DOCUMENT RESUME

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ABSTRACT
                This study evaluated the effectiveness of Tapped In, a
multi-user virtual environment (MUVE), in facilitating parent-teacher
conferencing. California Lutheran University had received a grant to prepare
teachers to use technology and implement distance learning. Participants
chose Tapped In, which allowed faculty to meet with preservice and inservice
teachers in real-time virtual classrooms and online for seminars and
meetings. It also allowed inservice teachers to communicate with students'
families about student progress and provided an opportunity to appropriately
integrate technology in their own teaching and learning. A survey was
developed to assess teachers' attitudes before and after using Tapped In as
an online parent- conferencing tool. Graduate students completed the
pre-survey, explained Tapped In to parents, then met with parents three times
during the semester. Topics for online discussion included homework, upcoming
events, and reactions to Tapped In. At the end of the semester, they
completed the survey again, wrote class profiles and reflections, and turned
in transcripts from Tapped In sessions. Results indicated that though
teachers had some initial concerns, they were very positive about the
experience overall, and they showed increases in their comfort levels with
face-to-face and online parent conferencing. (SM)

Connecting Parents and Teachers on the MUVE

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At California Lutheran University one of the goals in the Teacher
Preparation Program is to assist beginning teachers in acquiring the skills
necessary to succeed in their first years teaching and, concomitantly, to
foster attitudes toward professional growth and development that will sustain
a lifetime of learning. In the past, teachers may have given attention to
many relevant instructional issues; however, the teacher rarely observes the
effective uses of technology in education.

In 1999, California Lutheran University received a federal grant in
order to " Preparing Tomorrow's Teachers to use Technology" (PT3). One
of the goals of this grant is to implement distance learning strategies. The
grant work led faculty on the quest to integrate technology in ways that
enhance pre-service teachers learning. A match was found in using Tapped
In (http://www.tappedin.org), a multi-user virtual environment, where
faculty meet with pre-service and in-service teachers in "real-time" virtual
classrooms, and asynchronously on-line for seminars and meetings. The
Tapped In forum is a way for in-service teachers to communicate with their
students' families, and other audiences about student progress, as well as to
provide an opportunity to integrate and appropriately use technology in their
own teaching and learning. This position corresponds with the underlying
purpose of TAPPED IN for promoting professional development in
educators.

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This technology was the tool needed to address educational concerns in connecting teachers and parents. In 1995, Epstein noted that, "most educators enter schools without an understanding of family background, concepts of caring or the framework or partnerships...most teachers and administrators are not prepared to understand, design, implement, and evaluate practices of partnerships with the families of their students", (Lazar 1999). The new National Educational Technology Standards for Teachers require teachers to "use technology to communicate and collaborate with peers, parents and the larger community in order to nurture student learning".

The research focused on parent-teacher communication acknowledges a statistically significant correlation between student achievement and parents' participation in school programs, conferences, and extracurricular activities (Correa 1989, Steinberg 1996, Jonson 1999). However, Epstein (1987) reported that more than one-third of parents do not attend parent-teacher conferences, and almost two-thirds never even talk to teachers by telephone (Jonson 1999). One of the problems as Cameron (1997) reports, is that "although home-school communications are an important factor in student well-being, time factors, both for parents and for teachers, who tend to be inaccessible during class hours, interferes with both desired quality and quantity of parent-teacher interaction." As a potential solution, Bauch and Phillips (1991) found that parents expressed an increased involvement in their children's education and reported an improvement in the children's grades and skills when an electronic telecommunications technology provided them with a daily voice message (Cameron 1997).

There has been little research done looking specifically at the results and implications of utilizing distance technologies for parent-teacher collaboration. This lack of research serves as the catalyst to implement this action research project with in-service educators. This project focuses on attempting to improve parent-teacher communications through the utilization of Tapped In.

Tapped In

As described by the Tapped In organization, Teacher professional development (TPD) is a critical component of education reform and school restructuring and that in practice, many exemplary TPD efforts find it difficult to maintain support for teachers after an institute or workshop and to encourage sustained interaction among participating teachers.

