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Parental Involvement in Children's Education: Connecting Family and School by Using Telecommunication Technologies

[Ellen Lunts](#)

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Abstract

Everyone seems to agree about the importance of parental involvement (PI) in children's education. Two-way communication between families and schools is essential both for schools (they gain better understanding of the child's needs and secure parental assistance) and for parents (being more informed about their child's progress at school promotes levels of PI that are even more beneficial for children's education and personality development). For a variety of reasons, however, many parents and teachers find themselves unable to timely contact each other when they find a need.

This essay examines new telecommunication technologies, such as voice-messaging system, e-mail, Internet and web sites, and demonstrates their potential to support family-school connection. I argue that effective classroom, school and school district web sites have a positive impact not only on student learning, but also on PI, and envision the future of PI, and web site and other telecommunication technologies.

Introduction

The call for increased parental involvement (PI) and statements about its importance have become clichés in educational literature. For example, the former Secretary of Education Richard W. Riley declared that "parents are the essential link in improving American education, and schools simply have to do a better job of reaching out to them" (cited in Moles, 2000, p. vii). Indeed, a student's school and family are not isolated from one another; they share the responsibility to educate students and prepare them for adulthood. As a result, both parents and teachers are concerned about students' academic attainment,

which is an important factor of students' success in the future.

The results of numerous studies reveal that PI has a potential to improve student achievement and behavior (Balli, Wedman & Demo, 1997; Bryan & Sullivan-Burnstein, 1998; Callahan, Rademacher & Hildreth, 1998; Griffith, 1996; Portes, Zady & Dunham 1998; Smock & McCormic, 1995). Many schools today, however, lack parental support and participation. Various researchers seem to agree that parents are supportive and engaged in their child's schooling when two-way communication with teachers is established (e.g., Bauch, 1989; Taylor, 1999). However, as Jonson (1999) reports, many parents do not communicate with their children's schools due to a vast number of reasons. For example, some parents avoid communicating with their child's school primarily because they do not feel comfortable talking with teachers (e.g., ESL parents), do not think their concerns will be heard and responded to promptly, or are burned out by their work. The problem of establishing a link between families and schools suggests that other approaches, including telecommunication technology, should be also considered.

The purpose of this essay is to examine new telecommunication technologies, like voice-messaging system, e-mail, Internet and web sites, and to demonstrate their potential to support family-school communication. I am aimed to show that classroom, school and school district web sites have a positive impact not only on student learning, but also on PI. If these sites contain appropriate content (and this essay discusses some characteristics of effective web sites), they attract parents. Consequently, parents will become more informed about and involved in their child's education.

1. Parental involvement (PI) and its role

1.1 Defining the concept of PI and its types

Even though the terms "family", "school", "parents", "parental involvement" and "school and family partnership" have been used for a very long time, PI did not exist as a field of study before the 1960's. According to Blanchard (1998), the Elementary and Secondary Education Act of 1965 (ESEA), emphasizing that parents should become more engaged in their children's education and the Civil Rights Act of 1964, Section 402 concerning the importance of family involvement in the education of disabled people, launched the era of studies on PI. Since then, much research has been done on PI. Educational literature defines the terms "parents", "family", and "parental or family involvement" very broadly. Generally speaking, the concept of PI implies that parents participate in one or more school-related activities, such as attending parent-teacher conferences, parents-teacher-association (PTA) meetings, volunteering at school, assisting their child with homework, encouraging the child to better attainment, and so on (Balli, Wedman, & Demo 1997). Changes in the structure of the American family suggest that the term "parents" relates to parents, guardians, stepparents, siblings, members of extended family, any other adults who might carry the primary responsibilities for a child's health, development and education. Therefore, all references to parents, family and their involvement are applicable for all adults who play an important role in a child's home life (Peressini, 1997).

In this paper, I use terms "family" and "parents", "family involvement" and "parental involvement" interchangeably and when referring to parents who are involved in their children's education, I assume that all three Grolinick & Slowiaczek's components of PI are present: 1) parents' behavior involvement (acting as a role-model for the child); 2) parent's personal involvement (engaging in the child's activities); and 3) parents' intellectual involvement (being emotionally attached to and concerned about the child) (cited in Xin Ma, 1999). Thus, even those parents who do not participate in their children's schooling may still be considered as caring parents.

