Data Sharing through Parent Portals:
An Exploration of Parental Motivation,
Data Use, and the Promise of Prolonged
Parent Involvement

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Barbara Starkie

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Abstract

Fifty years of research make clear the vital relationship between parental involvement and school success. Also emerging from research are the significant risk factors associated with a lack of parent involvement, particularly as children progress through school. Casting an even brighter spotlight on the importance of parental involvement is the No Child Left Behind Act of 2001 linking school funding to demonstrated comprehensive parent involvement efforts. As a result, districts nationwide are instituting an array of interventions to improve the home-school connection and to keep their parent constituencies involved.

Increased access to the Internet, both in schools and in homes, has forged a new avenue for parent involvement interventions and for home-school communication, an avenue that researchers have explored in detail over the past decade. Reports suggest that Internet-based home-school communication efforts are proving to be somewhat successful in addressing the home-school divide. One such effort currently being used to augment home-school communication and to garner parental involvement is the use of Student Information Systems (SIS) and their accompanying parent portal features. Use of SIS has support from U.S. Secretary of Education, Arne Duncan, and from influential private donors like the Gates Foundation, because SIS programs are touted as vehicles to improve education from the White House to every child’s house.

The grandiose expectations of SIS use is, in part, attributed to their highly accessible parent portal features. Granting accesses to this feature provides parents with non-stop access to their children’s academic data. Districts swept up in the trend to share this data with parents do so most often to address federal mandates and in hopes of solidifying a home-school partnership.
Research, conducted over the last six years, offers promising findings when parent portals are examined as a mechanism for home-school communication. But, what remains largely unexamined is how parents, who access daily classroom grades through parent portals, use that data to impact student learning.

This concurrent mixed methods investigation addresses that void by examining what motivates parents to use parent portals. It also examines how parents with access to their children’s moment by moment academic data, use that data to address learning. Finally, it offers insight regarding a parent portal’s potential to foster, deepen, and prolong parent involvement.

This investigation presents seven findings. It confirms most parents perceive a portal as an effective means of home-school communication. It confirms that parents are motivated to use a portal by their concern for their children’s academic performance. It reveals that most parents do not use portal data to address students’ present and specific learning needs, particularly when portal access is newly granted. It reveals, rather, that most parents use portal data to “monitor” grades and hold children “accountable” for task completion. It also reveals that most parents perceive that their use of portal data results in improvements in communication with their children, improvements in their children’s attitudes toward school, and improvements in their children’s grades. Further, this investigation suggests that use of a parent portal may affect parents’ traditional tendencies to decrease involvement as children advance in school. Finally, it confirms a need for parent training in portal use.

Suggestions for further research, resultant from this investigation, fall under five areas. Those areas are parent use of portal data, parent training in data use, equity of access, student use of data, and a portal’s capacities to foster, deepen, and prolong parent engagement.
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Lastly, I thank Chicklet and my family for their unwavering support and encouragement. I firmly acknowledge my parents, in particular, who taught me the value of an education and the importance of parental involvement.
Dedication

This dissertation is dedicated to my parents. Fred Starkie Jr., the only child of immigrants from England, left school during World War II and served his country with honor. Upon return, he attained his GED in a post-war night school program. It is with deep sadness that I reach this goal without him, as he passed in February 2000.

Ilda B. Starkie, a daughter of Portuguese immigrants, finished high school, and, as was expected, got married. She raised two sons before returning to school at the age of forty to receive a Bachelor’s Degree. After my birth, she went on to attain two Master’s Degrees, one in School Administration and the other in Business. She then spent 25 years as a public school teacher and retired, before she was ready to do so, to take care of my ailing father. My mother’s academic accomplishments are to be applauded in consideration of her parentage and the social expectations of the times.

My parents’ actions demonstrated the importance of education and the tremendous value of being involved in a child’s schooling. Their support cannot be captured in a few words on this page. It is intangible. It has, however, resulted in the success and happiness of my two brothers, Daniel and Paul, and in my completion of this academic venture.
Chapter One: Introduction

An Overview

Friedrich Froebel, the German philosopher and educational theorist, popularized the term Kindergarten, which literally translates to “children’s garden.” His vision of school as a place where children are nourished under the tutelage of learned adults is common to those in education. Froebel’s analogy points out that children, like plants, have roots that are nourished long before their arrival at school. Froebel’s work, as well as the work of numerous educational theorists, philosophers, and researchers, also suggests the importance of children’s “original gardeners,” their parents.

This relationship between a child’s parents and a child’s school is paramount to the success of the child. This is not a new notion, but it is one gaining increasing attention in the United States. Research completed over the past fifty years confirms that parents play an undeniably important role in the academic lives of their children (Chadwick, 2004; Constantino, 2002; Cotton & Wiklund, 2001; Darling & Westburg, 2004; Davis, 2000; Desforges & Abouchaar, 2003; Epstein, 2001; Hampton, Anderson, & Sigman, 2002; Henderson & Mapp, 2002; Hoover-Dempsey, Walker, Jones, & Reed, 2000; Levine, 2002; National Parent Teacher Association, 2000 & 2011; Nye, Turner, & Schwartz, 2006; Southwest Educational Development Laboratory, 2001; Starkey & Klien, 2000). From providing a safe home-environment to engaging in routine contact with teachers, parental involvement results in consistent school attendance, positive attitudes and behaviors, completed homework, higher grades, better standardized test scores, increased likelihood of graduation, and greater likelihood
of participation in higher education (Chadwick, 2004; Desforges & Aboucheaar, 2003; Henderson & Mapp, 2002;).

Parents who attend school functions, communicate with teachers, and actively demonstrate interest in their children’s academic endeavors are almost always rewarded with positive outcomes. That is because parental involvement has been shown to motivate children to exert more effort and to achieve more (Grolnick, 2003; Grolnick, Benjet, Kurowski, & Apostoleris, 1997; Grolnick and Slowiaczek, 1994; Maynard & Howley, 1997).

The relationship between school success and parental involvement seems clear. But what is also emerging is that a lack of parental involvement or disconnection between the home and school poses a risk factor for a child’s success (Christenson & Sheridan, 2001; Pianta & Walsh, 1996). Children are more likely to fall behind in school and more likely to drop out if their parents are not involved (National PTA, 1998; Schargel and Smink, 2001). This is particularly true for Latino males (Institute of Educational Science, 2009). Additionally, young children with weak academic skills who have parents who are not involved have very little no chance of finishing school (America’s Promise Alliance, 2009; Okun, 2008).

Unfortunately, parental involvement tends to decline as children advance from grade to grade. In particular, there is a marked decline when children enter middle school. The National Assessment of Educational Progress (NAEP, 2000) revealed 90% of 4th graders across the nation are in schools where more than half of the parents attended parent conferences, whereas only 57% of 8th graders are in schools where more than half the parents do the same (Institute for Educational Sciences, 2012). In fact, the decline of parental involvement from grade to grade is one of the greatest challenges public schools face in their quest to educate children (Center for
Comprehensive School Reform and Improvement, 2012; Dauber & Epstein, 1993; Desimone, 1999; MetLife, 2005).

Casting a wider spotlight on the decline in parental involvement is the No Child Left Behind Act (NCLB) 2001. Part of the NCLB legislation links public school funding to demonstrated comprehensive parental involvement efforts. As a result, districts nationwide are instituting a myriad of interventions to improve the home-school connection. Community mentoring programs, parent teacher organizations, parent liaisons, corporate sponsored social events, and, most importantly, home-school communication initiatives are just a few of the efforts showing positive effects (Darling & Westburg, 2004; Nye, Turner, & Schwartz, 2006).

Home-school communication attempts, in particular, are proving to be a means of addressing the home-school divide (Elman, 1999; Epstein, 2002; Pebley & Satry, 2003; Shayne, 2008; Thorkildsen & Stein, 1998). Even relatively passive communication efforts, such as requiring parents to routinely sign and return report cards, are proven to be better for children than no communication efforts at all (Cotton & Wikelund, 2001; Shayne 2008). Schools, armed with such information, and compelled by a blend of research and mandates, are increasingly turning to technology as a means of getting parents involved. Schools are aware that using technology to reach out to parents leads to increases in home-school communication and heightens parental involvement (Bernstein, 1998; Davenport & Eib; Furger, 2006, Rogers & Wright, 2008).

Increased access to technology, both in schools and in homes, has, without a doubt, created a new avenue for communication between these two constituencies. The Internet, in particular, has enabled communication efforts that are more convenient for parents, in terms of
location and accessibility outside of school hours, and more individualized, in terms of providing child-specific information. Such offerings make using technology an appealing way for schools and parents to connect. Measures such as chronicling daily school events via Twitter feeds and documenting curricular and extra-curricular happenings on Facebook are becoming commonplace ways of communicating with parents.

