strategies for fostering understanding as an adaptive performance capability that is developed and demonstrated through rounds of applying knowledge effectively in everyday situations with supportive coaching. They emphasize the role of teachers and leaders as coaches who model effective feedback strategies and cultivate the distribution of authority and shared responsibilities for teaching and learning among all members of learning communities.

Research questions focused on the process and effects of these online professional development programs in promoting improvement in professional performance, student achievement, and systemic improvement in schools. The study was structured by a theory of action about Systemic Educational Improvement (Fig. 1) distilled from ten years of experience with online professional development for educators and an extensive review of research on improving schools.

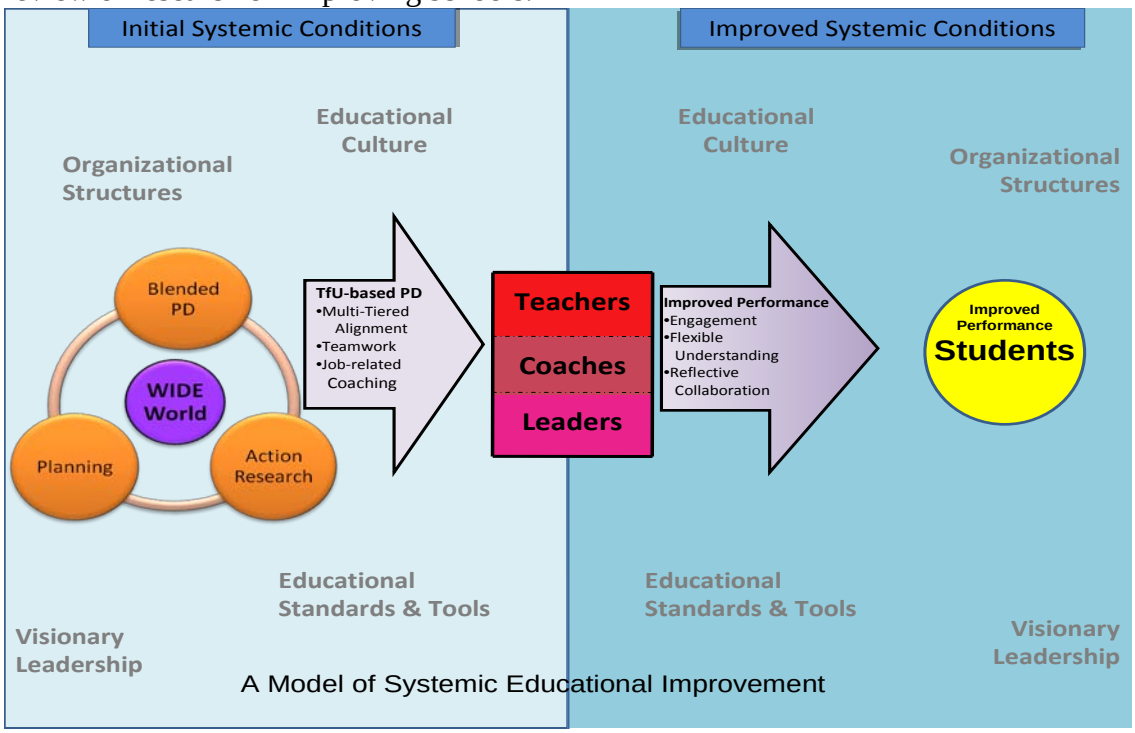

Fig. 1

The study was guided by a conception of collaborative action research[3] as a form of inquiry in which participants negotiate meaning throughout the research process. The university-based research team took the lead in proposing research questions, a conceptual framework, methods and a schedule for conducting and analyzing the work, but the school-based participants were consistently encouraged to amend and adapt these suggestions to suit their own purposes and local conditions.

The use of networked technologies was based on years of experience in fostering the development of professional learning communities through online courses that emphasize co-construction of knowledge through coaching and teamwork.[4]

Methodology

A team of researchers from WIDE World, the online professional development program at Harvard Graduate School of Education guided this study. In September 2008, they outlined goals and a proposed process for the study and described the work that participating organizations would undertake. Long-term clients of the online professional development program were invited to submit an expression of interest, including a commitment by a local researcher/liaison. Eight organizations submitted the initial proposal and sustained their commitment throughout the ten-month study: three schools in Australia, two schools in Singapore, a group of three schools in New York City, an educational development organization in Jordan working with a network of innovative schools, and a program sponsored by the Kentucky Department of Education.

