Using Technology to Increase Parent Involvement in Schools

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Abstract

The importance of parent involvement in schools and its relationship to student achievement have been widely studied. Nevertheless, many principals and teachers report that lack of parent involvement continues to be an obstacle to increasing student achievement at school. The purpose of this study was to determine whether emerging technologies facilitate better parent-teacher communication and parent involvement. Data were collected through surveys and semi-structured focus group interviews to analyze the relationship between parents' and teachers' perceptions of student achievement when electronic communications are used between parents and school. The study revealed that parents and teachers both place a high value on proactive parent involvement. Because proactive involvement does not require parents to be physically at their children's school, the question of how technology can be used to keep parents involved in their children's academic lives becomes important. As access to technology continues to expand, the capabilities for connecting parents to schools will continue to grow. As schools invest in websites, phone calling systems, parent portals, online curriculum, and other types of technologies that connect schools to home, research needs to continue to focus on the effectiveness of these technologies to increase parent involvement.

Keywords: Parent involvement, home-school communication, technology

Parents who monitor their student's school work and daily activities, communicate frequently with teachers and help develop their children's plans for education or work after high school have children who are more likely to graduate from high school and to pursue post-secondary education (Henderson & Berla, 1994). Students who have parents who are actively involved in their education have higher grades and test scores, enroll in higher-level programs, graduate from high school, and go on to post-secondary education (Henderson & Mapp, 2002). Home-based, rather than school-based, involvement in supporting learning has the greatest impact on student learning. Involvement in schooling (e.g., attending meetings, family activities, volunteering) is seen as reactive, whereas engagement in children's learning is seen as proactive. Nevertheless, many principals and teachers report that lack of parent involvement continues to be an obstacle to increasing student achievement at school (Epstein, Sanders, Simon, Salinas, Jansorn, & Van Voorhis, 2002).

As a former elementary school principal, I was interested in determining what I could do to help increase parent involvement. I hoped that by increasing parent involvement a subsequent increase in student achievement would be possible. This article focuses on a study I conducted to investigate whether emerging technologies can facilitate better parent-teacher communication and parent engagement. It was my belief, based on past research, that an increase in parent-teacher communication would lead to better engagement, which would eventually lead to an rise student achievement

Theoretical and Conceptual Framework

The focus of this study was on how technology can be used to increase parental engagement in school. The epistemological approach of social constructivism supports the notion that meaningful positive interactions between home and school provide children with the understanding that education is important. The social cognitive theory of self-efficacy was important to this research because it helped to understand why a parent may or may not be engaged in his or her child's education. The most common factors affecting student achievement, types of parent involvement, and the use of technology for communication provided the conceptual framework for the study.

Social Constructivism

Constructivism is an epistemological theory that focuses on constructing knowledge and meaning from experiences (Vygotsky, 1978). Social constructivism emphasizes the importance of culture and context in understanding what occurs in society and in constructing knowledge based on this understanding. Social constructivists view learning as a social process.

Social Cognitive Theory of Self-efficacy

The social cognitive theory of self-efficacy (Bandura, 1997) was important to this research because it helps one understand why a parent may or may not be engaged in his or her child's education. Research shows a connection between parental self-efficacy and involvement in their child's schooling. Hoover-Dempsey and Sandler (1997) found parent and teacher efficacy to be a predictor of parent involvement in school, classroom, and home activities. Teachers with higher sense of the importance of family involvement create classroom environments that provide substantial opportunities for family involvement activities. Parents, in turn, are likely to respond to such environments and become more involved in their students' classroom and school.

Factors Affecting Student Achievement

The North Central Regional Educational Laboratory (NCREL, 2002) found that the factors that matter most for student achievement are "teacher instructional actions; teacher ex- pectations for students; students' total weekly out-of-school time in high-yield activities; activity quality; parental standards, beliefs, and expectations; and teacher-parent communication actions" (p. 3). Parental beliefs are likely to be influenced by teacher-parent communication. Parents benefit from well-organized teacher-led communication actions. When teachers take actions to cultivate instructional partnerships with parents, those parents are more likely to support their children's learning at home, and the students of these parents are more likely to be perceived by the teachers as positively involved in classroom learning activities.

