

Taking reform to scale in the K-12 public schools of a large urban district in South Florida, United States, applying the inquiry cycle supported on the principles of action learning and the model of 'train-the-trainer'.

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Title of the Proposal

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Abstract

Textbooks in the United States today are expensive, rapidly obsolete, of static and vapid content, and increasingly irrelevant to quality teaching and learning in the technologically rich environment of the 21st century. The purpose of this study, which was conducted during June and July 2005 in a large urban district in South Florida, was to determine the decision making points that facilitated or impeded textbook removal, and the district-wide implementation of digital learning environments in the public schools. Underpinning this objective was the conviction that the availability of technological tools that provide access to information from any place, at any time, can offer the opportunity to transition to a highly integrated digital network featuring widespread professional development and a curriculum that reflects the needs of modern learners.

This report presents the findings of the study and goes beyond the specific issues of textbooks and technology to outline a process, which can make large-scale reform possible for innovations or initiatives perceived as important to the community. This process is founded on the concept that people are motivated by the search for meaning and purpose, and that active involvement in the development of a common educational purpose empowers and motivates individuals and their organizations to develop collegial, challenging learning environments that foster high expectations for both teachers and students. From the findings of the study, it is posited here that this process is made possible through inclusive vision building at the district level that requires the involvement of all stakeholders. This process is further facilitated at the school level by the involvement of all staff and the active participation of students and parents in the application of an ongoing cycle of inquiry supported by the principles of action learning and highly focused professional development for both principals and teachers.

Rationale and Background

At the beginning of the study, a clear sense of frustration was evidenced by district leadership with regard to difficulties encountered in taking to scale experimental programs that were perceived to have been successful in individual schools. Partial responsibility for this lay in the widely diverse profiles of the schools themselves exacerbated by demographic, sociological, cultural, economic, and professional development conditions or constraints. As the study progressed, it also became clear that there was a lack of unified vision and leadership to the project, and efforts to bring together the different stakeholders responsible for the implementation of digital learning environments had not met with success. Compounding the problem was the acknowledged widespread dependence of teachers on textbooks, the constraints imposed from central office on change programs that were not directly aligned with the current state's high-stakes testing system, and strong resistance in parts of the community itself.

Data Sources

This study was conducted in a large, ethnically, culturally, and racially diverse urban district in South Florida, U.S.A. Interviews were conducted with key stakeholders and surveys were distributed to teachers. The sampling frame for this study was purposively designed to accommodate a wide variety of participants. District personnel, school board members, and university faculty were included in order to establish varying perspectives and glean possible solutions to the problem. Within the general framework of heterogeneous sampling, the main objective of which is to sample the ideas of multiple stakeholders as a means of gaining maximum insight, additional sampling techniques were used to select participants within specific stakeholder groups. School board members, university faculty, and key district personnel comprised an expert sample. Expert samples are assembled to ascertain the views of those with specific expertise whose insight is viewed as key to the process. The sample of school principals was obtained by means of a snowball sampling technique in which participants were referred by

other participants who met the criteria for participation. This process was initiated through contacting principals, typically doctoral students, with a known willingness to participate in the research process. Convenience sampling was used to select teachers for participation in a technology survey. This strategy was employed due to limited availability of teachers during the summer months.

Method

A multilevel variant of the mixed methods design in which qualitative and quantitative data were collected in a concurrent manner was utilized to answer different aspects of the research question. Both types of data were subsequently analyzed and the results of each compared to make convergent and/ or divergent inferences. The qualitative portion of the study utilized instrumental case study analysis in which participants were purposely chosen to achieve diversity of opinion and to establish varying perspectives and glean possible solutions to the problem. The major themes of the present study were identified as those ideas with the highest mean responses from a majority of the interviewees. The quantitative portion of the study employed an exploratory factor analysis to ascertain the structure of teacher attitudes related to the problem under study. Relationships among the various items on the teacher's survey were used to identify the existence of underlying dimensions or factors among the attitudes measured. These dimensions, which are relatively stable and independent of one another, were identified through a holistic examination of the items that comprise them. The strength of perceptions was then gauged through examination of the item means. Based on an analysis of results from interviews with key stakeholders, the results of teachers' attitudes toward technology and the major factors comprising the decision making points affecting the transition to a digital learning environment, were revealed.