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Additionally, teachers have difficulty finding the time to participate in high-quality professional development activities.

Further more the organization states that these issues have motivated several nationally-recognized K-12 TPD organizations and SRI to build a new vision of on-line professional development based on the premise that learning to implement reform-based teaching practices occurs most effectively (a) within an environment that supports rich collaborative discourse and (b) surrounded by a well-established and diverse community of practice engaged in the work of education reform. They envision a virtual place where teachers with diverse interests, skills, and backgrounds can meet and learn from one another; where teachers can be exposed to not one but many education reform concepts and approaches; where teachers can find high-quality resources in minutes rather than hours; and a thriving teacher community practicing these aspects of their profession on-line.

TAPPED IN was created to implement this vision and is portrayed as being analogous to a research hospital. One of the tapped in research goals is to understand how on-line TPD activities can benefit teachers who invest time in their own professional development (and ultimately their students). The technology underlying TAPPED IN is a multi-user virtual environment (MUVE) *that enables you to: Converse with others in real-time, leave messages and documents for others to view later, view Websites alone or with others, use just about any computer connected to the Internet.*

A MUVE is a client-server software application that allows many participants, regardless of their actual location, to log in simultaneously to a central database from a PC or Macintosh. In its basic form, which is accessible though dial-up modems and telnet clients, elements of the database are presented as a virtual environment of text descriptions and documents. Teachers with access to the World Wide Web through a graphical web browser like Netscape can use a graphical "point-and-click" interface and share WWW images as well as text documents. Because the environment will, in the near future, scale in capability to include external applications, audio, and video, it provides a solution to today's needs without losing sight of tomorrow.

Methodology

Graduate students, who were all in-service teachers in Fall 2000 and Spring 2001, along with the instructor, worked together to develop a survey that would assess teachers' attitudes before and after they used Tapped In as an online conferencing tool with the parents of their classroom students. The graduate students all completed the pre-survey and then were asked to

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meet with their students' parents three times during the semester. Suggested topics for online discussion were homework, upcoming events and reaction and thoughts about Tapped In. All graduate students became members of Tapped In and created virtual offices where they could hold online conferences. Graduate students sent letters home to their students' parents inviting them to meet in Tapped In on specified dates. Parents, who were interested in meeting online, connected with their children's teachers and discussed pertinent topics. At the end of each semester, graduate students, took the pre-survey, wrote class profiles, completed one page reflections of their experiences and turned in the transcripts generated during the Tapped In sessions.

Results

For purposes of this research, survey results were tabulated by running descriptive statistics on seven survey indicators of attitudes towards parent conferencing. A likert scale of one through five was used on each indicator. Five represented strongly agree, four was agree, three was neutral, two was disagree and one was strongly disagree.

Quantitative results from the pre and post surveys identified increases in teachers' comfort level with both face-to-face and online parent conferencing. The mean score for the face-to-face indicator was 4.38 on the pre-survey and increased to 4.46 on the post-survey. Comfort level with online parent conferencing scored a mean of 3.91 on the pre-survey and 4.17 on the post-survey.

Although the teachers had more extensive experience with face-to-face parent conferencing, there was greater variability with this indicator than with online parent conferencing. (see figure 1.1)

Figure 1.1
Pre-Survey

Indicator	Mean	Standard Deviation
Extensive Experience with Face-to-Face Parent Conferencing	3.65	1.34
Extensive Experience with Online Parent Conferencing	1.45	.51

On the post-survey, the increase of extensive experience with online parent conferencing was significant by one point on the likert scale. (see figure 1.2)

Figure 1.2
Post-Survey

Indicator	Mean	Increase
Extensive Experience with Face-to-Face Parent Conferencing	3.67	.01
Extensive Experience with Online Parent Conferencing	2.46	1.01

According to survey results, there was an increase in attitudes towards effective communication with parents in the classroom. Teachers went from a more neutral feeling (mean=3.88) to agreeing (mean=4.33) that there was effective communication with parents in the classroom.

Survey results also indicated increases on attitudes towards conferencing with parents and effects on enhancing the child's learning experience and the parents' understanding of classroom procedures, philosophies, and policies.