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Although there are many classifications of PI types, Epstein's classification appears to be the most influential in the PI literature, and therefore it is worthwhile to explore her classification in more details. According to Joyce Epstein and her colleagues from Johns Hopkins University, there are six types of involvement:

1. *Parenting*. This category includes the basic responsibilities of families-- such as providing housing, health care, nutrition, clothing, and safety, and creating home conditions that support children's learning (e.g., purchasing necessary books and other school supply, providing a place to study, etc.). Parenting also implies that parents are warm and responsive to their children, communicate with them and support their development.
2. *Communicating*. This type of involvement concerns the basic responsibilities of schools, including establishing two-way communication between family and school. This type of involvement assumes that schools keep parents informed about school matters by sending newsletters or report cards, calling, e-mailing or visiting parents, etc. In addition, parents can also address their concerns to the teacher or school administration both through contacting them directly or through correspondence.
3. *Volunteering*. According to Brent (2000), the term "volunteer" usually refers to persons who devote their spare time to work on a routine basis without monetary compensation, usually under the direction of a school employee, in support of educational activities and school operations. He clarifies, however, that parental engagement in PTA, PTO or other types of decision-making organizations involving parents, teachers and, perhaps students and other community members, is not volunteering.

4. *Learning at home*. This type of involvement suggests that parents are involved in curriculum-related activities occurring at home (e.g., assisting with homework, discussing books with their child, brainstorming ideas for school projects).

Figure 1



Image provided by the author

5. **Decision making**. Parents who are involved at this level advocate children's interests. These parents often participate in PTA, PTSA, advisory councils and committees.
6. **Collaborating with the community**. This type of involvement relies on understanding that helping the community is the best investment (National PTA, 1998). It assumes that different types of community organizations contribute to schools, students, and families (Epstein et al, 1995, 1997).

1.2 Family-school communication as a key component of PI

Two-way school-family communication is a factor that influences other types of PI. Schools often communicate with parents to inform them about what their children may need in school (e.g., school supplies). Many parents also like it when the school informs them of upcoming tests, recommends what environment can be helpful for a child to be ready for such a challenge, or provides other parenting tips. The volunteering form of PI also depends on family-school communication. Unless the school asks parents to support curricular or extracurricular activities, parents will never know what type of assistance they can offer to the school. Learning at home relies on family-school communication because without understanding the purpose of learning particular material, parents cannot adequately help their children with homework.

The decision-making and collaborating with community types of involvement also assume that parents and other community members and organizations are aware of the problems the school has and how they can approach the school with their concerns. Moreover, if the school depicts community members spending their time and other resources to improve the school, it demonstrates that parents are also welcomed in the school. The recognition of parents can help not only to extend the activity of exceptionally involved community members, but can also empower other members of the community to benefit the

school.

1.3 Traditional strategies to promote PI

Some parents initiate their contacts with schools themselves, and thus schools never find it difficult to reach out to those parents. Many parents however, never interact with the school unless the school works hard to promote parental engagement in their child's schooling (Chavkin, 1993; Moles, 2000). Schools use a variety of strategies to communicate with families. Traditionally, schools send students' report cards, school newsletters or community updates, or organize events for the entire family or just for the parents. Each strategy for fostering PI can provide specific benefits, but each strategy also has barriers for its implementation. For example, schools can discover that parents in their communities disregard all correspondence they receive from schools and that parents may be out of their homes during the daytime, the most convenient time for teachers to call parents.

Many traditional strategies for promoting PI rely heavily on parents' ability to visit their child's school. Most workshops and other events are held in the school, and if parents cannot attend the sessions at the particular time and date, there is little parents and schools can do. Today, many families have no time to schedule a meeting with their child's teachers or to attend school events. Face-to-face communication becomes rare. A national study on PI conducted in 1997 by the National Opinion Research at the University of Chicago discovered that school newsletters and telephone calls home from teachers and administrators had become the most common types of family-school interactions. Correspondingly, 75% and 72% of parents reported these types of communication. In contrast, the 1996 survey on family and school partnerships conducted by the U.S. Department of Education in which 810 elementary schools were polled, found that only 49% of the schools reported that most or all of parents attend open house or back-to-school night, about 57% attended parent-teacher conferences, 36% attended arts events and 19% attend science fairs or academic demonstrations (Blanchard, 1998).