One technological intervention promising to augment home-school communication is the use of Student Information Systems (SIS). Simply put, an SIS is a software program designed to manage student data for educational organizations. School districts nationwide have spent more than a billion dollars on SIS over the past decade (Tucker, 2010). The Data Quality Campaign (DQC), a nonprofit, nonpartisan, advocacy organization founded in 2005 is instrumental in promoting the adoption and use of SIS. The DQC, an organization that has grown from 10 to close to 100 members since its origin, is committed to creating and sustaining an educational system in which all participants, including parents, have access to high quality data. According to the DQC all 50 states have data systems, such as SIS, that track student performance from year to year (Data for Action, 2011). It is the DQC’s belief that sharing such data with stakeholders, such as parents, will lead to increases in efficiency, improvements in informed decision-making, increases in transparency regarding school practices, and increases in student achievement.

Use of SIS systems also has support from U.S. Secretary of Education, Arne Duncan, and from influential private donors like the Gates Foundation, because SIS programs are touted as vehicles to improve education from the classroom level to the federal level. In theory, with data, …policymakers can identify effective schools and educators, expose problems,
make better decisions about the allocation of resources, and build political will for reform. At the classroom level, better data will inform instruction—enabling teachers to better understand what approaches work for specific students—and lead to better teaching and improved learning. (Tucker, 2010)

These goals for data use are, indeed, lofty. But, with 100% of the states now in possession of expedient electronic means to amass, analyze, and share student data, these goals should be within reach. However, in some ways, the national trend to collect and share data has led to what Richard Dufour (2004) refers to as DRIP, data rich and information poor. Some reports indicate that schools are overwhelmed with yearly data. Others suggest that the data schools have is not being used where it is perhaps most applicable, the classroom and, as some SIS’s promise, the home. A U.S. Department of Education (2010) report found, "…even in districts with a reputation for leadership in using data, electronic data systems are barely influencing classroom-level decision-making" much less empowering parents to facilitate learning. One reason this data is slow to impact classroom learning is the wide variety of SIS programs schools are using. Some SIS programs are not equipped to provide the teachers, students, and their families with access to the data. Others offer data, such as standardized test scores, that is not directly useful to day to day learning (Tucker, 2011).

Some SIS programs do afford parents access to meaningful data. Some offer access to children’s grades and other information such as schedules, attendance, disciplinary activities, and course selection options via Internet-accessible parent portals. Schools that have opened access to SIS parent portals are providing parents with such information on a regular basis. The prevailing theory is that sharing this type of data with parents may alter the trend of parent engagement, thus making the engagement purposeful, linked to improvement, and prolonged
(Weiss, Lopez, & Stark, 2010). Those schools face the new challenge that accompanies open access to data, understanding and assisting parents to use that data. In many cases, however, the burden for interpreting and using the data is left with the parents.

Providing parents with data promises to help decentralize the ownership of education from the school to a more shared relationship between the school and the parent. Providing parents with data through SIS parent portals may not create this shared relationship, however, if the data sharing continues without investigation. There are a few studies that address SIS parent portal use. The investigations of Delaney (2006), Shayne (2008), Ellis (2008), Mathern (2009) Koch (2010), and Olmstead (2011) present promising findings when parent portals are examined as means of home-school communication. But, what remains largely unexamined is how parents, who access daily classroom grades through parent portals, use that data to impact student learning.

This study addresses that void by examining what motivates parents to use a parent portal. It examines how parents with access to their children’s academic data, specifically grades on all individual assignments, attendance, and teacher comments, use that data to address learning. It also offers insight into how a parent accessible SIS may foster, deepen, and prolong parent involvement. It provides both quantitative and qualitative data that may be of interest to the 10,000 public schools currently using PowerSchool, as well as those using other SIS programs. Further, it provides information about the presumed linkages between parental access to data and student learning. This information may prove to be valuable for school districts, nationwide, whose collective anticipated SIS spending will exceed two billion dollars by 2020 (Tucker, 2010).
Background

In 1997, the Stoughton Public Schools (SPS), in Stoughton, MA, acquired its first Information System (SI). The SI ran on an IBM mini-computer and helped to store very broad information about the school system. At the same time, the newly hired Director of Educational Technology, Dr. Lawrence Gray, was charged by the School Committee and Superintendent to select and implement new student software and new finance software. A team, consisting of the High School Principal, Guidance Director, Assistant Superintendent, and Gray, examined various student systems.

The team chose Chancery Software's WinSchool/MacSchool products, Open District. Chancery, a company located in Canada, was one of the first to develop and market software that helped school district’s to centralize their K-12 student data. Their program, Open District, was popular at the time. It included classroom teacher grade book features but did not initially include features for parent portal access. (L. Gray personal communication 27 April 2012)

Chancery’s Open District was considered an application service provider (ASP) bundle because it stored both the application and the student data on Chancery’s own secure servers. This allowed the Stoughton Public Schools to put student data in a secured on-line environment maintained by Chancery. However, the data could be accessed at any time by Stoughton Public Schools staff using an Internet connection. The ASP meant that the Stoughton Public Schools no longer had to install, maintain, and upgrade the information system software. It also did not have to purchase and dedicate equipment just to run the system. This created a cost savings for the district as well as for the other districts using Chancery’s products. Further, Open District consolidated all of the site-based student data captured by Chancery’s SIS into a central district
database. This meant Stoughton Public Schools staff could manipulate the data, generate reports using built-in tools, and share the data in other administrative software applications. (Felix, 2000; L. Gray personal communication 27 April 2012)

As time passed, Open District became Chancery Student Management System (SMS). In 2003, when Chancery became an SMS, it offered an updated version of its software that promised lower hardware, software, and infrastructure costs. The new Chancery SMS promised to lower these expenses because it was a centralized database requiring one installation that would provide updates for all schools within a district. Since the Stoughton Public School District was a Chancery customer, it was able to migrate to Chancery SMS at no charge. The new system came with a parent portal feature. Gray reported that as early as 2007, the new parent portal feature sparked discussion on the SPS Technology Committee about enabling the feature for parents. But, since the program did not have a “single sign-on” feature that made parent accessibility manageable for parents with multiple students and for the system administrators who would oversee the system, the Committee’s suggestion was to delay access to the parent portal feature until the program became more “parent friendly”. (L. Gray personal communication 15 May 2012)

Around this same time, Pearson Education, a division of Pearson PLC from London, England, was touted as the “global leader in educational publishing”. It marketed itself as a company that provided “scientifically research-based print and digital programs to help students of all ages learn at their own pace, in their own way.” In its quest to compete in the SIS and SMS category, Pearson Education purchased several smaller SIS and SMS programs. One of these was Chancery’s SMS. Another was an SIS called PowerSchool, sold by Apple.
PowerSchool, like Chancery’s SMS, was a web-based solution for K-12 Districts seeking secure and 24 hour access to its student data. It, too, offered facets such as integrated services and built-in reports. Its “NCLB friendliness” was reported in its sales literature and it had a parent accessible portal feature (Apple Press Info, 2006).

When Pearson Education purchased both of these companies, it offered existing customers, one of which was the Stoughton Public School District, the chance to switch from one program to another at no cost. The decision of the School Committee and the new Superintendent, under the advisement of Gray, who, again, assembled a team and evaluated all of the other student systems with a user base in Massachusetts, was to move to Pearson’s PowerSchool at no cost. District-wide use of PowerSchool was then scheduled for the Fall of 2010. (L. Gray personal communication 27 April 2012)

The switch to PowerSchool offered the Stoughton Public School District the opportunity to grant parental access to student information via a parent portal with a “single sign-on”. Granting access to the parent portal was one way to potentially share data with an estimated 75% or more of the District’s families who had Internet access. Opening the parent portal was also part of a greater Stoughton Public School District’s technology initiative. Other aspects of the initiative included continued use of school web sites, One Call Now messaging, which is a high speed Internet service used to send automated calls, text messages, and emails to school constituencies and building-based as well as District-wide email lists. It also included continued use of Twitter, Facebook, a Cable Bulletin Board scrolling on a local access cable channel, and streaming video feeds uploaded to school, town, and Parent-Teacher Organization sites.
Opening the portal also presented a means of addressing No Child Left Behind parent involvement and data sharing mandates. (L. Gray personal communication 27 April 2012)

The School Committee and Superintendent, under the advisement of Gray, decided to allow teachers and administrators one year to acclimate to PowerSchool, a program that most of the staff encountered for the first time in September of 2010, before opening the portal. During the 2010 school year, all Stoughton teachers were required to use PowerSchool’s PowerTeacher gradebook as their sole gradebook program. The District offered at least three training opportunities during professional development time and after school, conducted by building and District-based technology support personnel, for interested staff members. The SPS also allowed teachers and administrators to access PowerSchool user tutorials located on the Pearson website. The tutorials were between ten minutes and three hours in length depending on the topic. They were identified by topics and geared to provide information specific to the viewer’s use. For example, a teacher specific tutorial revealed the steps necessary for ascribing weighted values to class assignments whereas the administrator’s tutorial demonstrated the steps necessary for building a school’s master schedule.