According to Child Trends (2010), "students with parents who are involved in their school tend to have fewer behavioral problems and better academic performance, and are more likely to complete secondary school than students whose parents are not involved in their schools" (p. 1). Henderson and Berla (1994) found that parents who monitored their student's school work and daily activities, communicated frequently with their teachers, and helped develop their plans for education or work after high school had children who were more likely to graduate from high school and to pursue post-secondary education. Examples of how teachers interact with parents include notes and telephone calls, newsletters, parent-teacher conferences, home visits, weekly folders, dialogue journals, and open-house nights (Baskwill, 1996; Bohler, Eichenlaub, & Litteken, 1996; Farris, Fuhler, & Walther, 2004; Fredericks & Rasinski, 1990).

Parent Involvement

Parent involvement can be either reactive or proactive. Reactive involvement in schooling includes activities such as attending meetings, family activities, or volunteering. Proactive involvement in children's learning includes activities such as helping with homework, staying informed about school events, and following a child's progress. The Hoover-Dempsey and Sandler (1997) model of parent involvement provides a foundation for much of the research conducted in this area over the past decade. The model posits that certain variables create patterns of influence at critical points in the parent involvement process. The process is comprised of several levels of constructs operating between parents' initial choice to become involved (Level 1) and the beneficial influence of that involvement on student outcomes (Level 5).

Epstein (1985) focuses on overlapping spheres of influence between the home, school, and community that increase the involvement of

families in schools. Epstein's model emphasizes the cooperation of schools and families as well as encourages communication and collaboration between the two. This model consists of spheres representing the family and the school that may be pushed together or pulled apart by three forces: time (Force A); the characteristics, philosophies, and practices of the family (Force B); and those of the school (Force C). These forces may (or may not) help create occasions for shared activities between the school and the family. These spheres overlap to a greater extent during a student's preschool and primary school years (Force A). When parents participate in the education of their students (Force B), the zone of interaction between the two spheres increases. This scenario is repeated when the teacher's activities encourage parent involvement in schooling (Force C).

Interaction between the two spheres is at a maximum when the school and the family function as genuine partners within an overall program that includes a number of shared activities. The model emphasizes reciprocity among teachers, families, and students and recognizes that students are active agents in school-family relations.

In some instances, teachers are ineffective at fostering school-family communications because they lack the skills necessary to engage parents and need more training in this area (Flynn & Nolan, 2008). It also may be true that more parents are finding it difficult to manage both family and careers and have little time to be engaged in their student's school life (Constantino, 2003). When parents are not involved, their reasons include language barriers, their own lack of education, inability to understand the educational process, and lack of time due to their day-to-day responsibilities (Epstein, 1985; Epstein et al., 2002; Hall et al., 2005).

Technology as a Means of Communication

Although many schools have websites, parent, teacher, and principal perceptions about the use of these websites for communication differ. Bouffard (2008) found that only 36% of families indicated that teachers use the Internet to communicate with them, even though 60% of principals reported that teachers use the Internet in this way. This discrepancy may lie in the difference between pushing information out to parents and allowing parents to pull the information that they need. Furthermore, how parents and teachers understand the use of the Internet

may lie in the differing perceptions of what parents and teachers think needs to be communicated and the frequency of the communication. School websites can provide timely feedback for parents and be effective in supporting communication between schools and parents when utilized to their fullest capabilities (Lunts, 2003).

Tubbs and Moss (2006) stated, "communication is effective when the stimulus as initiated and intended by the sender, or source, corresponds closely to the stimulus as it is perceived and responded to by the receiver" (p. 24). Hagel and Brown (2005) found that many schools push information to parents but, do not provide any means for parents to share information. They suggest that schools need to enable parents to pull information when needed and communicate with the school when needed. Technology allows for this type of communication.