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Bauch (2000), Blanchard (1998) and McAfee (1997) as well as others researchers and practitioners stress that schools have to turn to electronic telecommunication to establish the family-school connection because few other options are available. Bauch (2000) believes that electronic technology essentially changes the traditional views on reaching out to families, and that these revolutionary changes are underway. Datta & de Kanter (1998) report that fewer than 25% of parents reported their schools using higher technology means of communication, such as web sites or cable TV. However, telecommunication technology becomes more affordable each year, and therefore the percentage of schools using telecommunication technology is steadily increasing. Thus, schools are not only able to utilize telecommunication technology, but are also able to choose what type of technology better meets their and families' needs.

2. Using electronic communication technologies to support PI

2.1 Electronic communication as a strategy for establishing family-school connections

The National Opinion Research at the University of Chicago reports that fewer than 25% of parents reported that their child's schools used high technology means of communication. More specifically, about 11% of parents reported that their child's school uses e-mail, 12% of parents reported web sites, 21% of parents mention news about cable TV communication and 23% spoke of voice messaging systems (Datta & de Kanter, 1998; Otterbourg, 1998). Thus, in 1997 telecommunication technology was not frequently used to reach out to families even though 74% of schools reported using advanced telecommunications in the fall 96 survey of Advance Telecommunications in U.S. Public Elementary

and Secondary Schools (Blanchard, 1998).

What advantages does telecommunication technology have to promote family-school interactions? Unfortunately, not too much research has been done in this area. All existing literature points out that "schools, through technology resources and telecommunication, can make that [parental] involvement more informed, immediate, and meaningful" (McNabb, Valdez, Nowakowski & Hawkes, 1999, p. 3). Bauch (1989) also emphasizes that communication technologies give parents the opportunity to be better informed about their child's schooling, when traditional means of communication between schools and homes leave parents less informed.

The literature on using telecommunication technology to support PI is very lean (Dunman, 1998). The three more thoroughly described types of phone-based technologies supporting communication between schools and homes are:

A. *Hot lines and helplines.*

These dial-up systems provide help with homework through teachers and trained volunteers. Children and their parents can call these lines to be consulted about specific assignments. In other instances, these systems offer prerecorded messages or connect with volunteers trained to answer a particular spectrum of questions, not necessarily those that students and parents are concerned about. Unfortunately, when lines are busy, not everyone gets timely help.

B. *Automated calling systems.*

These systems can be programmed to call all parents or particular groups of parents between set hours. Hard-to-reach parents are often reached by such systems. However, if parents want to respond to the teacher, they need to call back. Both automated calling systems and hot lines are often able to support only one-way communication: either school-to-family or family-to-school.

C. *Voice mail and voice messaging systems (VMS).*

This system combines the functions of hotlines and automated calling systems. The Transparent model thoroughly described by Bauch (1989; n.d.; 1997) can be an example of advanced VMS. The Transparent model project started in 1987 by the Betty Phillips Center for Parenthood Education of Peabody College in Vanderbilt University. Each teacher receives an answer machine or electronic mailbox, which they can use in the classroom and at home. They prepare a short 1-3 minute message in which they briefly summarize what children learned at school that day, inform about assigned homework, and how parents can help the children in their study. In addition, VMS uses a special program that can automatically dial all parents or some groups of parents at a time set by a teacher. In addition, a VMS server has a capacity to record messages parents leave in response to the calls they receive.

Figure 2



Image provided by the author

- **a)** Among the advantages of this system is that parents can call at any time during the day and at night. The system informs not only parents about school news and their child's assignments, but students can also call to the system. Students who miss class or those who lose their assignment sheets no longer have an excuse not to complete their homework on time. Besides informing parents and students about class activities and homework, some schools use VMS to inform parents about emergencies and school closures. This type of technology can also support access to student grades, information about cafeteria menus, give the option to check the due day for library books and renew them over the phone (Bauch, 2000). The system can also remind teachers to attend a workshop or PTSA. Some teachers use VMS as an element of instruction. For example, Bauch (2000) reports on a foreign language teacher who recorded some test questions in that language, which students had to listen to and record their responses. Also, if a teacher knows somebody who can record a message in the language spoken in student's home, ESL parents can also become a part of the family-school connection. Teachers who otherwise complain that they are overwhelmed and that working with parents is time consuming, find that a VMS allows them to invest no more than 15 minutes per day to prepare and record messages. As Bauch (1998) demonstrates, the process of recording and retrieving messages is very simple for both teachers and parents.
- **b)** Because VMS are easy to operate, and because telephones are available in at least 94% of households, four to five thousand schools nationwide use the capabilities of VMS, and several more thousand schools pilot VMS (Bauch, 1997). Many studies were done to investigate the effectiveness of VMS. Bauch (2000) emphasizes that schools that apply VMS have on average a 500-800% increase of interactions between teachers and parents. Moreover, about 50% of families call to school every single day during the school year. Bauch (n.d.) and McAfee (1997) also report that VMS have been found effective even for those categories of parents who have never visited their child's teacher. Thus, among the advantages of VMS is that they are able to provide almost universal (available to most families) and frequent communication between schools and families, two ideal qualities of family-school connection (Bauch, n.d.).



