Implications of Information and Communication Technologies (ICT) for School-Home Communication

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Implications of Information and Communication Technologies (ICT) for School-Home Communication

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ABSTRACT

Considerable research exists which demonstrates the positive impact of effective parental involvement on students, families and schools. Studies, also, indicate a close connection between effective school-home communications and increased levels of parental involvement and engagement in learning. ICTs have the potential to fostering communication behavior and effectiveness to enable increased parent involvement, resulting in improved student outcomes. However, ICT adoption is heterogeneous, influenced by gender, cultural, and socioeconomic factors. Thus, a gap may exist between parent needs and administrator uses of technology for communications purposes. The purpose of this case research is to understand the impact of new ICTs on school-home communication. This study is part of an on-going research in progress. We are currently involved in employing multi-case interviews and documents review to gain insights into this influence and its impact on the school-home communication.

Keywords

ICT, parental involvement, communication, diffusion of innovation.

INTRODUCTION

Considerable research exists which demonstrates the positive impact of effective parental involvement on students, families and schools. Effective involvement improves student achievement across multiple measures, including: learning outcomes, attendance, pass/fail ratios, and graduation rates, as well as behavior at home and at school (Cary, 2006; Henderson and Mapp, 2002). These findings are consistent across economic, racial, educational, and cultural backgrounds (Chaboudy and Jameson, 2001). Administrators recognize the value of familial involvement in improving student outcomes, although they perpetually grapple with how they might get families more actively engaged at school and at home in supporting the learning process (Cary, 2006; Henderson and Mapp, 2002). Most students at every grade levels also want their parents to be well-informed and involved regarding school-related issues, activities and concerns (Chaboudy and Jameson, 2001). Moreover, research has shown that most parents are eager to help their children succeed in school. However, many parents do not know what is expected of them, or how to access information and resources they may use to help their children experience more school success (Chaboudy and Jameson, 2001; Henderson and Mapp, 2002).

More than 50 studies indicate a close connection between better and more frequent communications and increased levels of parental involvement and engagement in learning (Cary, 2006). Communication may be defined as “two-way process of convergence” (Rogers, 2003, p.6), in which information is shared by both parties and mutually beneficial relationships are forged between individuals, groups, and organizations, including schools and the families they serve. Effective communication, which entails listening and responding as well as the frequent flow of quality information, is often cited as one of the most important determinants of successful collaboration between school and home (Cary, 2006; Henderson and Mapp, 2002). Schools are required to keep parents up-to-date regarding student progress, homework assignments, and academic concerns as well as events such as literacy nights, choral concerts, athletic events, classroom projects, important deadlines, PTA activities, and more. Principals frequently seek new ways to get parents more involved in their child’s education, realizing the importance of establishing and maintaining meaningful, direct, two-way communication—a defining feature of effective parent involvement (Cary, 2006; Henderson and Mapp, 2002). However, principals face many challenges in maximizing the effectiveness of school communication due to cultural, socioeconomic and educational differences, language barriers, lack of trust, and other common barriers (Cary, 2006; Henderson and Mapp, 2002). Schools must be able
to manage the flow of information in the classroom between teacher and students, and also with parents at their workplace and home (Cary, 2006). Information must be clear and easily accessible, and written, spoken, or translated in language that most parents, including those with lower literacy levels, can understand. Most importantly, it must be timely. Yet finding appropriate communication methods to connect schools and the diverse parents they serve remains a challenge for many administrators (Cary, 2006). Smart and strategic appropriation of new information and communication technologies (ICTs) can strengthen communication, external outreach, and parental engagement (Carr, 2012).

Advanced Information and Communication Technologies (ICTs) can improve communication by providing new and more efficient ways in which “communications can be produced, distributed, displayed, and stored” (Wright, 2001, p.6). ICTs can be defined as information, resources, applications, and services accessed via technology (Selwyn, 2004). ICTs are transforming practices and changing expectations regarding school-home communication. According to Pavlik (2007), these new technologies have a considerable influence on public relations. There is growing evidence that “new technologies are enhancing, and to some degree changing, public relations roles” (Springston, 2001, p.606). In today’s mobile lifestyle, fast and short digital information exchanges are replacing traditional forms of communication such as writing notes, or sending home printed flyers in student book bags. Consequently, many parents might expect to find messages regarding school activities online or via smart phones, although gaps still remain in access, primarily due to poverty (Lenhardt et al., 2010). As new online and digital communication tools become more prominent, societal expectations regarding their use is increasing (Lenhardt et al., 2010; Pavlik, 2007). As a result, traditional communicative approaches are marginalized in favor of the newer technologies. This suggests choosing the appropriate communications technology is essential to maximize school and home communication efficacy and encourage familial involvement. Yet, technology adoption is heterogeneous. Rogers (2003) suggests high variability in the rate of diffusion of technology among individuals. ICTs chosen by principals might not align with parents’ preferences and needs (Carr, 2012). This further complicates communication expectations and practices symmetry.

