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ABSTRACT

This paper presents a case study describing the collaboration between a state university, a local school district, and Dialog Information Services, Inc. that was designed to include the use of online searching in a social studies methodology course and to encourage school curriculum reform in the area of technology by integrating online searching into the elementary social studies curriculum of a fourth-grade classroom. Two assumptions guided the research: (1) that significant changes will have to occur in both preservice and inservice education for computers to become integrated into the school curriculum; and (2) that collaborative partnerships between universities and schools can facilitate curriculum reform in both institutions. Data were gathered from the classroom teacher and the computer resource teacher at the beginning of the semester to provide baseline information; a taped interview was held with each teacher at the end of the semester; response journals were used weekly by the students; and a university professor acted as a participant-observer providing data through a personal journal. A discussion framed by key elements identified as necessary for successful collaborative efforts and a summary of project outcomes, both successes and failures, complete the document. (Contains approximately 20 references.) (LL)

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A CASE STUDY IN COLLABORATION FOR CURRICULUM REFORM

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A Case Study in Collaboration for Curriculum Reform

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In this paper the authors describe and analyze their experience doing a case study in curriculum reform designed to integrate the use of online search technology within the social studies curriculum of a fourth grade class and within a university methodology course. Our work is based on two assumptions: 1) that significant changes will have to occur in *both* pre-service and in-service education for computers to become integrated into the school curriculum (Ognibene and Skeele, 1990); and 2) that collaborative partnerships between universities and schools can facilitate curriculum reform in both organizations.

Much has been written in recent years about partnerships for curriculum reform between universities, businesses, and schools. However, the focus of these reforms typically goes in one direction - toward changes in the public school. We instituted this pilot project to make changes in two educational settings - the school and the university.

Background

In Spring 1989, a departmental decision to integrate technology within all the elementary methodology courses at San Jose State University prompted the education professor to explore the use of technology within her social studies methodology course. Given the power of online database searching to foster critical thinking skills and the ability to locate and use information effectively (Ehman and Glenn, 1987; Hodges,

1985), she decided to explore its application within the social studies curriculum. In order to discuss the use of online searching in the classroom accurately and confidently, she needed to acquire first hand experience doing online work in a classroom. This need led to the formation in Fall, 1990 of a university/school/business partnership to bring an online database search pilot project to an elementary school classroom. What follows is a description of this project, an analysis of the results, and suggestions for future efforts.

Project description

This curriculum reform effort was conducted in Fall 1990 during a two-hour time block on fourteen consecutive Tuesdays. It was conceptualized as a "mutually collaborative arrangement between equal partners working together to meet self-interests while solving common problems." (Sirotnik and Goodlad, 1988). The partnership included the state university, a local school district, and Dialog Information Services, Inc. Our goals for this endeavor were the following:

- 1) to reform one part of the university teacher education curriculum to include the use of online searching in a social studies methodology course; and
- 2) to encourage school curriculum reform in the area of technology by integrating online searching into the elementary social studies curriculum of a fourth grade classroom.

The professor was in charge of preparing and implementing all class lessons, with assistance in curriculum planning from the fourth grade teacher. The resource teacher teamed with the professor, working with the students when they conducted their searches in the computer laboratory.

Data sources to assess project

We gathered information on the progress and outcomes of this collaborative effort using triangulation. Data were gathered from the classroom teacher and computer resource teacher at the beginning of the semester to provide baseline information regarding their expectations for the project. A taped interview was held with each teacher at the end of the semester to ascertain their reactions to the project and their plans for the future use of online searching. Response journals were used weekly by the students to track their response to doing online searching and working with each other and "outside" people.

Finally, the professor acted in the role of participant-observer, providing data through a personal journal kept during the semester. In this journal she recorded her reactions to, and her perceptions of, the events occurring during the partnership.

Analysis of the project

Synthesizing from the work of De Bevoise (1986), Lieberman (1992), Johnson, Johnson, and Holubec (1992), and McGowan (1990), we identified six questions which reflect key elements necessary for successful collaborative efforts.