Online textbooks, links to educational websites that include games or videos, and teacher websites provide parents with the resources that they need to engage in their children's learning at home. Blogs, wikis, and email provide parents with the two-way communication when they need to pull information or respond when needed. The Pew Internet and American Life Project (2010) found that, as of December 2010, 77% of adult Americans access the Internet via work or home. The National Center for Education Statistics (2005) found that nearly 100% of U.S. schools are connected to the Internet.

Existing and emerging electronic communication technologies may provide the capabilities for schools to increase how parents can be involved in their children's academic lives. Thus, schools should be seeking ways to maximize emerging technological tools to promote better communication between teachers and parents. Nevertheless, this does not seem to be the case. The reasons may include multiple factors such as lack of training for teachers in how to use technology to increase communication with parents or lack of research in this area because these types of technologies are relatively new in the field of education.

If schools are to address Constantino's (2003) finding that working parents are finding it difficult to be involved in their children's academics, they need to start utilizing electronic means to communicate with parents. These can include voice-calling systems, websites, email, and parent portals. Voice-calling systems allow parents to keep in touch with the school by having messages sent to their preferred phone number, whether it is a cell phone, work phone, or home phone. Websites, if updated regularly, allow par-

ents access to important news and events about the school. Teacher websites provide parents with homework assignments and class news. Parent portals allow parents to access students' courses, homework assignments, grades, and attendance. The portals allow parents to directly communicate with teachers via email through a direct link if they have questions about their student's progress.

Methods

A mixed-methods approach comprised of surveys and semi-structured interviews were utilized to answer the three research questions that guided the study:

1. How does teacher communication through the use of technology promote parent involvement in their children's academic lives?
2. What are the perceptions of teachers regarding the effectiveness of technology to promote parent involvement?
3. What are the perceptions of parents regarding the effectiveness of technology in promoting their connectedness with their child's teacher and school?

To answer the primary research question, "How does teacher communication through the use of technology promote parent involvement in their children's academic lives?"; parent and teacher perceptions of how they defined parent involvement were determined. The secondary research questions, "What are the perceptions of teachers regarding the effectiveness of technology to promote parent involvement?" and "What are the perceptions of parents regarding the effectiveness of technology in promoting their connectedness with their child's teacher and school?"; provided a means to further investigate parent and teacher perceptions of how technology could be used for parent involvement.

Participants

Surveys were distributed to 204 parents with elementary students in grades 4 to 6. The demographic makeup of the students was 50% White, 40% Hispanic, 5% Asian, 3% African American, and 2% Pacific Islander or Native American. Additionally, 20% spoke English as a second language, and 40% were socioeconomically disadvantaged. Of the 240 parent surveys, 89 were returned, for a response rate of 43.6%. Additionally, seven teachers completed a teacher survey. All of the teachers had over 10 years of teaching experience and have been teaching at the school for at least 10 years. Four of the seven teachers also had a preliminary administrative credential.

Data Collection

Semi-structured interviews were also conducted to glean more data from the survey questions. One parent from each of the seven fourth through sixth grade classes (two parents from grade 4, two parents from grade 5, two parents from grade 6, and one parent from the 5/6 combined class) were purposefully selected to participate in the interviews. Based on the differences between the demographics of the respondents and those of the school, I chose to include more Hispanic parents who spoke Spanish as their primary language in the semi-structured interviews. All parents who participated in the interviews stated that they had a computer with Internet access at home.

Analysis

The discussion of the data is broken down by the three research questions.

Research Question 1

To investigate parent and teacher perceptions of what would be considered effective teacher communication through the use of technology, I felt that it was important to determine parent and teacher perceptions of their own experience as students. Were their parents involved in their education? Also important was determining how the parents who responded to the survey view their involvement today. Access to technology, preferred methods of communicating, and parent and teacher use of technology were other important areas to investigate to determine whether effective teacher communication through the use of technology helps parents stay involved in their children's academic lives.