Schools are using various forms of technology to increase school-home communication, including mass notification systems, voice mail, e-mail, school and classroom websites, and web access to individual student information such as attendance, grades, homework assignments, school events, and other news and information. However, this use is not consistent or widespread. Little research exists to understand the extent to which technology used by administrators to communicate with parents match the needs, habits, and expectations of the parents. The purpose of this case research is to understand the impact of new ICTs on school to home and home to school communication. In particular, we are interested in answering the following questions: where are administrators and parents along the ICT diffusion continuum, are parents and administrators preferences and expectations regarding ICT co-aligned, and are new/advanced ICTs perceived to be changing, improving, or inhibiting administrator/parent communications? We employ multi-case Interviews and documents review to gain insights into this influence and its impact on enhancing the school-home communication.

LITERATURE REVIEW

The foundational assumptions underlying this study are that parental involvement is strongly correlated with student achievement, and that effective communication across a principal/parent dyad fosters increased involvement. The efficacy of this communication is seminal to the creation of trust, shared understanding, and a common vision regarding student expectations, achievement, and outcomes. Increasingly, new technologies play an important role in facilitating communication across this dyad. However, technological heterogeneity among principals and parents might also inhibit effective communication. It is often the case that early adopters of a technology might: have more years of formal education, greater literacy, higher social status, a higher degree of upward mobility, or be part of a larger organization (i.e. a school or business) (Rogers, 2003). Technology disequilibrium tends to widen the socioeconomic gaps in social systems. The diversity of students and families served by public schools today, particularly in urban settings, the tendency of technology to widen educational and socioeconomic gaps greatly elevates the importance of understanding the role of technology in facilitating or inhibiting effective communication between parents and principals. For this reason we have chosen the diffusion process and two-way symmetrical communications theory as the appropriate theoretical lens through which to study this phenomenon. We begin with a discussion of the role of parental involvement in relevant literature.

Parental Involvement

The importance of parental involvement has been repeatedly highlighted by research and acknowledged in practice. “Parental involvement can be conceptualized as the means by which parents support their children's education and development to ultimately provide a positive influence on their academic achievement and school adjustment” (Hayes, 2011, p. 154). Parental involvement may take many forms including involvement in their child's learning at home, in the life of the school as a volunteer or participant in activities, and in parent-teacher organizations (Hayes, 2011; Wiseman, 2010). Parental
involved can be viewed from a variety of research perspectives (Wiseman, 2010). However, the commonality among studies which consider the role of parental involvement is a strong correlation between parental involvement and positive outcomes for students, families, and schools (Cary, 2006; Henderson and Mapp, 2002).

Parental involvement is an important influence on child development for children of all ages (Wiseman, 2010), and can be a strong determinant of students’ school performance (De Gaetano, 2007; Wiseman, 2010). Parental interaction and communication, such as participation in school functions, meetings, and activities helps foster an environment at home and at school in which parental engagement is viewed as an investment in a child’s future (Hill et al., 2004). Effective family involvement can lessen many educational challenges (Wiseman, 2010), increasing students’ academic achievement (Cary, 2006; Henderson and Mapp, 2002), and promoting positive student attitudes and behaviors both at home and at school (Henderson and Mapp, 2002; Jeynes, 2007). Further, a recent study on the impact of parental involvement on students’ education (Department for Education and Skills, 2003) finds that family participation significantly affects student’s cognitive development, literacy, and numeracy skills. Other research supports the positive impact of increased parental involvement on student attendance and students’ positive feelings of self (De Gaetano, 2007).

These findings are consistent regardless of parents’ demographic differences and economic, racial, educational, or cultural background (Chaboudy and Jameson, 2001). Jeynes (2007) in a meta-analysis that examines the influence of parental involvement on the educational outcomes of urban secondary students finds that positive effects of parental involvement hold true for both white and minority students, concluding that better parental involvement may help reduce the achievement gap between whites and other racial minority groups. Increased parent involvement also improves the school environment, climate, and culture—an important consideration in the school reform literature (Hayes, 2011). Moreover, family involvement facilitates connectedness between students and their parents regarding school, and enhances their interactions at home. Family involvement also improves parent mentoring regarding educational experiences, shared goals, and student achievement (Wiseman, 2010). Schools recognize the value of familial involvement in improving student outcomes, and are eager to get families more actively engaged at school and at home to support the learning process (Cary, 2006; Henderson and Mapp, 2002). Educators welcome parents into the school, honor their participation, and connect with parents through shared focus on their children tend to have higher levels of parental involvement and engagement across all demographic groups, “dispelling the myth that parents of different ethnic or socioeconomic background do not care” (Henderson and Mapp, 2002, p. 1).