In August of 2011, after receiving approval of the School Committee, the Superintendent announced that that the parent portal would open to parents of students in grades 6-12 in September of 2011. The decision to exclude parents of students at the elementary level was based on the elementary schools’ use of standards-based detailed grading; a method too cumbersome for reporting through the portal.

Aware that not all parents had access to the Internet, Stoughton Public Schools partnered with Comcast Corporation, the primary provider of cable systems, high speed Internet service,
and telephone technologies in the region. The agreement, entitled “Internet Essentials,” provided low cost Internet service and inexpensive computing devices for households of students on free and reduced lunch. The program was advertised on the SPS web site and in the local newspaper. “Internet Essentials” brochures, provided by Comcast, were sent home with all students in September of 2011. Interested families checked their qualification status by calling a 1-800 number or by visiting a web address and completing an application. Qualified households in the community received Internet service for $9.95 per month. They were assured that they would not incur any activation fees or future price hikes. Qualified families also received vouchers to purchase netbook computers for $149.99. They also received training in netbook and or Internet use either in-person or online.

As Gray of SPS shared, “The Comcast program that provides very low cost Internet service and an inexpensive computer to students eligible for free/reduced lunch make it practical for virtually all families to have Internet access”. Although formal data regarding Internet accessibility was not collected before or after the initiation of the “Internet essentials” program, Gray reported “… most parents/guardians have supplied email addresses, implying that they have Internet access in some form.” According to records, 1518 parents of grades 6-12 students supplied email addresses. (L. Gray personal communication 29 April 2012) That constituted 77% of the 6-12 population.

That same August, the Stoughton High School (SHS) Principal and the Dr. Robert G. O’Donnell Middle School (ODMS) Principal wrote a joint introductory letter to accompany an acceptable user policy and user agreement developed by Gray and approved by the School Committee. The letter explained that the District’s SIS program had a feature that would allow
parents to view their children’s schedules, grades, and attendance records. It announced that parents wishing to access their child’s grades should sign and return the attached PowerSchool Parent Portal Agreement Form. The letter also contained the PowerSchool Parent Portal Acceptable Use and Safety Policy. The policy, approved by the School Committee, reiterated the portal’s purpose of sharing grades, attendance and schedules. It also stipulated eight guidelines to which portal users had to adhere. Those guidelines covered privacy, responsibility, security, password safety, and denial of access for posing a safety risk.

The PowerSchool Parent Portal Agreement Form was an official request to review a child’s student information on the Stoughton Public School District’s Parent Portal. By signing the agreement, parents released the District from any and all liability for damages arising out of unauthorized access to a parent/guardian account. By signing, parents also agreed not to share their passwords, to protect information printed or transferred to their computers from the site, and to understand that three unsuccessful log-ins would disable the account until personal verification of user status could be authenticated by the District. Signing the agreement also affirmed that there were no legal restrictions that precluded the parent from accessing his or her student’s information and that the parent understood the terms of the Acceptable Use and Safety Policy. The form necessitated the name of each child for whom the portal would be accessed, parent name, address, phone number, and email account.

When staff members returned to school in September of 2011, the High School and Middle School Principals announced that the parent portal had been enabled and parent access would be granted to each parent who returned a signed PowerSchool Parent Portal Agreement Form. On the first day of school, 900 students at ODMS and 1066 students at SHS were given
the introductory letters and user agreements, inviting their parents to become parent portal users. As such, users would be able to view their children’s grades on all forms of classroom academic assessments, as well as attendance, schedules, and teacher comments, 24 hours a day, 7 days a week. The invitations were followed by an automated One Call Now message alerting parents to the opportunity.

Parents who returned the signed user agreements to ODMS were emailed a PDF containing directions for portal use developed by Gray. They were also provided with a link to a HelpDesk that offered assistance and information for portal users during school hours. By November 2011 there were approximately 529 registered parent portal users at ODMS. As the year progressed, the remaining parents were encouraged to join. Parents who called the school’s Main Office, who attended meetings about their individual students, and who communicated with teachers via phone or email were reminded of the availability of portal access. School issued documents, such as progress reports and reports cards, included reminders about the portal, as did the school’s web site. As of March 2012 there were 620 registered portal users, representing 68% of the school’s total students.

Purpose

The purpose of this study was three-fold. First its purpose was to understand what motivated parents to use the parent portal. Second, it was to examine how parents with access to their children’s academic data, specifically grades on all individual assignments, attendance, and teacher comments, used that data to address learning. Its third intent was to offer insight into how a parent accessible SIS may foster, deepen, and prolong parent involvement. Understanding how parents perceived use of a parent portal, as well as how parents utilized the data they
accessed through the portal, provided valuable insight into the portal’s potential to sustain home-school communication, to prolong parental involvement, particularly at the middle level where a decline is likely, and to contribute to student achievement.

**Statement of the Problem and its Significance**

*Parent Involvement at the Middle Level*

There is a documented decline in parental involvement as children advance through grade levels. Parents tend to engage in their children’s education, to a greater degree and with greater frequency, during the earlier school years. Once children advance to the middle level, parent involvement tends to decrease (Eccles & Harrold, 1993; Epstein, 1990; Hall, et. al, 2005; NAEP, 2000; Zill & Nord, 1994). At the middle level, however, a time when children experience a complex period of emotional, cognitive, physical, and social development, both parent involvement and school attempts to elicit such involvement need to increase. If a decline in parental involvement occurs at the middle level, both student achievement and children’s likelihood of success are compromised (America’s Promise Alliance, 2009; Christenson & Sheridan, 2001; National PTA, 1998; Okun, 2008; Pianta & Walsh, 1996; Schargel & Smink, 2001; Singh, et.al., 1995).

A U.S. Department of Education study links the traditional decline in involvement to a widely held feeling by middle school parents that children should complete school work alone (2002). Some parents report that they see their participation as unnecessary or ineffective if they are not experts in specific subjects encountered by their middle school students (Dwyer & Hecht, 2001; U.S. Dept. of Education, 2002). Yet others report that they hesitate to become involved because they had poor school experiences of their own such as discipline and attendance
difficulties as well as academic struggles and withdrawing before graduation (Decker et al., 2000; Dwyer & Hecht, 2001; Eccles & Harold, 1993; Greenwood & Hickman, 1991).

Other studies suggest that parents, particularly in urban settings, only get involved if there is a demonstrated feeling of trust, love, and respect for the child, communication attempts by the school, and appearances of school personnel, such as teachers, in the community at non-school events or who visit children’s homes and neighborhoods (McDermott & Rothenberg, 2000). Parents also report language barriers, a lack of time, trouble understanding the educational process, and lack of schooling as impediments to parent involvement (Epstein, 1985; Epstein et. al, 2002; Hall et. al, 2005).

Middle schools, in contrast to early and elementary schools, themselves also contribute to a decline in parent involvement. Historically, school activities designed to involve parents, decline at each grade level, and seriously decrease at the transition to middle school (Williams & Chavkin, 1989; Zill &Nord, 1994). For example, elementary schools tend to invite parents for routine class activities and to work with their children during school hours, and middle schools typically do not. Elementary schools provide interactive homework activities and find it easier to build relationships with parents because of their single classroom teacher structure whereas middle schools do not. Middle schools are traditionally larger, both in size and population, and necessitate interactions with multiple teachers as opposed to one teacher. This affords a less personalized approach to parent involvement than in most elementary schools.

When students’ progress from the single classroom teacher structures of elementary schools to the multi-teacher structures of middle schools, parents encounter a shift in parent involvement programming. As a result of their structure, most middle schools do not encourage
parental involvement in the same style, variety, and frequency as elementary schools (Miretsky, 2004; Rutherford, et. al, 1997; U.S. Department of Education, 2002). For middle school parents, involvement is more focused on the whole group or the school’s policies and procedures rather than on individual students. Efforts tend to include larger invitational events, such as Orientation Nights, that detail school operations and afford minimal contact with teachers.

Barriers, such as larger class size, increased and complicated school policies and procedures, and a less personalized approach to curriculum, also contribute to decreases in middle level parent involvement efforts. Resultant is the tendency for parents of middle school students to assume a less active posture (U.S. Department of Education, 2002; Walker, 1997). This trend continues into the high school level unless involvement efforts are initiated and sustained by the schools and unless schools work to develop grade level appropriate involvement practices (Christenson & Peterson, 2011; Epstein, 1995; Epstein, 2001; Maike, 1996). Such practices involve the construction of home-school and community partnerships.