Parent efficacy toward school. The primary research question concerning the relationship between teacher communication through the use of technology and parent involvement in children's academic lives is really a question of parent efficacy. Three questions were asked to gauge the level of parental efficacy in relationship to the school. First, parents were asked to rate their feelings about their own elementary school experience. The majority of parents rated their elementary school experience as good.

A second question concerned their own parents' level of involvement in their elementary education, while a third question concerned their involvement in their own child's elementary education. Only 23.6% ($n = 21$) of parents indicated that their own parents were very involved in their education; whereas 71.6% ($n = 63$) indicat-

ed that they are very involved in their own child's education. Based on the parents' responses, they have a high level of efficacy toward school.

Teacher efficacy toward school. Teachers were asked to rate their own feelings about their elementary school experience. Six of the seven teachers responded that they had a good elementary experience, and one indicated a fair experience. Teachers also were asked how involved their own parents were in their elementary education. Three teachers responded that their parents were very involved, two responded somewhat involved, and two responded that their parents were not involved. The teacher responses indicated that they have a high level of efficacy toward school.

Reactive and proactive involvement, including barriers. Questions about reactive and proactive involvement were asked to ascertain parents' and teachers' beliefs about involvement. Involvement in schooling (e.g., attending meetings, family activities, volunteering) is seen as reactive, whereas engagement in children's learning is seen as proactive. Parents also were asked questions about barriers that may preclude parents from being involved.

Questions about reactive involvement centered on activities such as volunteering at school, chaperoning field trips, donating items to the classroom, attending school events, and participating in fundraisers. A range of response options were provided to identify participants' perceptions of the value of several types of involvement. The positive measures of value were combined to determine the most valuable activities. The most valuable reactive activities for parents were attending Back to School night and open house. For teachers, the most valuable activities were attending Back to School night and donating items to the classroom. Parents indicated that attending PTA meetings was the least valuable activity; only one-third of parents indicated that this was a valuable activity. There were no significant differences in participants' answers when data were analyzed by income levels or primary language.

Questions about proactive types of involvement centered on communicating with the teacher, helping children at home on school work, and staying informed about student progress. Parents and teachers were given a range of response options to identify their perception of the value of several types of involvement. When the positive measures of importance were combined, the results indicated that parents and teachers placed a significant amount of value on proactive involvement. With the exception of checking their child's backpack, at least 95% of parents felt that proactive involvement was important or very important. Teachers unanimously ranked parents' reading with their child or encouraging reading as the most important type of proactive involvement.

Research has identified barriers that prohibit parents from being involved in their children's education, including not speaking English, having work commitments, not knowing how to help their child, or not feeling welcomed at the school (Davies, Henderson, Johnson, & Mapp, 2007). Survey questions were used to determine whether there were any barriers to parent involvement at the school. Parents were given a range of response options to identify their perceptions of barriers. When the positive measures of agreement were combined, the results indicated that the majority of parents (87.3%, $n = 76$) indicated that language was not a barrier to parent involvement, but further analysis showed that all five parents who spoke Spanish as their primary language felt that not understanding English *is* a barrier to their involvement. The most significant barrier to parent involvement was not having time due to work or family needs (46.6%, $n = 41$).

Parents' access to the Internet. To determine whether technology could be used to promote parent involvement, parents were asked whether they had a computer that had Internet access at home or at work. Of the 89 parents who replied to the survey, the majority (93%) had a computer at home that could access the Internet. Only one parent responded that she did not have access to the Internet at home but did have access at work. Of the five parents who indicated that Spanish was their primary language, three (60%) had access to the Internet at home or at work, whereas 96.3% ($n = 78$ of 81) of parents whose primary language was English had access to the Internet at home or at work.