School-Home Communication

Communication plays a pivotal role in encouraging and engaging parents in the learning process, both at home and at school. Frequent communication with parents helps reinforce and strengthen student learning at home, fosters greater parental interest and engagement in school activities, fuels more positive student attitudes about school and learning, and raises parents’ educational expectations and aspirations for their children (Joshi, Eberly and Konzal, 2005). Though often overlooked or neglected by school personnel, open, clear, welcoming, and effective communication can serve as the relational glue that helps bind parents, teachers, principals, and support staff together (Joshi et al., 2005; Thomson et al., 2007). When nurtured and sustained over time, communication builds trust between school personnel and parents, and fosters a climate of mutual respect and reciprocity that helps both parties work through any concerns, disagreements, or conflicts in a productive and beneficial manner (Thomson et al., 2007). Research has consistently shown that school practices such as frequent interaction, collaboration, and communication with parents are the strongest predictors of elementary and secondary school parent involvement in supporting their children’s learning at school and at home (Hayes, 2011).

While extant literature clearly supports the value of treating parents as partners in the learning process, rather than impediments that need to be overcome, educators are often slow to embrace the reciprocity such a partnership requires (Hayes, 2011). Strong school leadership is a critical factor in parent engagement and involvement (Flessa, 2008). Principals that support and model open, honest communication and embrace parents as partners tend to have more engaged and enthusiastic parents serving in volunteer roles at school, attending school activities, and participating in parent-teacher conferences. These principals also tend to have greater parent support at home as evidenced by student attitudes toward school, homework completion, student attendance, and other measures. Principals also shape the perceptions of teachers and staff toward parents. If principals attribute students' unsatisfactory academic results or behavior to poor parenting, teachers and other school personnel are likely to make similar attributions. As Flessa (2008) noted, “principals tend to rely on the deficit model - what parents are not doing - rather than looking at what means are in place to encourage parents to be more involved in schools” (p. 18). As a result, parents may feel that their contributions are devalued by educators, especially when those contributions occur at home and in the community rather than at school, and are thus “hidden” from view. As Joshi et al. (2005) note, “For communication between parents and teachers to be meaningful and responsive, it is necessary to
understand the cultural frameworks within which parents’ function, since parental attitudes are influenced by cultural and economic factors (p. 12).

Parents, especially those who may have had negative school-related experiences themselves, quickly perceive any negative or condescending attitudes displayed by staff and will likely react accordingly (Hayes, 2011; Joshi et al., 2005). In addition to positive staff attitudes toward parents and parental involvement and a respectful and inclusive school climate, parents desire information from their children’s schools that is clear and concise, helping them coordinate their children’s homework and other learning activities efficiently and effectively (Carr, 2006, 2010; Flessa, 2008; Joshi et al., 2005). As stated by Stalker et al. (2011), “A key element in overcoming many potential [parental involvement] barriers lay in communicating with parents in an accessible, consistent and informal manner.” (p. 242). Parents also desire communication from school personnel that demonstrates care for their children and that fosters greater understanding between the parents and school (deFur, 2012). Both the quantity and quality of information families receive is important (deFur, 2012). Parents desire jargon-free communication that is culturally aware and sensitive in ways that go beyond a brief acknowledgement of holidays or an international food festival (Joshi et al., 2005). They also value informal opportunities to interact with principals and teachers, and other forms of two-way communication, in which educators listen to and incorporate parent feedback into classroom, school, and district practices and decisions (Joshi et al., 2005). As Joshi et al. (2005) note:

Researchers tell us that two-way communication is essential for building mutual trust and respect between parents and teachers; that two-way communication invites parents to tell teachers what they know about their children, their community, and their culture (p. 14).