Home-School Partnerships Theory and Home-School Communication

Johns Hopkins University’s Dr. Joyce L. Epstein, the Director of the Center on School, Family, and Community Partnerships and the National Network of Partnership Schools, identified a comprehensive parent, community, and school partnership known as Overlapping Spheres of Involvement (OSI). Epstein’s theory acknowledges that there are three contexts in which a school age child thrives. Those three are the family, the school, and the community. Epstein demonstrates this theory in a circular model of overlapping spheres. Her OSI model places the child at the center of these three contexts. The school, the family, and the community are the spheres that hover around and over the child. She posits that it is crucial for the spheres
of family, school, and community to overlap with one another and to intersect at the child. Epstein concludes that activities, designed to engage a child and that include the other three constituencies, will motivate the child to produce his or her own successes.

Epstein’s (1992) OSI research led her to identify what has become widely known as Epstein’s Six Types of Parent Involvement. The Six Types of Involvement are: Type 1-Parenting, Type 2-Communicating, Type 3-Volunteering, Type 4-Learning at Home, Type 5-Decision-Making, and Type 6-Collaborating with Community (Epstein, et. al, 2002). Type 1 Parenting consists of programming that helps families develop parenting skills. For example, it coaches adults into setting home conditions, like establishing schedules and routines, to support children as students. Type 2 Communicating involves the establishment, both at home and at school, of effective methods of discussing and addressing school programs and children’s progress. Type 3 Volunteering is the provision and encouragement of ways for parents and community members to volunteer on behalf of, as well as with, students. Type 4 Learning at Home helps parents to facilitate learning opportunities outside of school hours, such as providing homework assistance and crafting ancillary academic activities, around the school’s curriculum. Type 5 Decision Making involves getting parents to become stakeholders in the school’s procedural and academic policy making. Lastly, Type 6 Collaborating with the Community is designed to link community resources and services for parents and children and affords opportunities for parents and children to offer their services to the community. (Epstein, et. al., 2009)

Epstein (2001) concludes that when schools provide all Six Types of Involvement, the result is effective school-family partnerships and student achievement. All Six Types of
Involvement are rooted in some form of school initiated one-way and two-way home-school communication. School systems nationwide, compelled by Epstein’s research, as well as the No Child Left Behind legislation necessitating parent involvement programming, want to enhance home-school communication efforts and increase parent involvement.

Schools utilize various means of addressing the home-school communication issue. One means of doing so is via the employment of parent liaisons, such as the 165 liaisons working in the Fairfax County Public Schools (FCPS) of Virginia. FCPS’s parent liaisons are part-time employees who work in 162 of FCPS’s more than 186 schools. They are responsible for familiarizing families with the system’s culture, promoting intercultural awareness, bridging school professionals and families, teaching parents to assist their students with school work and establishment of effective school habits, and engaging parents who would not typically take part in school activities. (Fairfax County Public Schools, 2010)

Another community enlisting the help of parent liaisons is Columbus City, OH. Schools in Columbus City employ 90 parent mentors who assist parents, particularly of students with Special Needs, to engage with the schools in productive ways. Elaine Hamilton, a parent mentor from Columbus City, explains that her “role is to help families understand what is happening in the schools”. Although there are no statistics regarding the exact number of parent liaisons in school systems across the United States, and as Hamilton (2012) points out, no way to substantiate their success in terms of data, evidence of their increased employment is well documented.

Schools that employ liaisons have identified their need to add parental support either as a result of testing related categorization, an identified achievement gap, or a contingency for
funding. A measure such as employment of a liaison program to augment parental involvement may also be associated with urban districts which have “hard to reach parents” (Educational Research, 2012; Sanders, 2008). Sanders (2008), who references forty journal articles written over the past decade, verifies the wide-spread use of parent liaisons to address gaps in home-school communication.

Parent engagement contracts, a route oft taken by charter schools or schools that do not employ parent liaisons, are also a means of heightening parent involvement. A parent contract is an agreement between the school and the parents that specifies expectations for engagement and binds parents and schools to communicate. Although some contracts include the school’s responsibilities and offerings, most emphasize what parents are expected to do with their children relative to school work, events, and communication. For example, parents who sign contracts may agree to attend school sponsored events, such as Open Houses, and to engage in a variety of other academic endeavors ranging from nightly “with your student” homework rituals to weekend “parents as tutors” events. These contracts are generally not “enforceable” in that many states do not allow schools, public or charter public, to use them as requisites for enrollment or noncompliance as a means for dismissal. In general, schools tend to use contracts to clarify the parent engagement expectations and address communication deficits (Smith, Kuzin, DePedro, & Wohlstetter, 2009). Hall, Evans, and Wreford (2008) document the difficulties in evaluating the successes of using parent contracts in school settings. However, like the use of parent liaison, this mode of communication and parent involvement is on the rise.

Perhaps the most wide-spread initiative to increase parent involvement through home-school communication is the use of Internet-related technologies. The growth of Internet
accessibility has been unparalleled in schools and homes across the nation. As early as 1994, 35% of public schools reported having Internet access primarily for administrative use. Just eight years later, in 2002, 99% of schools documented having Internet access for administrative, instructional, and student use (Bagin, Gallagher, & Moore, 2008, p. 243). By 2008, it was confirmed that 100% reported having computers with Internet access for use by administrators, teachers, and students (National Center for Education Statistics, 2011).

Since then, the emphasis has turned to making Internet technologies faster and more accessible. An April 2012, report reveals that more than two-thirds of U.S. public school districts provide wireless Internet access, computing devices and interactive whiteboards for student, teacher, and administrator use (EdTech Digest, 2012). The number of computers provided specifically for student access grew as well. By 2005, United States Department of Education (2007) statistics noted that schools provided one computer for every 4.5 students. By 2008, the ratio of students to instructional computers with Internet access changed to 3.1 to 1 (National Center for Education Statistics, 2011).

This same trend was occurring in homes as well. In 2000, only 44% of Americans reported having Internet access at home. By June of 2011, that percentage had risen to 77.4%. (Internet Word Statistics Bank, 2011) and by April of 2012 it had risen again to 78.6% (Internet Word Statistics Bank, 2012).

Both school and home Internet accessibility has grown exponentially since the start of the 21st Century. The resultant impact on home-school communication efforts is staggering. Schools are using everything from computer based automated calling systems, developed at the onset of the Internet, to simultaneously send one message to thousands of school community
members, to today’s popular social media outlets, such as the previously noted Twitter and Facebook, to communicate with parents. As Epstein (2001) and others demonstrate, the crucial factor in linking the home and the school is communication (Cary, Lewis & Farris, 1998; Martin & Haga-Burke, 2002; Rajala, 2002) and Internet technologies certainly create the infra-structure for that communication.

Technology and Home-School Communication

Early research suggested the use of technology in schools indirectly improved communication, instruction, and student motivation, as well as conserved financial and material resources (Blanchard, 1988). Its use in today’s schools goes well beyond “indirectly improving communication”. Over the past twenty years, studies have examined communication technologies such as voice messaging (Greninger, 1991), automated answering machines and individual and group telephone technologies (Bissell, 1989; Cameron & Lee, 1997), video technology (Calabrese 2006; Clevenson, 1999), school and teacher web sites (Lishka, 2002; Tobolka 2006), individual and list serve e-mail (Clemente, 2002; Tao & Boulware, 2002), and the Internet (Dardenne, 2010; Maher, 2006; Olmstead, 2011) as they fit into the broader scheme of home-school communication. In each case, research reports changes in parent involvement due to one way and/or two way communication between the school and home. In terms of chronology, the technologies indicate a movement from providing general information about school events (i.e. voice recorded messaging) to more individualized communication about a specific child’s progress (i.e. individual e-mail).

More recently, research indicates that technology may have the capacity to better address gaps in home-school communication and perhaps alter parent involvement trends by affording
constant access to individual children’s school data. For example, Ellis (2008), Mathern (2009), and Koch (2010) all examine a newer form of technological communication, use of Student Information Systems (SIS) and parent portals. Ellis (2008) finds teacher ease and use of an SIS increases communication with parents and reflects positively on student success. Mathern (2009) finds accessing portal information through SIS improves communication but does not impact student grades, GPA, or attendance. Koch (2010) finds use of SIS portals to be a good source of information and a convenient way for parents to communicate with schools.

Collectively, their research reveals an increase in home-school communication when parents have continuous access to their children’s grades through use of SIS parent portals. As technology advances from the rudimentary and general, such as voice recorded messages, to the complex and detailed, such as SIS portal use, there is new promise regarding gains in home-school communication throughout the United States (Decker & Decker, 2003; Tucker, 2010).