In regards to the question on household income, of the 89 parents who were surveyed, 82 responded. The results indicated that, in households for which the income was less than $50,000, over two-thirds of the respondents had Internet access at home, and all of the respondents who had an annual income of $50,000 or more had Internet access at home. The results were different when primary language and income were compared. In households where the primary language was not Spanish and income was less than $50,000, over three-fourths had ac-

cess to the Internet, but in households for which Spanish was the primary language and income was less than $50,000, only one-quarter had access to the Internet.

Parents' use of technology. Parents were asked several questions to determine what types of technology they used to communicate or access information. The results indicated parents' use of cell phones, email, and social networking. Parents also were asked the frequency with which they accessed the school's and individual teacher's websites.

Parents were asked to respond to questions about forms of communication. Almost all the parents indicated that they owned a cell phone (n = 86 of 89; 96.6%). Over half of the parents used email to communicate with the teacher. Only one-third of the parents used instant messaging, and over two-thirds used the social networking tool Facebook, but only six parents (6.8%) used Twitter. Of the 89 parents, 86 indicated that email and in-person communication were their preferred methods of communication with the teacher.

Parents also asked about the frequency with which they checked the school website and their child's teacher's website. Almost half (n = 40 or 46%) of the parents checked the school's website and their teacher's website 1-2 times per month. There was a difference in how often parents checked the school website in comparison to the classroom teacher's website on a weekly basis. Only 18% of parents (n = 15) checked the teacher's website on a weekly basis, whereas 36% of parents (n = 32) checked the school's website on a weekly basis.

Teachers' use of technology. Teachers also were asked several questions to determine what types of technology they used to communicate. The responses to a question about teachers' preferred method of communication indicated that they preferred email and social networking but, in actuality, communicated with parents through email or in person. None of the teachers had used instant messaging, Twitter, or Facebook to communicate with parents. Most of the teachers updated their websites 1-2 times per month.

Research Question 2

When teachers were asked whether it was important that they be provided with a means for communicating with families through technology, they all responded that it was important or very important. Teachers were asked a series of questions about types of technology that

could be used to communicate with parents to understand what types of technology teachers were willing to use. Teachers unanimously said that they do not provide their cell phone numbers to parents but two teachers had exchanged text messages with parents. When asked whether they would be willing to use text messaging as a form of communication with parents, the majority (n = 5; 71.4%) of teachers responded, "No."

Email use among teachers was highly utilized. All of the teachers used email to communicate directly with parents, but only 4 of the 7 teachers used it to communicate updates or information to parents about the class. All teachers reported that they responded to parents within 24 hours of receiving an email. Email communication between teachers and parents was used primarily to discuss academics or behavior.

Although teachers did not use instant messaging or social networking tools such as Twitter or Facebook to communicate with parents, most (n = 6; 85.7%) said that they were willing to use these tools for parent communication. Additionally, teachers showed a strong willingness to use an online parent portal to update parents about grades, progress, attendance, and assignments. Although the school offers students and parents online access to the textbooks, teachers did not often encourage the use of this tool.

Research Question 3

When parents were asked whether it was important that the school provide a means of communicating with families through technology, the majority (n = 81 of 89; 91.1%) of parents responded that it was important or very important. Parents were asked a series of questions about how they were using the school's current technology as well as their feelings about technologies that the school does not currently use, such as text messaging, social networking, and parent portals.

The school used an automated phone messaging system that provides parents with updates about the school. Parents were asked what they did when they received automated phone messages from the school—listen to the whole message, listen to part of the message, or hang up/not listen. Of the parents, 93.3% of the parents responded that they listened to the entire message.

In regards to cell phone use among parents and teachers, most parents indicated that they were not given the teacher's personal cell phone number and that they did not exchange text messages with teachers. When parents were asked whether they would want to exchange text

messages with their child's teacher, over half (n = 50; 59.5%) of the respondents indicated that they would.

Over half (n = 47; 54%) of the parents indicated that they used email to communicate with teachers, but when asked whether teachers used email to communicate information and updates about the class, 67.4% indicated that teachers did not. Parents indicated that their primary reason for contacting the teacher through email was in regard to academics. The majority of parents who used email to communicate with teachers (n = 40 of 47; 85.1%) responded that the teacher did respond to their emails within 24 hours.