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Finally, VMS are not very expensive. Bauch (2000) estimates that this type of technology requires a \$20 appliance and \$15 monthly charge. Some private companies provide schools with free VMS services for the first, trial year. However, students, teachers and parents need to pay some fee if they decide to subscribe for extra services that are not included in the basic package. For example, if students get approval from their parents they can sign up for such advanced services like message exchange between students (Conexus, n.d.). Other data indicates that the first year costs of using VMS do not exceed two dollars per student (Davis, 1995).

However, VMS still have some disadvantages. The first disadvantage, which is common to almost all telecommunication technologies (with the exception of teleconferencing technology), is that telecommunication technologies cannot support the richness of face-to-face interaction (Bauch, 2000). This means that VMS are oriented toward asynchronous (not the real-time) interactions. Moreover, like any telephone-based technology, interaction partners do not get the visual clues essential for face-to-face interaction.

Other barriers for implementing VMS in schools are the following:

- Although people are very comfortable operating over the phone, training should be provided for parents as well as for teachers. Training for parents should be more focused on explanation, demonstration and learning VMS functionality, and training for teachers should motivate them to use VMS, and teach them the basic principles of what scripts are appropriate.

McAfee (1997) reports that some teachers, who are not motivated to use VMS, stop updating their messages on VMS. Parents, who have become more involved in their child's education, can be turned off if they find out that messages are outdated. If this happens, PI can become even lower than it was initially. Thus, if VMS are used inconsistently, they damage, not improve, the communication between schools and parents.

- Teachers can protest against using VMS, if they are concerned that VMS will allow school administration and parents to check upon them. Moreover, using VMS requires teachers to plan in advance, which some teachers may not do. Thus, using VMS requires teachers' commitment to serve students and their parents, and the establishing of trust between teachers and school administration and teachers and parents. Unfortunately, some schools may never leave this loop (McAfee, 1997).
- Some VMS can deal only with a limited number of languages. Thus, if a classroom is extremely multicultural, a teacher may not be able to provide messages in all languages spoken by families. However, the chances of running into this situation are very small (McAfee, 1997).
- Some schools find that parents avoid leaving messages for their child's teachers, and VMS do not work at their full capability (by supporting only one-way family-to-school interaction), unless schools invest more effort to overcome this barrier (McAfee, 1997).

D. *E-mail*

The main functions of e-mail technology are composing, sending, retrieving and forwarding e-mail. The technology also allows the user to keep a list of important e-mail addresses and filter unsolicited e-mails out. Indeed, all of these functions can support the correspondence between families and schools. For example, schools can electronically distribute school newsletters and other information to families. E-mail is an asynchronous communication; this type of interaction does not allow parties to respond and receive messages at the same time. It is important to consider that many people do not check their e-mail accounts regularly, or that they may change their e-mail service providers. Another potential problem is that messages often cannot be delivered because a mailbox is full or because the e-mail server is shut down for upgrading or other reasons. Therefore, messages sent by the school to parents may never reach them.

Parents may run into some problems when they use e-mail to communicate with the school. Although numerous e-mail service providers offer free e-mail accounts for everyone, and many people have several e-mail accounts; families that do not have Internet access at home may be left out. Finding the e-mail addresses of the school and teachers may also be troublesome for parents. In

contrast to telephone directories that are comprehensively organized and are frequently updated, each e-mail service provider keeps its own e-mail directory. Since people protect their privacy by using nicknames and withholding information that can identify them, finding someone's e-mail address might be a challenge that cannot be accomplished. Moreover, the language barrier can prevent ESL parents from comprehending information they get from the school, if this information is in English. These parents may feel embarrassed by mistakes in their writing. However, if well organized, e-mail messages sent by the school or a teacher can reach a vast number of parents. Parents can also respond at a convenient time, not necessarily when the school operates. If parents find that their messages are read and responded to in a timely manner, they might choose to use this type of communication more frequently. Otherwise, parents could be turned off from interacting with the school.