The federal government’s stance on school accountability and data sharing is fueling the interest in home-school communication and SIS parent portal use. Public schools are well aware that the government’s stance comes with a direct tie to their funding. NCLB parent involvement requirements, which include data sharing for schools and districts, occur in Title I, Title II, Part D, Title III, Title IV, and Title V, Part A (Oregon Dept. of Education, 2006). In brief, local educational agencies seeking funding for any programs under these specific titles and parts, …shall provide full opportunities for…regular, two-way, and meaningful communication involving student academic learning and other school activities, including ensuring: that parents play an integral role in assisting their child's learning; that parents are encouraged to be actively involved in their child's education at school; that parents are full partners in their child's education and are included, as appropriate, in decision making and on advisory committees to assist in the education of their child; and the carrying out of other activities described in the law. (2006)
The Office of Science and Technology Policy and the Executive Office of the President (2012) confirms its commitment to these NCLB directives. With full support of the Department of Education, these high level constituencies stress the importance of linking parents and schools through communication. Secretary of Education, Arne Duncan’s 2012 proclamation of intent to “examine the feasibility of giving parents access (via a government site) to their child’s electronic academic records…and student performance data by 2013” is a clear example of this high level support. In a 2012 speech, Duncan celebrates various new and expanded means of “empowering American students and families with the tools and information they need to make optimal choices...” One of those tools, highlighted throughout his speech, is use of SIS parent portals. Absent, however, is information about how parents are going to use that data to address and or improve student learning.

Home-school Communication, Student Information Systems (SIS), and Data

Internet-supported Student Information Systems (SIS), complete with parent portal access, are a widespread technological development whose makers offer much promise when it comes to increases in home-school communication, changes in parent involvement, and improvements in student learning. SIS programs, first used in a small number of schools beginning in 1989 (McIntire, 2004), have exploded in their use. In 2003, Kimball reports that SIS programs, which started as main-frame programs purchased by a small number of schools looking to internally manage data, spread to 85% of high schools, 77% of middle schools, and 67% of elementary schools. Eight years later, in 2011, all fifty states report having SIS
supported means of collecting student data from their schools (Data Quality Campaign, 2011; Tucker 2011).

Although a hard statistic is not available, 100% SIS use at the state level implies equitable use at the district level which, in turn, implies equitable use at the individual school level. And, schools with these SIS programs are providing an undefined and increasing number of parents with around the clock access to attendance data, grades, homework information, discipline records, transcripts, and other information about their children through their parent portal features (Weinstein, 2005). Both the companies that sell SIS programs with parent portal features and the schools that buy them are hoping this level of parental access will yield improvements in student learning.

SIS use, coupled with the Internet’s widespread availability, allows parents with SIS access to track their children’s educational progress in an unparalleled manner (Bird, 2006). Companies such as Follett, which offers a product called Aspen, Jupiter, which offers Jupiter Gradebook, and Rediker, which offers Edline and GradeQuick Web, have all become players in the SIS market catering to schools looking for parent accessible web-based SIS. Infinite Campus, an SIS touted to be the largest in America with five million users across 43 states, began in 1996 (Infinite Campus, 2012).

Infinite Campus offers parent users everything from mobile access to around the clock technological support. It highlights, on its web site, an endless stream of customer interactions labeled “success stories.” For example, an article submitted to Infinite Campus by Matthew Swerdloff (2012), Director of Technology in Montrose, New York, explains, “Keeping parents informed about student grades, assignments, school activities, etc. allow for proactive
participation in the educational process. Infinite Campus provides real-time communication tools for Hendrick Hudson School District (HHSD) so parents and guardians can be active participants in their student’s learning.” In a phone interview with this researcher, Swerdloff (2012), confirms access to the portal provides users with a real-time communication tool but reports that there are no data being collected to assess its use by parents and its impact on student learning.

Interactions with Swerdloff echo what Pam Derringer (2012), a journalist for School CIO, writing on the widespread use of eChalk, another independent SIS, in Corpus Christi, TX, reports “…there is no quantifiable evidence that the portal has improved learning…” (p. 48). In a phone conversation with this researcher, James Lydell Gathright (2012), a multi-media specialist for the Corpus Christi independent School System, reports

> Our base line (for home-school communication via the web) was zero in terms of tracking communication. There are usage numbers but…we are in the same boat (as others who use new parent portals)…we have made changes over the last three years….our tracking data is about usage …but as far as tying one program to student achievement or parent involvement, we can’t…parent involvement can be quantified by use but its (portals) effect beyond use has not.

Gathright’s comments allude to the need for further research surrounding what parents do with such data and how access to such data may impact student learning.

PowerSchool, a web-based SIS originated by Apple and currently owned by Pearson Education, Inc., is the largest and most widely used SIS. As of 2011, PowerSchool maintains the daily data of over 10 million students in all fifty states and is employed by schools in 65 countries (Pearson Education Inc., 2010-2011). PowerSchool offers parents access to “real-time” student information such as grades, attendance, and discipline, via its parent portal feature. Like many of the other SIS companies, PowerSchool has also moved into the mobile market.
Pearson reports there are more than 3,000 users downloading its “App” of the PowerSchool parent portal every day (2012). Twenty-four hour a day access to children’s grades is on the rise and, according to Pearson, will “…revolutionizes the way that millions of busy parents stay in touch with their children’s lives at school…” (2012). PowerSchool’s website proudly boasts such information and appears to be eager in its sales material to promote the benefits of portal use for all groups, parents included.

In July 2008, Pearson conducted a survey of approximately 540 parents with at least one child in grades K-12. Pearson’s intent was to “understand parents’ feelings on the impact that the home-school connection has on overall student achievement and the overall benefits of parental involvement.” Results indicated that

96% believe that parent involvement is a key factor in student achievement, 95% believe that student achievement would improve with better communication between home and school, and 95% of respondents believe that students with actively involved parents are more likely to perform better than those students whose parents are less involved. (Pearson, 2008)

These findings are consistent with years’ worth of research regarding the importance of parent involvement.

According to Pearson’s Publication “Access to Achievement” (undated but posted as of Spring 2012), Pearson is using 2008 survey feedback to design new SIS programming. The new programming will not only provide access to student data but will help parents, as well as educators and administrators, understand how to use the data in a meaningful way. Further details about Pearson’s new “prescriptive” SIS programming is not yet available. Personal contact with Julie Albanese, Vice President of Marketing for Pearson, confirms that the 2008 survey is still in use. Albenese also confirms there is no current plan for further research
regarding the parent portal feature (personal communication Julie Albenese 16 May 2012).

Research about how parents currently use data provided by the portal feature may be of use to Pearson as it looks to develop the prescriptive program noted in “Access to Achievement.”

Significance of Parent Portals and Data Sharing

Federal mandates routinely referenced by the President of the United States, corporate ventures of companies like Pearson and Infinite Campus, and consumer demand from schools and parents alike make it clear that data sharing between schools and parents is here to stay.

Publications from the reputable Harvard Family Research Project (HFRP) (2010) include data sharing as part of their plan for “academic socialization” between schools and families. The HRFP indicates that the provision of data offers a point at which communication about children’s learning may begin (2010). The HRFP also offers that organizations such as the Institute of Education and Social Policy Development (IESP) at New York University (NYU) have assisted school systems and their parent constituencies to make sense of data in order to address large scale issues like school overcrowding and rezoning of Districts (Lopez, 2002). Such efforts suggest that when parents have assistance and tools to interpret data, they have the capacity to bring about change.

Dr. M. Elena Lopez, Senior Consultant for the HFRP, offers that sharing data with parents,

…should be reciprocal. The data is provided from the school end…but you need the parents’ insights about the child…to paint the whole picture. Data should not be seen as something with one purpose or as something punitive…It should be how can I work with the teacher or my child to improve the situation. (2012)
Lopez’s comments, shared in a phone interview with this researcher, confirm the need for school and parent communication around data. Lopez also notes a promising trend specific to SIS portal use. She shares, “…you have more and more parents who grew up with these devices and you will have a change in the facility and use…they (devices) will have a greater likelihood of being an effective tool…they (parents) will then have the right approach to using the data.”

Epstein (2012) suggests that use of data sharing through parent portals, in conjunction with parent training, further investigation, and attention to equity may help build school and home partnerships (2012). Epstein, as explained in a phone interview, specifically categorizes use of the parent portal as a Type-2 form of Parent Involvement. Epstein notes, “It is one means of home-school communication but it is not the whole story…it is a potentially effective form of school to home and home to school communication about children’s progress.” Epstein stipulates that employment of such mechanisms, in consort with other means from all Six Types Involvement, may address the traditional decline in parental involvement. She shares, “Technology is not going to go away and it will become, over time, more equitable and will not just address the drop off. It will be a large piece of how schools and families communicate.” Epstein remains “on the fence about use of portals” until time passes and further research is done. (Epstein, 2012)

Significance of this Study

This study addresses a void in parent involvement, home-school communication, and parent portal research. It examines what motivates parents to use a parent portal. It examines how parents with access to their children’s academic data use that data to address learning. It also explores how access to that data may prolong parent engagement. This investigation
presents seven findings and offers suggestions, based on those findings, to help school systems understand how parents use their newly accessible data. It also proposes three new areas of exploration related to data sharing with parents.

**Research Questions**

The following were the study’s research questions:

1. Why do parents use the parent portal?
   1a. What motivates parents to use the portal?
   1b. Does parental relationship influence use of the parent portal?