I investigated whether parents would be interested in using social networking tools for communication between home and school. Parents had some interest in the school's using social networking tools to communicate with families. If the school had a Facebook page, 62.1% of parents indicated that they would be a "friend." Half of the parents were interested in being able to send instant messages to the school, but only 24.1% were interested in "following" the school on Twitter.

I also investigated parent and student use of the online access that the school provides to textbooks as well as the interest of parents in online access to grades, attendance, progress reports, and assignments through a parent portal. The results indicated that 37.5% of parents had accessed the online textbooks at least once a month. Almost all (n = 83; 94%) of the parents indicated that they would find a parent portal valuable and would frequent the portal at least once a week.

Interview Data Analysis

Two separate focus group interviews were conducted to provide a deeper understanding of the research questions. One focus group involved parents who were purposefully selected to more closely represent the demographics of the school. Seven parents participated in the interviews, specifically one parent from each of the classrooms surveyed. The second focus group involved the seven teachers who participated in the survey. Parents and teachers were asked the same five questions to provide a deeper understanding of their perceptions of parent involvement and how technology can be used to connect parents to the school.

I transcribed and coded the data. After transcribing and reading through the data, I chunked the data into smaller meaningful parts. Each part was then given a code and grouped by similarity. Once all the data were coded and grouped,

five themes emerged: proactive involvement, student motivation, barriers to involvement, purpose of communication, and time. Interview questions 1, 2, and 3 addressed the primary research question, "How does teacher communication through the use of technology promote parent involvement in their children's academic lives?" How parents and teachers defined parent involvement was a key factor in answering this question. Interview questions 4 and 5 addressed both the primary and secondary research questions: "What are the perceptions of teachers regarding the effectiveness of technology to promote parent involvement?" and "What are the perceptions of parents regarding the effectiveness of technology in promoting their connectedness with their child's teacher and school?"

Proactive involvement. It was important to understand first how parents and teachers define parent involvement. As such, they were asked, "What does parent involvement mean to you?" There was a difference in responses between the working parents and non-working parents. The non-working parents described more reactive types of involvement, e.g., being at school, volunteering in the classroom, whereas the working parents described more proactive types of involvement, e.g., talking to my child about his or her school day and making sure homework is completed. One of the working parents stated:

> I don't need to be at school to know what is going on at school. I ask my child every day how his day was. I can tell if he is happy or sad and if something is not going well. If things are not going well, then that's when I need to talk to the teacher.

The teachers' responses to this question also included proactive types of involvement. Teachers described parent involvement as making sure that their children did their homework and knowing what was going on at school. One teacher stated, "I don't need parents to help me in my classroom. I need them to make sure they are helping their children at home, making sure they are doing their homework, studying for tests, and reading."

Motivation. Parents and teachers were asked, "Do you think that greater parent involvement in their children's academic lives increases their chances of being successful in school? Why?" Parents and teachers felt that the more involved parents are, the more successful the child is in school. One teacher stated, "If I were to look at my grade book and look at students who are fail-

ing, 99% of them have parents who don't care; the other 1% are children who are not motivated." Parents also discussed the motivation of children as being related to success in school. One parent said, "I try to get my son to do his homework . . . we fight, we argue . . . it's a battle. I talk to the teacher, the teacher emails me; but this still doesn't work. He just doesn't care." This was a surprising finding because it indicated that student efficacy toward school may play a role in academic success even when parents have a strong efficacy toward school.

Barriers to involvement. In regard to barriers, parents and teachers were asked, "What do you think the greatest barrier is to parent involvement in schools?" Both parents and teachers stated that busy schedules are the greatest barrier. Teachers and parents commented that students are involved in many after-school activities or have parents who work who get home late. The Hispanic parents stated that language and not feeling welcomed at school were barriers for them. One parent said:

> My English is not very good, so it's hard for me to talk to the teacher. I sometimes don't know how to help my children, but I also don't know who to ask for help because their teachers don't speak Spanish. Another parent said, "I want to be more involved in the school, but everybody at the meetings are always speaking English. I don't understand what they are saying, and I feel rejected, so I don't come.