E. *Cable channels and teleconferencing.*

Some schools have their own cable channels and can organize teleconferences, which are broadcast at a particular time. Usually, parents are expected to provide input by calling in to the program or e-mailing. For those parents who are not able to watch the program when it broadcasts, schools can re-broadcast it or the parents can record it on their VCR. In addition, the school can loan tapes to parents. Teleconferences can also give parents living in different apartment complexes the opportunity to discuss their concerns with school administration. Other community members, businesses and media may also be willing to participate in such teleconferences. However, this type of communication is not widespread, mostly because this technology is quite expensive. Often only affluent schools or schools that already use cable TV and teleconferencing for instruction can afford to use this technology to promote PI. Cable TV programs and teleconferences for parents do not happen very often even in affluent communities. Thus, they may not be available when parents need them most (Warner, 1997).

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I have discussed different types of electronic technologies that are used by schools to establish family-school connection. Of course, technology cannot be a quick fix for family-school interaction and for education at large: "While technology may seem like a single, unified, and almost mythic answer to the problems of the family-school connection and American education, of course it is not. Technology is only a tool-but a very powerful tool with a variety of solutions to a variety of problems. That is its strength" (Blanchard, 1998, p. 10). Blanchard (1998) suggests at least four ways of how technology can serve the family-school connection: 1) communication and information, 2) learning and instruction, 3) interest and motivation, and 4) resources and costs. For parents, technology expands opportunities to communicate with schools and become more knowledgeable about the education their children are getting. It can also increase parental motivation to become more engaged in students' learning and save them resources (financial, emotional, time, etc.) usually required for face-to-face interaction.

As more new communication technologies become available on the market, perhaps some of them can also be used to support family-school connection. The role of other technologies can also be re-examined in order to determine whether they can promote PI. The next subsection of the essay discusses one of these technologies, web sites, and how they can promote PI.

2.2 District/school/classroom web sites: their missions and content

The Internet has become a tool for research, for storing and distributing information and for online learning and creativity (U.S. Department of Education, 2000a, b). Schools understand that if appropriately used, the Internet can benefit students, teachers and other members of school communities in a vast

number of ways. For example, in schools that have Internet access, teachers and students are using the Internet for searching and retrieving information they need.

At the beginning, designing a web site was very complicated, and few people possessed the necessary expertise to create web sites. For instance, Taylor (1999) reports that in 1994 only 140 school web sites existed on the net. With an increasing percentage of schools connected to the Internet, the number of schools having their own web sites has also grown. From 1994 to 1997, the percentage of schools reporting Internet access increased from 35% to 78% (a 222% increase), while the number of schools that had their own web sites had almost a 1,200% increase between the years 1995 and 1998 (Barron & Ivers, 1998; Carr, 1998). According to Sanchez's (1998) and Carr's (1998) estimates, by December 1997, nearly 2,000 school districts (14,000 elementary and secondary schools) were operating their own web site and more than 8,000 schools were listed on Web66. The astonishing growth of the number of school web sites indicates that the role of schools on the net has become more active. Schools no longer only consume Internet resources; they replenish those resources.

Richard Riley, the former U.S. Secretary of Education, notes that school web sites are now tools for "supplementing traditional learning, providing creative methods of teaching, and building and enhancing links between businesses, families and schools" (cited in Otterbourg, 1998, p. 9). Undoubtedly, instruction and professional development are the areas that can significantly benefit from using school and classroom web sites, but these two areas are beyond the scope of this essay. Therefore, I will only discuss the potential of using the Internet and school/classroom web sites to connect schools with families and communities.

The existing literature questions the positive effects of the Internet. However, researchers seem to agree that these technologies can significantly benefit PI (e.g., Bauch, 1997, 1998, 2000; Blanchard, 1998; McAfee, 1997; Otterbourg, 1998). The literature suggests that the structure and content of a web site should be carefully planned in order to reach the particular audience it targets. A web site is like an ID of the person or the organization it represents, and the school web site is an image of the school community. For example, in Moravia, NY, a district web site serves four purposes: communication; publicity (visibility among prospective employers and relocating families); a showcase of student work; and providing a safe Internet environment (Sanchez, 1998). According to Rutkowski (1998), public schools still have a choice of establishing their web presence. Private schools, however, need to have their web sites in order for parents learn about them and send their children there. Some private schools are targeting parents worldwide. Therefore, the audience of a school web site is not only the school community, but also people around the globe that can potentially visit that site while browsing the web. Thus, establishing a web site presence for the school is not only a matter of reputation, but also a strategic way to pass particular messages to an audience.