Results and Conclusions

At the district level it was clear that much time and effort had been invested in the development of a coherent strategic plan including a District Educational Technology Plan designed to set a clear direction for the implementation of IT projects over the next five years. Implemented effectively, the plan would provide for an appropriate digital infrastructure to be developed that would support the successful removal of textbooks from the district's classrooms. However, findings in this study revealed that the plan had not been communicated adequately to the schools and community at large. This weakened the plan's present and projected impact. Findings indicated the perception that initiatives were developed by central office staff without the collaborative involvement of major stakeholders in the development of a district-wide vision. Evidence of this was found at different levels within the district itself, confirming that the overall plan may not have been effectively communicated. Given that key personnel such as school and district leaders were only partially apprised of what was occurring in the district then it could be assumed that only a very small proportion of the community was made aware of the new model being proposed. Certain interest groups actively resisted the removal of textbooks because the equitable distribution and use of textbooks had in the past represented equity and quality of education. These groups remained unaware or unsupportive of the new model of education that the district wished to promote. This particular problem had powerful social and political connotations that affected a district characterized by highly diverse socio-economic groups. Well-intentioned and worthy district initiatives to level the digital divide may have been perceived by many to be a patronizing attempt at charity, which showed little understanding of the culture and economic realities of the people they were intended to support. In the current high-stakes accountability environment, assessment of student learning occupies an important place in any strategic education plan. While there are local examples that laud an increase in student engagement made possible through a digital learning environment (Department of Research Services, 2004), engagement does not necessarily equate to learning gains.

Furthermore, standardized assessments geared toward earlier models of learning may be unable to evaluate new millennium skills (Partnership for 21st Century Skills, 2002). New assessments that allow students to provide evidence of information and technology acquisition have yet to be developed. Research indicates that transition to a digital learning environment requires coherent professional development initiatives in order to facilitate the necessary paradigm shift (Martin, et al., 2003). It was therefore unexpected that the present study would reveal a relatively low frequency of interview comments related to the issue of professional development. Also suggested was that the current training program designed to prepare teachers and principals in technology, was inadequate to take this transition to scale. Additionally, skills acquired during professional development were not being successfully transferred to classroom practice. If only a small proportion of educators are able to receive training in this area annually, is highly unrealistic for the district to expect to reach the goals envisioned in the technology plan. Other professional development initiatives were not mentioned. Younkin (2005), however, found that Broward Virtual University had the capacity to train four times as many participants as DETA within the allotted three-year time period from 2002 – 2005. Findings of the present study also indicate that the district has been either unwilling or unable to establish productive links with colleges and universities. Hence, the district has yet to determine an appropriate method with which to transform the schools from a textbook dependent culture to a digital learning environment. Such a vehicle should take into account the necessity to tailor solutions to individual school sites.

Limitations

The brief time span available for the study, given that it was conducted during the summer recess, made it difficult to establish a complete and objective picture of the nature of the problem addressed. The teachers' survey sample was not as large as the team had hoped. It was conducted at summer professional development programs, and the respondents were selected in

random fashion, with no regard to diversity. The teachers that attended professional development workshops were there by choice and therefore may have been especially committed. The participating principals were doctoral students and may therefore, comprise a more technologically literate segment of the administrative ranks. As such, the principals interviewed may have been positively biased toward technology use in schools. Due to a shortage of willing participants, schools were not stratified according to socio-economic status or according to level of sophistication (low, medium, or high) of technology implementation. Such non-representative sample bias might have had a bearing on the objectivity of findings. Finally, the study did not address members of the public in order to ascertain the presence of resistance to the removal of textbooks from the schools in the district.

Recommendations

The findings of this study showed that a number of effective initiatives had been successfully implemented in the district, but that leadership, political, socio-economic, and professional development factors were conspiring to impede their widespread application. On the basis of the analysis of the findings and in order to make possible a seamless, highly integrated digital learning environment that may have a positive effect on the achievement of all students, the research team made a series of recommendations. The research team first recommended that the district leadership devise an effective district-wide vision building initiative, intended to solicit and respond to the needs of the entire community, including minorities and the economically disenfranchised. Secondly, the group recommended the system-wide expansion of the current problem solving and decision-making initiative that had been piloted in 13 schools in the district at that time, known as the inquiry cycle of the Lucent Learning Communities (LLC), supported on the principles of action learning. In the specific initiative on technology training, the team recommended Intel's Teach to the Future "train-the-trainer" model of technology professional development which addresses teacher training at the site level, beginning with the

media specialists, thereby enabling training to encompass specific issues pertaining to site locations. These recommendations were intended to provide a framework to ensure that each school would have the freedom to develop a unique vision and action plan which though aligned with the district's major goals, would be tailored specifically to the needs and aspirations of that particular community.

Implications

This report offers recommendations to facilitate the district's transition to an integrated, technologically supported learning environment responsive to the demands of the twenty-first century that will provide access to a quality education for all. Research from other districts that have undergone successful transitions provides evidence that learning can improve in this new environment. However, additional studies are necessary to address the reason for drops in standardized achievement test scores during transition to a digital learning environment. Research into ways to communicate a vision for twenty-first century learning to community groups is also needed. Finally, studies need to be conducted to address the causes of organizational impediments known to exist.