2. Does parent access to the parent portal support home-school communication?

3. How do parents use data provided via the parent portal?

4. Does use of the parent portal affect parents’ traditional tendencies to decrease engagement?

**Theoretical Framework**

*Component 1: Social Constructivist Theory*

Lev Vygotsky, prominent socio-cultural psychologist, confirms the notion that an adult, specifically a parent, has great influence on learning. As Kozulin, Gindis, Ageyev, and Miller (2003) write, “The Vygotskian approach emphasizes the importance of socio-cultural forces in shaping the situation of a child’s development and learning and points to the crucial role played by parents…in defining the types of interaction occurring between a child and their environments” (p. 2). Although Vygotsky’s life was brief and much of his work was not published in English until after the 1960’s, his theories are of great importance to contemporary investigations.
Vygotsky’s social constructivist theory, stipulating the importance social interactions play in the development of cognition, permeates the fields of psychology, sociology, anthropology, and education. Vygotsky’s work is particularly vital to this investigation involving home-school communication. One reason for its value is that home-school communication efforts blend the two major socio-cultural forces in a child’s life, the home and the school, thus creating an environment ripe for learning. Another reason for the importance of Vygotsky’s work in this investigation is the contemporary application of his social constructivist theory as it relates to educational technology. Telecommunication tools, such as the SIS program examined in this investigation, provide a means of the type of interactivity that, as Vygotsky’s work upholds, lead to the social construction of meaning (Chen, 2012).

Vygotsky’s body of work defines and shapes the role of the adult in a child’s learning process.

The history of development of signs brings us to a much more general law governing the development of behavior. The essence of this law is that in the process of development the child begins to practice with respect to himself the same forms of behavior that others formerly practiced with respect to him. (Vygotsky, 1966, p. 39-40)

Vygotsky labels the adults, who are those role models, as More Knowledgeable Others (MKO). For over a century, the most widely accepted and acknowledged MKOs for children have been, first, the parents, and, second, the teachers. More visionary thinking extends Vygotsky’s MKO concept to electronic “adults” such as electronic tutors or performance systems or computerized personal learning environments that support cognition (Attwell, 2010). Vygotsky’s MKO theory specifies that adults use artifacts to mediate the development of meaning. Lantolf (2004), Yelland and Master (2005), and Sing and Richards (2006), expand Vygotsky’s definition of
“mediatory artifacts” to include computers. Their examinations inform that as the medium for social construction changes so does the definition of the MKO. As technology advances and continues on its trajectory to redefine educational processes, it is doubtless that there will be more research built on the foundation of Vygotsky’s MKO theory.

Vygotsky identifies the impact of an MKO on a child’s learning, particular to the child’s placement in a zone of proximal development (ZPD). This zone, defined as “the distance between a child’s actual developmental level…and potential development as determined through problem solving under adult guidance…” is the period in which a child learns (1978, p. 86). Vygotsky asserts the ZPD is by no means bound to school time or academic notions. Rather, it hinges on past and culturally-connected knowledge and events (Miller, 2003, p. 376). His work frames learning in the context of a relationship with an MKO with whom the child shares a history. Such an adult, as Vygotsky asserts, need not be an academician but a skilled adult with whom a child has a cultural bond on which to build new knowledge (p. 377).

This philosophy reinforces the notion that opportunities for learning occur well beyond the traditional classroom setting, and, in fact, occur at any place, at any time, and with any adult with whom the child has a relationship. As a socio-cultural psychologist, Vygotsky notes the significance of the “culture” in which children learn. His studies solidify the importance of “enculturation” and its importance to learning. His emphasis on the symbiotic relationship between a child’s culture, whether it be in the larger sense, as in an allegiance to a nationality, or in the smaller sense, as in familial traditions and routines, inform educators about the importance of learning within an existing context or by using the “culture-as-medium” approach (Miller, 2002, p. 376).
Vygotsky also reinforces the idea that the teacher is not the sole instructor and that knowledge is not “imparted” through direct and formal instruction. Vygotsky considers a child to be a “culturally and socially situated” learner who is heavily influenced by the role of adults, particularly those with whom the child has an established bond (Kozulin, et al., 2003, p. 2). As previously suggested, the fusion of a home-based MKO and school-based learning is evident at the elementary school level. Modern academic curricula designed for use in early childhood and kindergarten classes, such as Tools of the Mind, integrate data sharing about children’s play based on Vygotsky’s social constructivist thinking (Horenbeck, 2010). Parental involvement practices, however, diminish throughout the middle years and, as research confirms, is all but absent at the secondary level. Vygotsky’s work, however, suggests a secondary school child, who is still learning new skills, benefits from the incorporation of interactions with an MKO, particularly a parent with whom he or she shares social and cultural history.

In *The Mind and Society* Vygotsky writes, “Human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them” (p. 88). Such learning, as Vygotsky notes, “awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people…” (p. 90). A child’s innate motivation to learn is, therefore, dependent on interactions with an MKO. These interactions, however, continue well beyond initial stages of child development and are necessary. As Vygotsky suggests,

We might formulate the general genetic law of cultural development as follows, any function in the child’s cultural development appears on the stage twice, on two planes, first on the social plane and then on the psychological, first among people as an intermental category and then within the child as an intramental category. (Vygotsky, 1966, p.44)
The “social plane” or human connection must be present before the child, in his quest for knowledge and in his development, may experience the “intermental” or internalized stage. In other words, there must be a social relationship between the child and an MKO before learning takes place. This notion confirms that learning is a continuous process necessitating ceaseless interactions with members of the social plane. As Vygotsky’s work implies, those members of the social dimension most assuredly include those with whom the child has the lengthiest and most sustained social and cultural connection, the parent.

Vygotsky’s theory supports the investigation of parental investigation programming, especially that which is relative to home-school communication, because such programming is intended to better equip the parent-MKO to fulfill his role. Further, Vygotsky’s theory relative to the relationship amongst MKO, learning time, and the ZPD, strongly supports the importance of developing and investigating home-school communication. His theory validates the investigation of a modern home-school initiative that will enhance academic performance by honing in on an existing and essential MKO relationship. Recent broadening of Vygotsky’s MKO theory (Atwell 2010; McLeod, 2007) to include technological devices certainly bolsters an investigation of an electronic source’s impact on the parental MKO when interacting with his or her child. The use of technology as an artifact to empower the traditional parental MKO is another area that will likely be explored as technology is furthered integrated into education.

Component 2: Epstein and Parent Engagement Theory

Joyce L. Epstein’s (1987) theory of “overlapping spheres of influence” expands on the work of Vygotsky and applies the notion of the impact of a significant MKO to modern
education and to opportunities for learning at home. Epstein posits, “children have higher achievement and greater school success if their homes, schools, and communities share responsibilities for guiding learning” (p. 126). Much like Vygotsky’s acknowledgement of the MKO and student relationship, Epstein’s theory suggests children “succeed at higher levels when the internal and external modes of influence intersect and work together to promote student learning and development” (Griffin & Steen, 2010). Epstein implies that when the external, or greater contexts, in which students live and internal contexts, or individual and more personal contexts, which students experience, work in a symbiotic way, or “overlap”, the result is student success, including academic achievement. Additionally, Epstein’s research proves “…parents’ involvement in children’s education and family-school connections are not static” (Catsambis, 1998, p. 2).

Epstein’s theory, developed to illustrate the importance of parent and school relationships for aspiring and novice teachers, is a foundation for the study of parent engagement. Viewing this critical relationship as a sphere of interrelated mechanisms leads to the utilization of Epstein’s parent engagement model entitled Epstein’s Six Types of Involvement (Epstein, et. al, 2002). The Six Types, as defined by Epstein (1992), and as delineated in a previous section, offer researchers a method of categorizing, coding, and identifying the types and degrees of parent engagement.

All Six Types of Involvement are rooted in the use of home-school communication. Epstein’s theory asserts that the implementation of activities across all Types of Involvement affords schools a comprehensive engagement program and, ultimately, improves student performance. Epstein’s (2005) work concludes that parent engagement is not simply a
theoretical matter. She posits that it is a practical matter much needed at all levels of schooling. Institutions “…are becoming increasingly diverse, making it imperative for educators to have knowledge and strategies to work effectively with all families, including those who do not speak English or read it well, and who are unfamiliar with the U.S. school system” (p. 127). The result of Epstein’s further parent engagement exploration implies that educators, both novice and veteran, need to invite and sustain parental communication in order to compensate for gaps in the school to home sphere. Epstein’s work reveals that parental involvement, rooted in home-school communication, is a premier factor for enhancing students’ academic performance and for bridging such gaps (Epstein, 1988; Epstein & Dauber 1991; Hoover-Dempsey, et. al., 2001).

Epstein’s theory concerning the socio-cultural aspects of learning, much like Vygotsky’s, places children within the primary cultural unit and in the presence of a natural learning partner, the parent MKO, in order to stimulate learning. Epstein’s theory asserts that when parents are assisted by teachers to become involved with their children’s learning, they communicate more with teachers, interact with their children about learning, and become more aware of their children’s learning and, thus, are better equipped and more likely to assist their children. The result is that children are more likely to discuss their learning, more eager to please, and feel supported in their learning endeavors. To that end, Epstein’s theories have led to the development of a plethora of home-school based parent engagement programs.