If a school aims at increasing PI in their children's education, the school should consider parents as the main audience for at least some components of that school web site (Adamyk & Dach, 1999; Sanchez, 1998). The literature indicates that the following components of a school/classroom web site are

family-friendly:

1. *A welcome message for parents.* Parents visiting the school home pages should be warmly greeted and invited to journey through the school web pages. Dunman (1998) suggests that a greeting by the principal, a mission (or a school philosophy) statement may efficiently introduce the school to parents. It is also important that people who are visiting a school home page have the option to choose which language the information will be presented to them. For example, Dunman (1998) reports that Borel Middle School in San Mateo, California, allows parents to choose between English and Spanish versions of selected web pages.
2. *"What's new?" section.* This section should inform parents and children about upcoming and past events. A school newsletter may also be posted in this section.
3. *School history section.* This section may highlight the main point of the school history and show how faculty's commitment benefits the school. Information about the school's award for educational excellence and stories portraying successful alumni are all appropriate for the school history section.
4. *"Frequently asked questions (FAQ)" section.* The section should answer most of the questions about the school routine. For example, school hours, rules for school visitors (parking, checking-in and out in the main office), how to report about student absence, etc. In addition, this section may include school handbooks (a handbook created specially for parents is desirable) and calendars.
5. *"How to contact?" section.* The section is extremely important. It should contain the information about the school location (it is worthwhile to include a map with driving directions) and school telephone directory, including bookmarks of the school home page and classroom web pages, faxes and e-mails. However, no information about school personnel should be provided without their consent. Schools are legally obligated not to reveal any personal information about their students. Alternately, contact information can be a part of a FAQ section.
6. *Faculty and staff showcase section.* The section may include the images of school administration and teachers. Parents who have never talked with the school principal, or with teachers, might be embarrassed that they cannot recognize the person they are meeting with.
7. *Extra-curricular activities section.* The section may display students' artwork and contain a calendar of sport events.
8. *Library-media center.* This section may include information about educational resources available for students and their parents, and hints about their use. For example, some library-media centers allow families to use school computers after the school day is over. Abilock (1997) reports that a media center in her Californian school organizes "Parent Internet Driving School" workshops where parents are taught to use the Internet. Dunman (1998) tells about South View Middle School in Edina, Michigan,

which organizes its "Media Moms" program. She also points out that a library media-center page can offer parents volunteering opportunities. It can also include links to other useful web sites.

9. *"Only for parents" or PTA/PTSA section.* The page should provide information about events organized for parents or entire families. Thus, information about open houses, parent nights, lectures and workshops for parents, as well as links to the official PTA/PTSA web site may be included in this section. If PTA/PTSA does not have its own web site, the school educational technology specialist or a media librarian can help to create a web site for the PTA/PTSA to host. In addition, the section may provide links to other organizations that support families.
10. *Community information.* Dunman (1998) and Rutkowski (1998) note that parents who recently moved to the area served by the school, or those who are considering doing this may want to know more about the community. If the school web page does not inform about the community (e.g., about city school government, local businesses, the school system, geography, weather), it should at least include links to other web sites that have this information.





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The components of web site design indicated above are the most promising in terms of improving communication between schools and families. But do schools utilize these components in their web sites? Barron & Ivers (1998) report that they analyzed the content of web sites included in the Web66 directory. They found that 84% of elementary and 71% of secondary public and private schools used the web sites to share information about the school. The researchers indicate that many school web sites present school history, its philosophy of education, and information about the school population. However, Barron & Ivers (1998) discovered that some schools do not include information of how parents can contact the school. For instance, they point out that only 65% of elementary and 59% of secondary schools posted school phone numbers, and only 71% of elementary and 70% of secondary schools provided the school address. The information about the content of school web sites is included in Figure 3.