Purpose of communication. Parents and teachers were asked, "What is your preferred method of communicating between home and school? Why?" As with the other questions, parents and teachers had similar answers. Both groups stated that, for information exchanges, email, phone messages, and fliers were preferred methods of communication. Information exchanges were considered to be quick questions that needed just a yes-or-no answer or updates about what was going on in the classroom or at school. Both parents and teachers preferred bi-directional communication when the concern was student performance or behavior. One parent said:

> I don't like emailing the teacher when I need to know something about how my child is doing because sometimes it takes several emails to answer a question that could be answered more quickly with a phone call or if I just talked to them in person.

A teacher commented that she preferred in-person or phone communication with parents when discussing student progress or behavior because email is too impersonal, stating:

> With email, you can't see a person's face or hear their voice. Messages (email) can be taken out of context or misunderstood. I've found that it is much better to just pick up the phone and talk to a parent if the subject is serious enough.

Time. The final question asked was, "Do you think access to technology plays an important role in parent involvement in school?" Both parents and teachers felt that technology does play an important role in parent involvement in schools. The theme of time emerged in responses to this question, but what time meant was different for parents and teachers. Parents stated that they liked having access to teacher websites, the online textbooks, and being able to email teachers because they are busy and like to be able to get information quickly or at a convenient time. One parent stated:

> I worked eighty hours this week . . . I wish the teachers would keep their websites updated more with assignments . . . my son had a question and I couldn't get the answer. I sent the teacher an email, but she didn't get that until the next day.

Another parent said, "My friends' kids go to another school, where they can check grades and assignments online . . . I wish we had that." Teachers noted that they liked being able to keep parents informed via email and their websites but that it does create another layer of expectations for them, and it can be time consuming. One teacher stated:

> I try to post homework every day on my website, but if I forget to do it or didn't have time to do it, I hear about it. Parents and students have tried to use my not posting something on the website as an excuse for why they didn't complete an assignment.

For teachers, updating their websites can be time consuming, but parents, with their busy schedules, appreciate being able to have access to these sites.

Conclusion

Most types of proactive involvement can be fostered through the use of technology. The data revealed that both parents and teachers perceived that technology is an effective tool

to promote parent involvement. The data also showed that it is important that teachers choose the right type of method to deliver information to parents, depending on the subject. Teachers also need to be cognizant of language barriers that may preclude some parents from being involved. Although there were some differences between the parents and teachers in how technology was used to keep parents connected to school, overall, parents and teachers valued the use of technology for parent involvement.

One type of proactive involvement is communicating with the teacher. This type of involvement can be accomplished through the use of email, which was a preferred method of communicating for both parents and teachers. There was a discrepancy between parent perceptions of how often email was being used and how teachers thought that they were using it. Parents indicated that teachers did not use email to communicate information or updates about the class to parents, yet the majority of teachers said they did use email for this purpose. Although teachers may be using email to communicate information or updates about the class, the type of message or frequency of messages was not in line with what parents would like. This finding supported a similar finding by Bouffard (2008) that only 36% of families indicated that teachers use the Internet to communicate with families.

Another type of proactive involvement is staying informed about school events. Phone messaging systems and websites are technology tools that can be used to keep parents informed. When parents were asked what they did when they received an automated message from the school, almost all indicated that they listened to the whole message, indicating that parents have a strong interest in staying informed about what is happening at the school.

Parents also indicated that they checked the school and classroom teacher's websites for updates, but more parents checked the school website than the teachers' website on a regular basis. Parents who participated in semi-structured interviews noted that several teachers do not update or provide enough information on their websites for the information to be useful but that the school website is always updated. The teacher data on website use supported what the parents stated—that most of teachers indicated that they updated their website only 1-2 times per month. In the semi-structured interviews, teachers stated that keeping their websites updated was time consuming. Nevertheless, parents want to be able to stay informed by checking teachers' websites, and research has shown that school websites can provide timely feedback for parents and be effective in supporting communication between schools and parents when utilized to their fullest capabilities (Lunts, 2003).