Figure 2

Indicator	Pre-Survey Mean	Post-Survey Mean
Conferencing enhances the child's learning experience	4.29	4.68
Parents in the classroom have a better understanding of procedure, philosophies, and policies	4.04	4.33

From survey data, the attitude of parent conferencing enhancing the child's learning experience was one of the stronger means on the post-survey.

Concerns and Delights

As with any new idea, some graduate students did express concerns at the beginning of the project. The concerns focused on lack of accessibility to computers in students' homes, lack of knowledge in computer technology and lack of a common spoken language. As the project was implemented, a

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few additional concerns arose. Parents using America On Line (AOL) had difficulty accessing Tapped In. The help desk at Tapped In was very helpful however, in assisting us with this problem. From time to time, unplanned disconnections from the Tapped In site during online conferences proved to be daunting. Both parents and teachers learned through the experience to stay calm and tap back in as quickly as possible. Perhaps the most frustrating concern for teachers was parents who signed up for a conference and then did not attend. Teachers found that sending home reminders the night before the scheduled conference helped with parent attendance.

Upon review of the final reflections, one issue mentioned by the teachers many times was the difficulty in leading the actual online discussions. Everyone attempts to share thoughts at the same time, so the conversation often becomes confusing to follow. Teachers that plan to utilize this communication on a regular basis would need to hone their mediation skills and develop an organizational structure in order to maximize their online experiences.

Despite the concerns that arose throughout the project, there were some very positive thoughts and experiences that were expressed in these final reflections:

- Tapped In is useful for providing an open forum for parents to share feedback and ask questions.
- Tapped In helps to build parent-teacher relationships in a less formal atmosphere as compared to traditional parent-teacher conferences.
- Tapped In conferences can be held in the comfort of parents' and teachers' home at a mutually convenient time.
- Parents developed relationships with other parents in the classroom through the online conferences.
- Conferences in real time provide immediate feedback as opposed to voice mail or email.

Although a number of these in-teachers reflected on the fact that K-12 students should be trained beforehand so they can assist their parents with the Tapped In process, one teacher actually set time aside to train her students. Her results with this project were the most positive:

"My students not only facilitated their parents' participation, but also contributed richly to the discussion. A dynamic sense of community emerged from the meeting's attendees. The project gave me immediate access to parent and student feedback that would normally emerge more slowly. The kids' participation was imperative to promoting their parents' participation and initiating pertinent topics".

One of the benefits of Tapped In is that any member is entitled to drop a personal recorder in their virtual office. Immediately following the online conference, a transcript is emailed to the Tapped In member. Transcripts can be used to review dialogues, can be emailed to anyone who could not attend the online conference, or in our case be utilized to assess parent-teacher relationships as well as attitudes towards the actual technology. What follows are some direct quotes from transcripts.

Transcript 1:

> Parent1: "I have enjoyed this session. Is this the first time and will you do it again?"
>
> EDTE 502 student: "Yes, it is the first time I have tried it. I will host another evening in November. November 7th to be exact I hope you will join me"
>
> Parent1: "great...it is good to see the schools and teachers getting caught up with technology."
>
> Parent 2: "Thank you for sharing this site. It is wonderful to at least be a little in touch with one's teenager. I will be on your next chat."

Transcript 2:

> EDTE 502 Student: "Is this a forum I should continue with. I am not sure if the parents want it or not"
>
> Parent: "This is my first time. I am not big on chats or email, seems I spend most of my day answering email. But this gives me an opportunity to discuss Rachel's progress, something that is hard to get out of her..."

Transcript 3:

> EDTE 502 Student: "I have one more question. How did you feel having your son's conference with me on the Tapped In?"
> Parent: "I totally enjoyed it. I love technology...let's do it again sometime."

Conclusion

The quantitative and extensive qualitative data support the use of Tapped In to enhance the connections between teachers and parents. As with the use of any new technology tool, some training and support is necessary in the beginning in order to establish a working comfort level for all participants. As the research indicated a need for more parent and teacher communication, this project advocates the use of a MUVE to better connect teacher and parents.

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