- o How much and what level(s) of administrative support are available?
- o Are there valued rewards for all participants?
- o Are complementary areas of expertise represented within the partnership?
- o Are project expectations clear and realistic to all?
- o Are there "boundary spanners" among the partners?
- o Are all partners committed to achieving project goals?

The following is an analysis of the project using these six questions to frame the discussion.

How much and what level(s) of administrative support are available? A collaboration needs active backing by the leadership from each organization (De

Bevoise, 1986, McGowan, 1990). These relationships often evolve out of successful previous experiences (Houston, 1979). Support may include (1) supplying resources (eg. equipment); (2) providing planning time and training; and, most important, (3) providing recognition.

For our project, we were fortunate to have in place a strong rapport with the school district because of their prior involvement with the university teacher training program. This relationship afforded us greater access to, and credibility with, the district administration. In Spring 1990 we spoke first with the Assistant Superintendent of Instructional Services to see if the district was interested in piloting a collaborative project to better use technology within the school curriculum. We found immediate enthusiasm for our plan. Within one month the Assistant Superintendent had secured a school site and set the stage for us to meet with the principal.

District level support also helped us meet our resource needs. During the first week, we found that the computer lab did not contain proper telecommunications equipment. Without administrative support, this problem might have delayed or even cancelled the project. Within two days of the request for a new cable, however, a telephone repair person appeared with the proper cable to connect the computer's modem to the outside phone line.

At the school site level, the principal also lent her support. First, she released the participating teachers to attend a day-long Dialog training workshop and later she provided another half day so the team could plan social studies lessons together. The principal also visited the class several times during our lessons to watch students

conduct online searches, acknowledging and praising their efforts.

In addition to school support, the project was encouraged by administrators at Dialog and San Jose State University. The Department Chair of the Teacher Education Division authorized the professor to use the release time mandated by a California State law SB 813 to participate in this project. The Dialog administration contributed a one-day workshop for partner teachers and a semester of free online connect time to the school.

Are there valued rewards for all participants? For individuals or groups to be willing to spend the time and energy necessary to make a partnership work, they need a clear idea of the benefits (De Bevoise, 1986, McGowan, 1990). Each participant must perceive that the outcomes will be meaningful and worth the work which goes into a successful collaborative effort. In our initial project discussions, we discussed the benefits for each team member.

For the district. The Assistant Superintendent of Instructional Services emphasized the need to infuse more technology into the classrooms. In this district, like many others in California, the typical computer experience for children is forty-five minutes per week in the computer lab working on computer-assisted software programs. She recognized that the students in her district needed to expand their computer use, even beyond school walls. She also saw the project as an opportunity for some district faculty to obtain free in-service training and resources to achieve that end.

For Dialog Information Services, Inc. the project provided an opportunity to test their CLASSMATE program with fourth graders, obtaining data on curriculum needs,

most popular databases, and problems working with elementary age students. A promised videotape would also document the experience for other users.

The school principal expected two rewards. First and foremost, she hoped that some of the classroom teachers would begin to integrate technology into science and social studies. Additionally, she believed that this project would provide positive recognition for her school within the surrounding community and the district.

The participating classroom teacher was interested in "...extending experience with computers in her fourth grade curriculum beyond skills practice." In addition, she hoped to learn a little more about computers herself.

The computer teacher was excited about exploring online searching. Although she had never used telecommunications to support classroom teaching, she stated her goal as "(wanting) fourth graders to access the information using technology and utilize it to expand their social studies knowledge." Additionally, she perceived the project as a way for her to expand her own technology skills with the support of more experienced people.

By participating in this project, the professor was able to fulfill a California state requirement to teach at least one semester every three years in an elementary school classroom. She also used this project to obtain important data about what instructional sequence and materials were necessary to teach elementary age students how to go online and conduct searches. With this information gained from first-hand experience, she could then revise the curriculum in her preservice social studies methodology classes and perhaps encourage other instructors to do the same.