One such program, The National Network of Partnership Schools (NNPS), an organization established by Epstein at Johns Hopkins University, invites schools to use research-based approaches to begin and maintain family and community involvement within schools. One of the many offspring of the NNPS’s research was the Ohio Department of Education’s
development of a Parent and Family Engagement Division. Working with research conducted by Epstein, the Parent and Family Engagement Division instituted “Six Plus One: Columbus City Schools Implementation Model of Parent Engagement.” The program which included contracted parent involvement, the inception of a parent advisory committee, and investment in family resources, is in its ninth year (Jones, 2012; Ohio Department of Education, 2011).

In an April 2012 phone conversation with Darlena Jones, Columbus City Schools Parent/Family Engagement Coordinator, she shares that data, regarding the overall effectiveness of their programming was currently being collected. She notes, “…two parent consultants are being hired to enter data…and to share ideas across the schools” in terms of successful activities. Jones also indicates that the Parent and Family Engagement portion is “the strongest portion of success of the National Education Closing the Achievement Gap Grant within the Columbus City Schools.” Although results of this program’s implementation are not yet available, prior studies show that such programming, specifically involving home-school initiatives, increases overall parental involvement, improves home learning, and eventually impacts grades (Balli, et. al, 1998; Epstein, 2012; Epstein, Simon, & Salinas, 1997; Van Voorhis, 2008).

Research resultant from home-school programming, such as Epstein’s Teachers Involve Parents in Schoolwork (TIPS), a teacher-parent-student homework program involving two-way communication efforts, fuels the need to investigate what Vygotsky notes about the home-based context for learning. It also leads Epstein to continue to investigate activities such as those that “involve families with their children in academic learning activities at home that are coordinated with students’ class work and that contribute to students’ success in school” (Epstein, et. al, 2009, p. 200).
Epstein’s investigations and partnerships prove that home-school communication empowers parents to listen, react, praise, guide, monitor, and discuss what their children are learning. As confirmed recently, communication with parents about their children’s progress is crucial and technology is offering some promise in that regard (2012). Epstein’s research reports that schools with effective and comprehensive partnership programs are “working to ensure that all communications with families are clear, timely, accessible, and in languages that families can understand in print, on the Internet, in e-mail, and in other formats” (p. 17).

Intersection of Theories

The work of these two theorists intersect in several areas. Both stress the importance of the relationship between the child and significant adult figures. Both emphasize social and cultural aspects of learning. Implicit in both theories is the importance of communication. Finally, both place emphasis on the importance of the child’s learning environment. Neither highlights a specific environment, but both allude to an ideal condition for learning. Epstein and Vygotsky’s theories intersect from this environmental or conditional viewpoint. Both stress the impact of the social context or environment in which learning interactions take place. For Vygotsky, interactions that result in cognitive development occur because of a familiar environment or socio-cultural context that is fortified by an MKO. Epstein employs that environmental or ecological basis in her OSI model in which the overlapping support from MKOs, specifically members of the home, the school, and the community, occurs across all social contexts or environments (Stein, 2009).

Both Vygotsky and Epstein underscore the importance of the inherent relationship between the MKO, the child, and the environment, condition, or social context for learning.
Epstein (2001) captures this relationship, one Vygotsky exposed, when she writes that development is dependent on “the natural, nested and necessary connections between individuals and their groups and organizations” (p. 22). The intersection of Vygotsky and Epstein’s theories support their use as the major theoretical frameworks for this study; a study that investigates a home-school communication initiative that could potentially empower the nested MKO, the parent, to support cognitive development across the known socio-cultural environments.

**Research Design**

*Site Background*

The study site was the Dr. Robert G. O’Donnell Middle School (ODMS), a comprehensive public school of approximately 900 students, in Stoughton, MA. ODMS was one of eight schools, and the only middle school, in the approximately 3,820 student Stoughton Public School System (SPS). Granting parental access through PowerSchool’s parent portal was a part of a greater SPS grade 6-12 home-school communication initiative. Other aspects of the initiative included use of school web sites, One Call Now, Email lists, Twitter, Cable Bulletin Board, and streaming video feeds.

In September of 2011, ODMS invited the parents of all 900 students to become registered parent portal users. Teachers at ODMS were required to use the electronic grade book feature of PowerSchool, thus resulting in grade access for parents. ODMS invited parents by sending home a user-agreement with the students on the first day of school. This was followed by releasing a One Call Now automated message regarding the invitation. ODMS registered its first parent user and activated its first parent accessible version of PowerSchool, in October of 2011 after
affording teachers and administrators one year of acclimation to the PowerSchool SIS without parent access.

By November of 2011 there were approximately 529 registered parent portal users. As the year progressed, the remaining parents were encouraged to join when they attended meetings, when they called regarding their children’s progress, and when they received other notifications from the school (i.e. reminder at the bottom of the first term report card). By March of 2012, there were 620 registered portal users, representing 68% of the school’s total students.

Design

The researcher employed a mixed methods approach. As Creswell and Plano Clark (2007) suggested, a mixed methods approach was “more than simply collecting and analyzing both kinds of data, it also involves the use of both approaches in tandem so that the overall strength of the study is greater than either qualitative or quantitative research” (Creswell, 2009). More specifically, the researcher conducted a concurrent mixed-methods approach; an approach that incorporated both quantitative and qualitative forms of inquiry at the same time. The quantitative approach consisted of a three part electronic survey and the qualitative approach consisted of open-ended interview questions posed to a focus group of survey respondents.

During March of 2012, the 620 registered parent portal users at the Dr. Robert G. O’Donnell Middle School (ODMS), in Stoughton, Massachusetts, were invited, via email and phone call, to take a twenty question closed ended survey regarding (I) parental demographic information, (II) trends in current home-school communication methods, and (III) usage habits, experiences and opinions regarding the parent portal. Participants had two weeks to complete the survey. At the conclusion of the two week period, 153 parents had taken the survey.
A request for volunteer participants in a focus group was a Northeastern University Institutional Review Board (IRB) approved component of the research invitation mailed at the onset and the mid-point of the survey. The first 10 parent volunteers who responded became participants in a focus group interview held in April of 2012. The focus group interview consisted of eight questions and afforded qualitative data regarding (I) motivation to use the portal, (II) the portal as a means of home-school communication, (III) usefulness of the portal and portal data (IV) the portal’s potential for impacting parental involvement.

**Limitations**

Each SIS offers its licensed users the ability to share and restrict all types of student and school related information with its parent users. The information parents’ access is determined by the school system employing the SIS. For example, some SIS parent portal users are granted access to information such as disciplinary records, educational planning information, and standardized test scores, while others are afforded access to schedules, attendance, grades, and links to teacher email addresses.

The researcher restricted this study to users of one SIS, PowerSchool, at one particular site. This investigation’s participants only had access to their children’s grades, attendance, and teacher comments. That presented a limitation to some degree in the ability to generalize this study’s findings to locations at which SIS programs such as PowerSchool afford parents access to different data. That also presented a limitation to some degree in the ability to generalize findings to locations using other SIS programs such as Infinite Campus, EdLine, and GradeQuick that may offer parents access to data other than grades, attendance, and teacher...
comments. Parents who have access to the same program at another site or a different program at another site may not express the same perceptions.

Another limitation was parental training in use of PowerSchool. In September of 2011, when the site launched, parental access to the portal, users who filled out an agreement, received an access identification name, a password, and a 12 page instruction sheet delineating set-up and providing a link to a HelpDesk during school hours. Further information regarding portal use and features was not provided by the school until November. At two Parent Nights in November, parents had the opportunity to receive on the spot assistance from a teacher versed in portal use. For two hours on both nights, the teacher held voluntary drop in help sessions in a computer room at the school. Attendance at those sessions was not taken and the opportunity to receive assistance was not publicized until parents were already at the Open Houses.

This study’s survey respondents and focus group participants had varying degrees of expertise and understanding when it came to PowerSchool parent portal use. This information was made apparent at ODMS’s initiation of the portal. ODMS received calls and emails from parent users who alerted staff members, via their questions, to the wide span of user familiarity with Internet–based computer software programs. Further, parents at the focus group, whose comments lead to the development of a common theme around a need for training, confirmed this limitation. Much like Ellis (2008) found, a person’s comfort using software impacts the result. In Ellis’s study, teacher respondent’s familiarity with a program (PowerSchool) dictated its use, i.e. teachers who used it for one aspect, like attendance, were likely to use it for the same purposes without training. More detail concerning this matter occurs in Chapters 4 and 5.
Lastly, equity of access to computers with Internet service was a limitation. Many investigations, conducted previous to this study, regarding Internet technologies as a means of home-school communication shared this same limitation. It was also a significant concern of both Epstein (2012) and Lopez (2012). Although previously cited data suggested an increase in the number of homes in the nation that had Internet access, there was no assurance that all parents of students had such access. The result was a limitation in the number of participants eligible to take part in an investigation about an Internet-based means of home-school communication.