The WIDE World research team developed online environments to help guide and coordinate the study. They used their organization's online course platform as a means for collaboratively planning and discussing the research with case study participants. This platform included a threaded discussion area where participants exchanged ideas and puzzles through each phase of the research. The university team also developed a wiki where each participant had space to assemble and post interim reports, a final report, and related materials about their own case study. The wiki also included a site for participants to discuss and critique the evolving Systemic Educational Improvement Model.

The study used mixed methods to analyze the process and effects of the online professional development program and its educational frameworks in the schools. The local researcher in each case study site conducted follow-up surveys with teachers who had participated in the online courses, held individual and focus-group interviews with teachers and leaders, surveyed students, and collected teacher portfolios, including lesson plans, examples of student work, and classroom observations. Some of these research instruments had been tested in previous evaluations of the professional development program; others were developed specifically for this study.

Most research instruments—interview and focus group guides, observation protocols, surveys of teachers and students-- were proposed by the WIDE World researchers. However, local researchers at each site collaborated online in developing and refining the tools and analysis strategies that best suited their own action research needs and contexts.

Data sources

A total of 251 teachers, 24 leaders and 969 students from three schools in Australia, five schools in Jordan, two schools in Singapore, six schools in Kentucky and three schools in New York City took part in the study. At each research site, data sources included interviews, teacher and student surveys, teacher portfolios and observations, along with artifacts of student, teacher, leader and organizational work. Analyses were guided by

the Systemic Educational Improvement Model, which was elaborated into a code book to structure organization of qualitative data and reports on findings. Action researchers at each site shared their data and ongoing analyses online so that reflective networked learning supported them and the Harvard-based research team in collaborative interpretation of findings.

Results

The logic model guiding analysis of this study posited that online professional development, supplemented by onsite support and action research, would generate impacts on teachers and leaders. The impacts were expected to be the improved engagement, understanding, and collaboration among educators, which would lead to secondary impacts on student performance. The model assumed that participants would be influenced by systemic conditions, including educational tools and standards, leadership, organizational structures, and educational culture. Over time, the model assumed that participants would gradually begin to influence these same systemic conditions in ways that promote systemic improvement, defined in terms of the frameworks for teaching and leading for understanding.

Among the important cross-cutting themes from the individual case studies was the importance of a common language as provided by the Teaching for Understanding and Leading for Understanding educational frameworks. The elements, criteria, and terminology of these frameworks was essential in promoting focused and precise conversations about improving instruction and leadership across levels within the case study organizations and among all the project's participating researchers.

Impact on teachers:

Across all cases, the study demonstrated that the professional development programs and educational frameworks deepened teachers' professional understanding and engagement in their work and enhanced their involvement in collaboration with colleagues. For example, one of the teachers from a Jordan Education Institute school noted: "Clarifying the understanding goals to my students helped me appreciate their role in the learning process and I now work ***with*** rather than ***for*** my students, which has enhanced my student-teacher relationship". In the Ngee Ann secondary school in Singapore the action researcher reported, "The majority (70%) of participants maintained that Teaching for Understanding (TfU) course was helpful in their teaching and all agreed that TfU terminology has assisted them in reflecting on their own approaches to teaching as well as that of others." The researcher from A.B. Paterson College in Australia noted, "One of the main goals of the adoption of TfU within the College was to assist the teachers to engage and cater to the needs of the individual students within their classes. The reflection logs reveal that the teachers apply their lesson planning flexibly. There were moments where each of the teachers adjusted the implementation of their initial lesson planning according to the needs of the students in the classroom or responded to suggestions from students about the best way to proceed during lessons."