Figure 3

<i>Type of Information</i>	<i>Elementary, %</i>	<i>Secondary, %</i>
Student work	43	20
Newsletter	29	41
Homework helper	11	10
Cafeteria	19	9
PTA or PTO	26	18
Calendar or schedule	51	55
Principal page	47	33

Teacher page	20	30
Student page	20	27

Figure 3: Specific types of school information on web pages (Barron & Ivers, 1998, p. 39).

This table demonstrates that many school web sites still do not inform parents enough about the school. Elementary schools do a better job of showcasing student work and informing parents about PTAs or PTOs. However, secondary schools are more likely to post school newsletters and offer links to classroom pages. Informing parents about the school and student activities is an essential component for establishing family-school communication. Therefore, schools have to work harder to incorporate as much information on the school web site as parents may need.

Ultimately, a school web site should link families to their children's classroom. A classroom web site can be used to complement instruction and communicate with parents. Therefore, a teacher maintaining a web site can inform parents about the curricula and course objectives. A classroom web page can also display the projects completed by students, provide the information about the school work assigned, and suggest tips for parents about how they can help their children to complete homework. In addition, if a server is secure and has extra capacity, the teacher can install a digital video camera in the classroom to broadcast lessons over the Internet. Parents, who are interested to observe how their children learn, may use passwords to view the broadcast. In addition, teachers can record any fragment of the lesson they want, digitize it and make available for parents to view at a convenient time. A classroom web site can also give students and parents the opportunity to access their grades after they enter a password. For example, the Learning Network project (<http://mygradebook.com>) allows teachers to log in and edit their gradebook from any Internet-connected computer at a time convenient for them. Teachers can assign and distribute passwords to their students and parents, which allows them to check upon grades and review attendance summaries. Thus, teachers can take advantage of this inexpensive, secure, easy to use, and accessible 24-hours-7-days-a-week service.

Figure 4



Used with permission of Eileen D. Gerrish, the designer of the site.
<http://home.adelphia.net/~global2/globalhome.htm>

Certainly, there are numerous ways for school and classroom web sites to be attractive for parents. District, school and classroom web sites ideally should be part of a network of web sites that all have useful information for students, parents and school staff. These three levels of web sites should complement each other. If one level is missing, web sites on the two other levels should compensate for it. In the worst case, if two levels of web sites are missing, much more effort will need to be invested in order to accomplish the goals.

Even though informing parents about their children's schooling is necessary, it is not sufficient to establish two-way family-school communication. Besides being informed, parents have to be able to provide feedback to teachers and school administration, and to get timely responses. The Internet allows parents to communicate with schools through e-mail. However, web site technology is unique in how it can handle most functions of other telecommunication technologies presented earlier. For example, a school or classroom web site can contain a QuickTime Video showing an episode of a lesson or containing a message from the teacher or the school principal. (Alternatively, schools may prepare a sound file that contains a necessary message.) When parents click to the video/sound link on their Internet-connected multimedia computer, the movie/sound track starts to play. However, Barron & Ivers (1998) report that only 1% of elementary and secondary schools utilize QuickTime video while 11% of elementary and 3% of secondary schools use audio as an element of web site design. (These data reflect using audio and video components for any purpose. Therefore, in 1998 very few schools might be using audio and video to support PI. Unfortunately, more recent statistics are not available.)

Web technology also allows list servs and chat rooms to be incorporated in a school web site. In terms of supporting PI, list servs can be used to regularly disseminate information from the school to parents' e-mail boxes. Chat rooms can provide a unique opportunity to interact with other parents and the teacher or principal. Since chat rooms support synchronous communication, they assume that all parties will go online simultaneously. While people can interact one-to-one in chat rooms, chat rooms are used more frequently to support interactions of "many-to-many". Therefore, including a chat room in a school/classroom web site can promote a large spectrum of school-family interactions.

URL: <http://www.ncsu.edu/meridian/win2003/involvement/6.html>

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Parental Involvement in Children's Education: Connecting Family and School by Using Telecommunication Technologies

Ellen Lunts

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Among other advantages of the web site technology is that it can incorporate "mailto" forms, web boards and guestbooks (El-Tigi & Branch, 1997; Ivers & Barron, 1999). For example, "mailto" forms can serve to survey parents, simplify required paperwork to become a volunteer, etc. Most importantly, web boards can promote two-way family-school connections. Guestbooks can also be useful for supporting communication between parents, teachers and school administration because they allow everyone to raise a question, express concern, give advice, and so forth. In fact, "mailto" forms, web boards and guestbooks are advance elements of web site design that are termed interactive [1].