Text messaging, instant messaging, and social networks such as Twitter and Facebook and are other technology tools that can be used to keep parents informed about school events. Although most parents and all teachers owned a cell phone, text messaging was not used as a form of communication between parents and teachers. A majority of parents were interested in receiving information about their child through the use of text messaging, but most of the teachers were not willing to use this type of communication. Most schools do not provide teachers with their own cell phones; therefore, it is reasonable that teachers do not want to give out their personal cell phone numbers to parents. The implication of parents' desire to text message with teachers is that parents want quick, direct access to teachers. Exploring technologies such as Remind101, ClassPager, and Google Voice, which allow parents to have this type of bi-directional communication may be of value to teachers and administrators.

About half of the parents were interested in using instant messaging to communicate with teachers, and teachers were willing to use this technology. Parents and teachers were both interested in using Facebook, but teachers had more of an interest in using Twitter than did parents. Although there are differences in what types of tools should be used to keep parents informed, the data did show that both parents and teachers see value in using these types of tools for involvement.

Helping children with homework, studying for tests, and helping with questions about assignments are also proactive types of involvement. The school in the study offered parents online access to all of the textbooks that are used, but only a small percentage of parents accessed the online textbooks regularly. Teachers did not remind students about the online access to textbooks on a regular basis, showing that teachers are not utilizing or promoting this type of proactive involvement to its fullest potential.

Parents and teachers both ranked following a child's progress as a very important type of proactive involvement. The parents who used email to communicate directly with teachers indicated that their most significant reason for communication via email was to respond to questions or concerns about academics. Parents who had email contact with teachers about their child's academics also noted that the teachers were responsive within 24 hours of being contacted. Email use between parents and teachers was shown to be an effective means of using technology for proactive involvement.

Parents and teachers both placed a high value on keeping parents informed about student progress and saw the value in using technology as a means for keeping parents involved. Phone calling systems allow parents to keep in touch with the school by having messages sent to their preferred phone number, whether it is a cell phone, work phone, or home phone. Websites, if updated regularly, allow parents access to important news and events at the school. Teacher websites provide parents with homework assignments and class news. Parent

portals allow parents to access student's courses, homework assignments, grades, and attendance. The portals allow parents to directly communicate with teachers via email through a direct link if they have questions about their student's progress. If schools are to address Constantino's (2003) finding that working parents are finding it harder to be involved in their children's academics, they need to start using electronic means to communicate with parents.

Summary

For teachers and administrators to stay current with the tools that are available for communicating, technology professional development needs to be at the forefront of every staff development plan. This study revealed that time is one of the barriers that keep teachers from being able to use the technology resources that are available to them. Administrators need to build time into staff meetings and professional development days to help teachers continue to expand their knowledge and expertise with tools that can help parents stay connected to and involved with the school.

School site administrators need to encourage teachers to use their websites and email and to provide teachers with suggestions and time to use these tools effectively. Administrators should model for teachers the effectiveness of proactive communication by keeping the school's website current, using email to communicate with teachers, and responding to email in a timely manner. Providing 10 minutes of time during staff meetings to present technology tips or allow time to learn or practice integration of technology is a simple means to help teachers become more proficient in their skills. If the site administrator is not sufficiently technologically savvy, he or she should find a teacher on campus willing to provide professional development or find an outside expert who can help.

Embracing the potential of these emerging technologies and how they can keep parents connected to their children's school is important. As access to technology continues to expand, it will be imperative that teachers and administrators stay current with the tools that families are using to communicate. Teachers will need to adhere to the new norms that technology is setting in how humans communicate today. Keeping parents involved in their children's schooling is just as much a responsibility of the school as it is of the parent.

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