Two-way Symmetrical Communications

The importance of two-way, or dialogic communication, is a recurring theme in public relations theory (Cary, 2006; Kent and Taylor, 2002). Considered a best practice or hallmark of excellence, the ideal form of two-way communication is symmetrical in that both parties are willing to adapt based on collaboration and cooperation, and are committed to maintaining an ongoing relationship with each other (Cary, 2006). Such two-way communications may be interpersonal such as an individual or small group meeting, or mediated through another medium with a dialogic function, such as email, social media networks, website feedback loops, online surveys, interactive voice response systems, and other ICTs. Unlike information dissemination, which simply broadcasts, or distributes information through the mass media, organizational publications, websites, and collateral (print) materials, two-way communications are designed to establish a dialogue between the organization and its publics, in this case the school (principals) and the home (parents) (Kent and Taylor, 2002; Carey, 2006; Carr, 2010). The goal of this dialogue is a mutually beneficial, collaborative, and satisfying relationship, one in which meaningful messages are exchanged, and the input of the public(s) most affected by the organization are sought after and valued in the organization’s decision-making processes (Grunig and Grunig, 1992). “Symmetrical two-way public relations are more likely to lead to balanced communication effects than the other models, because constant, meaningful feedback is incorporated as an enduring component of the system” (Huang, 2004, p. 12). In addition to providing ongoing feedback mechanisms, two-way public relations uses parent surveys, focus groups, public opinion polls, in-depth interviews, and other research strategies to gather and analyze data on parent concerns, preferences, and needs regarding communications, the school’s academic program, after-school enrichment activities, and other topics (Huang, 2004). This data is then used to inform the school or district communications program in much the same way that student achievement data (both formative and assessment) is used to modify, adapt, and improve the school’s instructional program. As Kent and Taylor (2002) note, “when an organization is fully engaged in its community (local or global) it will have broader contexts and wider perspectives to draw upon in its decision-making. Engagement benefits all parties involved because decisions serve multiple publics” (p. 26).

Diffusion of Innovation

Symmetrical communication is to some degree reliant on convergent ICT use across stakeholders engaged in communicating. However, diffusion of technological innovations across social systems is typically not even and homogenous. Some people rush to buy the latest technology, while others wait until it is nearly obsolete. Meanwhile, near constant innovation of ICT’s over the last few decades has given us the Internet, cell phones, emails, text messages, tweets, streaming video, etc. ICT innovations continue to dramatically alter the devices, channels, and strategies by which we communicate with one another. Constant innovation and variant rates of technology diffusion might result in a heavily fragmented communications landscape in which multiplicity rather than ubiquity is the norm.

Diffusion of innovation theory is concerned with how innovations diffuse across social systems over time (Rogers, 2003). Though Rogers’ definition is broader, innovation herein refers specifically to ICT innovation. Rogers (1993) theorizes that...
individuals adopting an innovation can be partitioned using the following taxonomy: innovators, early adopters, early majority, late majority, and laggards. While adoption rates follow a near-normal distribution across that taxonomy, each innovation will itself experience heterogeneous diffusion. Some adopters will make early use of the innovation while others will not. In determining rate of adoption, Rogers considers attributes of the innovation as well as attributes of the adopter. However, the focus of this study is principally on the attributes of the adopter, with \textit{ceteris paribus} assumed toward the ICT—that is to say that all adopters will be subjected to the same set of technical attributes with regard to any particular ICT. While the attributes of the ICT must interact with attributes of the adopter to explain the subsequent adoption decision, the focus of this study is not as much on the technology itself as on the technological heterogeneity of social systems regarding any one technological innovation and the impact of that heterogeneity on communications efficacy. Therefore, we are interested in certain aspects of the individual, such as their socioeconomic status, as socioeconomic status at once explains convergence and divergence in the social system as well as in patterns of ICT adoption and use.

Research has demonstrated that early adopters of an innovation can be characterized as better educated, more likely to be literate, of higher social status, and possessing greater upward mobility than the other groups. Similarly, they can be ascribed different communications behaviors. They are commonly more highly interconnected, having a higher degree of exposure to interpersonal communications channels, and more actively engaged in information seeking behaviors (Rogers, 2003). In addition to socioeconomic considerations, the contrast between early and late adopters is also described along dimensions of personality and communicative style, such as: innovation-decision style, access to mass communication channels, social norms, the degree of network interconnectedness, and the extent of change agent promotions effect.

In this study, we seek to understand the similarities and dissimilarities between principal/parent dyads along the following dimensions: (1) socioeconomic self-characterizations, (2) ICT availabilities, (3) individual ICT adoption characteristics, and (4) primary individual preferences of ICT. In understanding convergence and divergence along these dimensions, we hope to better understand symmetry of communication across a principal/parent dyad and the impact of that symmetry on shared perceptions of communication efficacy (see Figure 1). Accordingly, we developed our research framework, shown in Figure 1, of Principal-Parent ICT Convergence and Divergence.