Figure 5



Thus, web site technology incorporates most of the functions of VMS: it can deliver written, voice, static picture and video messages to all or some parents, inform about homework assignments and strategies that need to be applied, and even provide access to a student grade book. However, web site technology is more comprehensive than VMS because web site technology is multimedia, and VMS is a single-media (just sound) technology. Therefore, web technology has much more potential to establish better family-school interactions. While Internet technology is very appealing to use to support family-school interactions, there are some barriers that slow-down its integration in schools and homes.

Conclusion: The future of PI, web technology and other telecommunication technologies

This essay has provided a rationale for using telecommunication technology, and particularly web based technology, to establish continuous, inclusive, two-way communications between families and schools. In particular, this essay focused on examining the potentials of web site technology. If district, school or classroom web sites have their content and design thoughtfully planned, they are able to attract parents and engage them in communicating with the schools. Traditional approaches, as well as communications technologies, all have their specific weaknesses and strengths that need to be considered by each school. However, the main point is that neither of the approaches should be regarded as the only approach that should be applied.

It is essential to understand that the main goal is to engage parents in communicating with schools. Which of the approaches leads to accomplishing this goal is less important. As it is suggested by Bauch (1998, 2000), traditional and telecommunication approaches may be integrated. An integrated model that he proposed states that parents should be given an option to choose the method of information delivery they prefer: voice, e-mail, fax or a printed copy. He also suggests that a new integrated technology model will provide parents with broader spectrum of information. For instance, many ideas that he had for the future, like access to student gradebooks and portfolios and remote observations of classroom activities, are already implemented in some schools. Applying faster information transfer channels can bring even more possibilities of exchanging information between family and school. If the tendency of the decreasing costs of information technology continues, and school efforts to serve students and families do not weaken, schools and families will have the necessary access to communication technology and can use it to collaborate.

As new telecommunication technologies emerge, perhaps they can also make contributions to supporting a family-school alliance. Therefore, the issue of using communication technologies in schools is not closed; it has just opened. The effects on learning and PI have to be examined further. In fact, many more studies need to be done in these areas because these two areas are interrelated. Schools cannot afford purchasing technology just for accomplishing the PI goal, because PI is a secondary goal. The main goal is that students have a better learning experience in schools and acquire the necessary knowledge and skills to succeed in their lives. Hence, it is suggested that studies examining effects of technology on student learning also consider how technology affects PI, and vice versa.

Again, telecommunication technology should not be perceived as replacement

for face-to-face interactions of families with schools. There is a hope that in spite of the steady increase of American adults' workload, which leaves them with less and less time to spend with their children, direct PI in their children's schooling will not disappear. Luckily, more and more businesses start to recognize the significance of PI in children's lives. They compensate their workers for the time they spend with their children in schools, allow employees to have more flexible schedules, work part-time and share job responsibilities. For example, Hewlett-Packard (HP) Company supports an e-mail mentoring program for 5th-12th grade students. Approximately 1,000 students who are served by this program have their own mentor who supervises them in academic projects. Some businesses join their efforts to make even more difference in children's lives. American Business Collaboration for Quality Dependent Care: Bridge Project is organized by large American corporations, like American Express, AT&T, some large banks of America, Kodak Company, IBM and other computer companies. They are committed to invest \$100 million in communities where their employees live (Otterbourg, 1998). These are just few examples of how businesses can help to strengthen employee and family involvement in education by investing in technology for communities. Businesses do their first steps by understanding the importance of being committed to families and communities (National PTA, 1998). If we, parents, schools and communities, support and appreciate their efforts, we will benefit even more from this collaboration.

Indeed, PI needs to be fostered even more strongly because it has a tremendous impact on students' lives, including their learning:

The evidence is now beyond dispute. When parents are involved in their children's education at home, their children do better in school (cited in National PTA, 1998, the "Research Findings" section).

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Note

[1] The concept of interactivity is very complex, and it is often equated with communication. Interactive elements of a Web site support interactions between Web site visitors and Web site content. Since a Web master determines the content of his or her Web site, Web site visitors interact with the Web master, too. One of the components of interactivity, providing timely feedback, can be very effective for supporting communication between schools and parents. For example, parents can take a test that examines parenting strategies, and when they receive pre-programmed feedback from the Web site, they will be able to adjust their strategies and become better parents. For a more detailed account on interactivity, see Lunts (2000).

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