Are complementary areas of expertise represented within the partnership?

Although the formation of heterogeneous groups is one of the pillars of cooperatively structured learning (Johnson, Johnson, and Holubec, 1992; Kagan, 1992), it is not given much attention in the literature on university/school/ business collaborations. However, this factor is particularly important when technology is involved because of the diverse skills needed to integrate technology within the ongoing curriculum.

In our project, each member of the group brought a distinct set of skills to the endeavor. The professor, while not technologically sophisticated, had extensive experience in curriculum development, particularly in the social studies, and elementary classroom teaching experience.

The Dialog partner, of course, had significant expertise in the use of, and training for, online searching. She had also previously helped teachers implement online searching at the middle and high school grade levels.

At the school site, the classroom teacher had an established social studies curriculum into which we could build a technology component and the computer teacher was comfortable with computers and had first hand knowledge of the students' prior computer experiences. Fortunately, the computer resource teacher was not intimidated by assuming the role of learner of the online search process nor by team teaching with the university professor. Thus, the participants created a web of expertise which supported the instructional goals.

Are project expectations realistic and clear to all? All partners need to understand the goals of a project, their specific roles, and the tasks they will perform.

Administrators must also demonstrate a commitment to short and long term project goals. The principal is more likely to sanction a project if he/she knows that the superintendent is interested, and teachers are more likely to follow through if they know that the principal encourages and supports the program.

To define the responsibilities of each participant in our project, we met with the teachers in the summer prior to its implementation. At these meetings we brainstormed where we thought online searching would enhance the planned curriculum, and we discussed who would teach the lessons and when they would begin. In addition, we established a timeline for curriculum follow-up and added training.

Are there "boundary spanners" among the partners? Boundary spanners are those who "are comfortable and seen as legitimate in both schools and universities" (Lieberman, 1992). Having two members of the partnership who were boundary spanners was important in getting our project started. Since the setting was an elementary school, we as outsiders from the university and business, needed to be perceived as credible within the classroom with students. It would not be enough merely to give suggestions. As a student teacher supervisor, the professor had worked in this particular school and had earned the respect of the teachers. Thus, she was a "known quantity." Her willingness to teach the class and be observed by the other teachers added to her credibility.

The Dialog consultant, also formerly a classroom teacher, was comfortable working with the students as well. Her familiarity with teaching issues and the school environment facilitated her acceptance by the school staff. When technology issues

arose, she was the person called. Indeed, she not only helped troubleshoot technology problems, but also identified additional resource persons to help. She was even able to lead the class in performing initial online searches on her portable computer when the school's equipment was not working.

Are all partners willing to persist? Any partnership requires persistence by all participants (De Bevoise, 1986). When technology is a component, endurance becomes increasingly important because the teacher is wrestling not only with curricular decisions, but also almost inevitably, with the frustrating "glitches" that occur. While commitment should be addressed in the planning stages, it must be reinforced throughout the project. It took us over two months from the project's start to connect the school's computer to Dialog. During this time all partners communicated by phone or met in person almost daily to alter lessons because of these technology problems. As the semester progressed and the technology-related issues were resolved, curriculum challenges surfaced. Could we use online within a unit about Thanksgiving? How would we follow up on the current events articles about earthquake preparedness that the students were reading online? Could we build online searching into their reports on planets? Because of the collaborative structure no one person had to have all the answers. All partners continually worked together, providing the support network necessary for innovative work.

Summary of project outcomes: successes and failures

Among the project's successes are the following. At the university level, our collaborative effort at the elementary school had the desired impact on the participating

teacher educator's preservice social studies methodology classes. The project resulted in a videotape training program which gives teacher candidates a concrete idea of what technology-mediated teaching looks like in action. The professor also developed a curricular sequence which she now shares with her students. Student comments at the end of one semester indicate that her approach to introducing online search work within the social studies methodology course is having an effect:

"Wow! What a great resource! Online searching gets students motivated and enthusiastic about their topic. Research can be the most difficult and frustrating part of writing a paper and this technology gives immediate feedback and results!"