![Figure 1. Research Framework of Principal-Parent ICT Convergence and Divergence](image-url)
METHODOLOGY

We adopt a qualitative case study methodology to guide this research. Qualitative research is “an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. It builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting” (Creswell, 1998, p. 18). Qualitative methods enable generation of rich and detailed data. We adopt case study methodology for this research using multi-case design. By studying a small number of cases and at the same time preserving the individuality of each case, qualitative analysis allows deep understanding around the phenomenon of interest. Further, this approach allows cross-case analysis of findings. The choice of case study methodology is particularly appropriate in this study, as it allows us to develop a deep understanding of ICT diffusion, preferences, and habits of parents and principals, as well as their perceptions surrounding the role of technology on communications efficacy. The unit of analysis or case in this study is a parent/principal dyad. Interviews for each actor in the dyad will be analyzed to understand convergence and divergence of ICT use, habits, preferences and perceptions. Examination of multiple cases across varied socio-economic strata will add greater richness and depth to our study.

Interview dyads for the study will be selected from three elementary schools in one county at North Carolina. Schools targeted will include a magnet school, a suburban school, and an urban school. This selection is intended to provide a generous variety of socio-economic and educational backgrounds of participants. Data will be collected from multiple and different cases within each site. Document data will be also collected from multiple sources, including school websites, sample school communications “if available”, North Carolina school report cards, local news coverage, 2012 County Schools Parent Opinion Polls, etc. These documents will provide background information.

Data analysis will involve identification of themes within individual cases as well as across cases. Descriptions will be used to identify: the kind of ICT currently used by schools and parents, ICT habits and preferences of principals and parents, and parental expectations regarding ICT school communications. The case study method will allow for a detailed view of the convergence and divergence of these actors around the research questions developed in the study. Though guided by theory and a conceptual framework, categorical aggregation will be used to allow insight to emerge from themes found in the data. Themes will be identified from the interviews by highlighting key concepts and ideas. Concepts and ideas will be sorted into groups based on their similarity. A similar process will be used to code and sort the information obtained from supporting data documents. Lastly, these themes will be organized and combined into categories used to form insights to guide the research outcome.

Trustworthiness will be verified through triangulation from multiple data sources and member checking. “Triangulation is a method used by qualitative researchers to check and establish validity in their studies and includes data triangulation, investigator triangulation, theory triangulation, methodological triangulation, and environmental triangulation” (Guion, 2002, p. 29). Using multiple and different sources of data helps to ensure the accuracy of data and strengthen the study outcomes. Uncovering the same information from more than one case can help to describe how findings occurred under different circumstances and assist to confirm the validity of the findings. Moreover, investigator triangulation helps to ensure completeness of the findings. All the investigators will discuss their findings to reach conclusions which include all evidence collected.

CONCLUSION

It is well-understood in extant research that communication makes school-home connection effective. School-home communication plays an essential role in education success, and schools who fail to communicate effectively put students at risk. Increased and meaningful communication between home and school enhances parent involvement. Communication channels range from the mass media to interpersonal communication (Rogers, 2003). Newsletters, handouts, e-mails, press releases, web sites, neighborhood forums, phone calls, listservs, and meetings are only some of the great variety of methods that can be successfully used to get information to parents. Technology plays an essential role in fostering communication behavior and effectiveness. The use of technology has the potential to increase the frequency and effectiveness of communication between home and school to enable increased parent involvement, resulting in improved student outcomes. Smart and strategic appropriation of new information and communication technologies (ICTs) can strengthen communication, external outreach, and parental engagement (Carr, 2012). Yet, ICTs chosen by administrators might not align with parents preferences and needs (Carr, 2012). Moreover, since ICT adoption also is influenced by gender, cultural, and socioeconomic factors, a gap may exist between parent needs and administrator uses of technology for communications purposes. The diffusion of innovation process/theory provides a useful conceptual framework for researching school-home communications and the adoption of ICTs by administrators and parents. Understanding parents and principals differences and preferences when developing and deploying strategic communication plans represents a key leadership and management
function for educational leaders today (NSPRA, 2006) to build, maintain and strengthen school-home communication. The purpose of this study is to build an in-depth understanding of the influences of ICT diffusion, preferences, and habits of parents and principals on their communication. This study is part of on-going research initiative. We are currently involved in collecting data from different sources to investigate the phenomenon of interest. The findings of this study will inform future research around the topic, and form a foundation for further research.

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