Impact on leaders:

The leaders in the study explained that the online courses they took helped them articulate their educational vision and undertake strategic action steps in their schools with a coordinated focus on the improvement of instruction and student performance. New York PS69, for example, enhanced vertical alignment of curricula by involving cross-grade teams of teachers in learning how to differentiate instruction. Another New York principal acknowledged that her leadership style shifted from "dictatorship" to "understandingship," by consciously promoting transparent communication practices within her school. Several leaders also indicated that their schools developed systematic ways to collect, analyze, and report student assessment data to guide data-driven school improvement, thereby helping leaders address external accountability requirements. For example, a principal in one of the Kentucky schools reflected, "I am much more focused on understanding versus learning and my look-fors have changed to performances of understanding. I also think more intentionally on what data we have and how to present it." Effective leaders used online courses to cultivate a collaborative professional learning community that spanned boundaries within and across schools. By actively participating in online professional learning with their colleagues, leaders became knowledgeable and inspiring advocates for change who modeled risk-taking practices in constructive learning environments and provided ongoing support for their teachers.

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Impact on students:

Tracing the indirect results of professional development to identify impacts on students is notoriously difficult[5], but participants in the research made this effort. In all case study sites that surveyed students systematically, the majority of students whose teachers completed online professional development positively evaluated their own engagement with and understanding of classroom work. For example, the researcher at Barker College in Australia reported, "In a percentage analysis of 282 responses, students strongly agreed or agreed about the importance in the understanding of learning goals, of demonstrating greater competence and an ability to apply knowledge creatively and appropriately in a range of circumstances: item 4 "It is important to me to understand what I study in this class" (91.7%), item 9 "I usually understand the goals for the lesson and why we are studying this material" (82.3) and item 12 "I understand the material in this class pretty well" (84.4%)." The findings from student surveys were confirmed by their teachers' reflections and by external classroom observations collected in teacher portfolios. The case study researcher in Huntingtower School in Australia conducted surveys with students involved in lessons that teachers deliberately redesigned to reflect the principles of Teaching for Understanding they learned in their online courses. She compared these results with surveys from students whose teachers had not redesigned their lessons in this way. Students in the lessons redesigned with Teaching for Understanding reported greater engagement, understood the goals of the lesson, believed they could be successful, and thought about the ideas they learned even after class, significantly more than students in the non-Teaching for Understanding lessons.

Impact on systemic conditions:

This study demonstrated that the impact on school systems of the educational frameworks, as mediated by online professional development, was a gradual process. Participating sites called this work a "journey" and noted that the school which had been involved for

ten years was much further along in building a coherent, supportive context than schools which had been engaged for only a year or two. Furthermore, conditions were usually less supportive in settings where leaders were not directly involved, than in schools where leaders actively learned about teaching and/or leading for understanding. Most sites where teachers and leaders were engaged for a year or more exhibited the establishment of visionary and distributed leadership by developing a common language for school improvement (e.g., Teaching for Understanding) and sharing leadership responsibilities to accomplish system-wide improvement. Several schools also reorganized their educational structures, e.g, created common time and space for coherent professional development activities including online course work and collaborative planning. Some sites applied ideas from the online courses to modify educational tools and standards (e.g., a reporting system for periodic student assessment, a shared template for designing curriculum units). Lastly, most sites in which teachers and leaders had studied together for a year or more reported a positive shift in the educational culture such as increased engagement and a collaborative culture of ongoing inquiry among teachers and leaders.

Significance

Coherent, multi-level support for systemic educational improvement, affecting classroom practice, distributed leadership, and educational culture, is exceedingly difficult to sustain and to study. This project provides promising evidence of the power of online professional development to promote systemic educational improvement in schools and other educational systems. It demonstrates an approach for engaging teachers and educational leaders in professional learning communities that sustain coherent efforts to improve instruction and student performance.

The study also demonstrates the value of online collaborative action research to illuminate and enhance the process and effects of sustained, coordinated systemic educational improvement. The research instruments and methods, including the use of networked technologies, are adaptable to other research questions and contexts.

Overall, the study illustrates the power of networked learning for sustaining collaborative action research that crosses cultural borders by creating a shared language of inquiry and building international professional learning communities of educators. This form of inquiry enables school-based and university-based researchers to negotiate intellectual authority and share responsibility for teaching and learning in ways that mirror and promote the process of teaching and leading for understanding.

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