"I feel that online searching should be incorporated into classrooms for three reasons. First, because I feel that students need to experience technology. Second, because online searching may be the only exposure students have to computers. Not all students will have a computer at home. Third, because online searching lends itself to a multitude of content areas."

"Reader's Guide is out--online searching is in. This media greatly increases a student's ability to gather information."

In addition, Dialog received the benefit of having a training videotape of their CLASSMATE program in action and data to support the use of online searching at the upper elementary grades. This strengthened their inservice teacher training program.

At the elementary school level, the computer resource teacher, with her technological world expanded, broadened her use of the modem by subscribing to the National Geographic Kidsnet program. She told us she would never have subscribed without having been introduced to the use of a modem for online searching.

The fourth grade children also received the benefit of learning about online

searching and meeting new people. The opportunity to interact with a university professor and the Dialog partner considerably broadened their view of the world and their place within it. The following samples from their journals emphasize the impact of the experience on them.

Today was a great day. We went in the computer lab. But we did something different today. We learned about Humphrey the Humpback whale. We called up to Palo Alto. It was great.

...I want to write some more about computers. I think I am getting to like computers a lot so I am going to write something more...

I used to not like to use computers but now I do because I learn more than I used to.

We attribute the above successes to the presence of boundary spanners, initial district/school, university and business administrative support, perceived rewards by the participants, and the presence of complementary areas of expertise. Given the difficulties of working with technology and the lack of curriculum guidelines for doing online searching, this project would never have lasted the semester without the presence of these factors.

The project, however, was not a complete success. First, although the administrators supported short term goals, the team fell short in addressing, and therefore, accomplishing long term goals. With too many competing projects, the principal's active support diminished after the Fall semester, even though she spoke with us about wanting online work to continue. The only additional recognition she gave to the project was to invite the Dialog partner and the professor to share project accomplishments and show the videotape to the rest of the faculty. Unfortunately, the

principal did not provide any explicit expectations to the faculty about continuing and expanding online searching at the school, nor did she set objectives for its use within the school program. In retrospect, had we explored the principal's intentions more concretely in the planning stage and encouraged her to make the need for long range goals explicit to her faculty, online searching might have been institutionalized at the school.

Second, lack of clear expectations proved to be a problem. The professor, responsible for teaching online searching to the fourth graders each week, had expected the classroom teacher to make curriculum suggestions for weekly online search questions, and most important, to follow up during the week with additional search-related activities. This did not happen. The classroom teacher believed her responsibility was to outline the social studies information she planned to cover and react to ideas presented by the rest of the team. Unfortunately, she continued to perceive this work as an "add-on" and so did not provide any follow-up assignments during the week. Because she did not participate actively enough during the project (e.g. teach any lessons) nor change her fundamental belief about the importance of technology to the social studies curriculum, she did not continue online search work once the professor left.

Third, while the computer teacher saw other applications for her new-found telecommunications skill, she did not continue with online work in the lab. During the project, she had indicated great interest in teaching her GATE students how to search online and in using them as leaders to mentor other students. However, when we

interviewed her in the spring, she explained that she did not continue because online searching required too much time to plan lessons. Her reaction highlights the necessity in online search work to have the classroom and computer resource teacher working together. Online searching, perhaps more than most other computer applications, requires the classroom teacher to contextualize the search within the ongoing curriculum while the computer resource teacher provides the technical expertise. In our case, without sustained interest from *both* teachers, nothing further happened.

In summary, while we were very successful in reforming the methodology curriculum at the university, we did not achieve sustained curriculum change at the school site. We believe that consideration of the questions we used to frame our analysis can act as a guide for others interested in planning and implementing partnerships for curriculum reform. These questions, when asked at the beginning of collaborative efforts and revisited periodically by the team during the project, may help increase the chances for success in other curriculum reform efforts.

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