Parents without access were not likely to participate and were not likely to have, in this case, access to the PowerSchool parent portal. The study site did provide information regarding a reduced rate access program through Comcast but did not provide any computers for use by parents. Results of a survey question, posed during this study, revealed that 0% of participants accessed the parent portal through a library or free access site and that 100% accessed the portal through a personal or home device (87.5%) or computer at a place of employment (12.7%). Detailed data regarding equity for parents involved in this study is presented in Chapters 1 and 3 and suggestions for addressing this technological gap appear in Chapter 5.
Chapter Two: Literature Review

Introduction

At the onset of public education, school life and family life was intertwined. Families, via the proximity of neighborhood schools, teacher hiring procedures, and other practices associated with rural as well as early industrial living, had a high degree of involvement in their children’s schooling. However, as a result of wars, economic fluctuations, changes in parental roles, and a myriad of other factors, the relationship between families and schools shifted. According to Hill and Taylor (2004), “By the middle of the 20th century there was a strict role separation between families and schools. Schools were responsible for academic topics, and families were responsible for moral, cultural, and religious education”. The result of this schism was the idea that the family and school relationship was sequential rather than blended. Families taught children rudimentary skills, social norms, and cultural elements while schools provided a formal academic education.

This stratified relationship between the home and the school lasted for decades. However, prompted by publications such as A Nation at Risk (1983), A Nation Prepared (1986), Goals 2000, and legislation such as the Elementary and Secondary Education Act (1965) and its re-release as No Child Left Behind (NCLB) (2001) researchers have spent the last fifty years reinvestigating the home-school relationship. The result is a large body of research, spanning from the 1960s and into the 21st century, that offers tremendous support for bolstering parental involvement and re-building communication between parents and their children’s schools (Chadwick, 2004, p.106). Desforges and Abouchaar (2003), who offer a comprehensive review of literature, report an obvious demand for parental involvement programming, a high level of
“creativity and commitment” on the part of those making efforts to involve parents, and high levels of appreciation from parents in return.

**Parent Involvement**

*Definition*

Both the term “parent,” as well as the phrase “parental involvement,” have been defined many times. The National Parent Teacher Association (PTA) (2011), the largest volunteer child advocacy group in the nation, and a group crucial to the inclusion of parental involvement in the re-issuance of NCLB, recognized, like Davies (1993), that many different people influence a child’s success. The organization considered a “parent” to be anyone who played a role in the rearing and well-being of a child. The PTA (2011) defined parent involvement as collaborating, committing, acknowledging obligation, respecting, including, and demonstrating integrity on behalf of children. This broad definition represented how parents, and often public schools, identified a fruitful relationship between parents and schools.

Researchers were more specific about the definition of parent involvement. Cuyler (1988) stipulated three obligations of parental involvement: assure attendance at school, offer support for school, and reward children for success in school. Davies (1991), who defined parental involvement through shifting societal perspectives, identified three themes. These themes (a) ensure all children have the tools for success, (b) encourage development of the whole child, (c) and hinge on shared responsibility. Soon after, Comer and Hayes (1991) defined parental involvement as interaction between the home and school that assumed three discrete levels. These were Level I, which included attending parent conferences and other traditional means of engagement, Level II, which included volunteering at the schools and other direct
involvement, and Level III, which included serving on committees and making school-wide decisions.

Dr. Joyce Epstein (1992), who is by far the most widely acknowledged when examining parent involvement, further identified a comprehensive parent, community, and school partnership known as Overlapping Spheres of Involvement (OSI). Epstein’s (1992) OSI research lead led her to identify Epstein’s Six Types of Involvement. The Six Types of Involvement are: Type 1-Parenting, Type 2-Communicating, Type 3-Volunteering, Type 4-Learning at Home, Type 5-Decision-Making, and Type 6-Collaborating with Community (Epstein, et. al, 2002). Epstein concluded that when schools provide all six of the components for parent involvement, the result was effective school-family partnerships and student achievement. Hill, Castellino, Lansford, Nowlin, Dodge, Bates, & Pettit (2004) offered the most succinct definition as “parents’ interactions with schools and with their children to promote academic success” (p. 1491)

No matter the specific definition, there were two absolutes: the need for parent involvement in children’s academic lives is undeniable and all parental involvement necessitated home-school communication. A review of literature on the topic yielded an endless stream of studies, articles, documentaries, and testimonials that can be divided into several broad categories. The first of these, a general overview of its benefits, followed. This portion was succeeded by the more salient research in support of parental involvement at the elementary and secondary level. Next was a synopsis of barriers to parental involvement, which led to a section regarding trends in home-school communications. Lastly, there was a section related to
technology and its role in home-school communication, and synopsis of research related to home-school communication, Student Information Systems (SIS), and trends in data sharing.

Benefits of Parent Involvement

Research revealed that parents who were involved in their children’s schooling had children with greater attendance, better behavior, better social skills, and better adaption to school than their peers who did not have involved parents (Henderson & Mapp, 2002, p. 24; Koonce & Harper, 2005). Research supported that parental involvement contributed to children’s understanding of the collaborative nature of schooling, which extends well beyond formal schooling (Tozer, Senese & Violas, 2006). Additionally, parental involvement diminished violence, suspensions, and behavioral issues (Koonce & Harper, 2005) and benefitted teachers by helping them select disciplinary procedures appropriate to their students (Molland, 2004). Parental involvement and home-school relationships have also created conditions that lead to support for school funding, teachers, facility upgrades, and policy changes (Henderson Mapp, 2002; Weiss, Lopez, & Stark, 2011).

Research and governmental policies heralded the promising role of parental involvement across both the elementary and secondary levels. The benefits seemed to extend beyond attendance and improved behavior and played a role in academic success (Fan & Chen, 2001; Hill & Chao, 2009; Seginer, 2006). In fact, parental involvement programming was touted as a means of narrowing demographic gaps in achievement and increasing students’ potential both in and beyond school years (Dearing, Kreider, Simpkins, & Weiss, 2006; Hampton, Mumford, & Bond, 1998, NEA Priority Schools Campaign, 2011). An extensive review of research by Henderson and Mapp (2002) concluded that parent involvement resulted in increased grade point
averages, higher scores on standardized tests, enrollment in more advanced academic courses, higher passing rates, and increased amounts of earned credits (p. 24). Increased academic achievement was particularly evident when it came to parental involvement and programming that promoted support for school curriculum. Parents who assisted in any way with school tasks such as homework had children who were more successful (Cotton & Wiklund, 2001; Edwards & Young, 1992; Hill & Taylor, 2009; Shayne 2008). This was true despite socio-economic status or whether the parents had graduated from high school or not (Corner & Hayes 1991; Epstein: et. al., 2002; Henderson & Berla, 1994; Keith & Keith, 1993).

Benefits of parental involvement to students, parents, teachers, and community members seemed to abound. Whether those benefits were related to academic achievement, or the conditions that lead to achievement, such as improved attendance, behavior, and attitude, they were clearly supported by research. In fact, several literature reviews stipulated that there had not been any galvanized effort to involve parents, subject to study, that had failed to yield some type of success (Henderson, 1987; Henderson & Berla, 1994; Henderson & Mapp, 2002).

Research supported that there was an agreement on the positive association between parental involvement at school and student successes (Bebiroglu, 2009; Hill & Tyson, 2009).

An abundance of studies related to parental involvement across grade levels emphasized the importance of Epstein’s OSI framework and drew increased attention to the need for home-school partnerships, rooted in communication, in places where they did not exist. Although much research existed explaining the benefits throughout the grades, a more detailed picture of its benefits was achieved when viewed at the two distinct levels of schooling, elementary and secondary (which includes middle).
Parent Involvement at the Early and Elementary Levels

Young children reaped substantial benefit from parental involvement. “Cooperative adult effort” among practitioners and parents in early years, did, as Moore (1998) reported, lead to “a trend of substantially improved achievement” (p. 79). Midel and Reynolds (1999), in their retrospective comparative study of 700 eighth grade students, confirmed that students with parents who were consistently or qualitatively involved from first to eighth grade, “…earn higher scores on reading tests, spend less time in special education, and pass from one grade to the next. These findings (hold) across all family backgrounds.” (p. 31) Early and elementary parent involvement designed for specific subject areas also yielded achievement. For example, pre-elementary students’ math scores rose significantly when their parents got assistance with approaches to teaching mathematics at home (Shaver & Walls, 1998). Starkey & Klein (2000), who provided Latino parents mathematics instructional kits, noted that elementary children developed greater math skills than those children whose parents were not involved in math education at home.

Literacy focused involvement, as examined by Bryant, Peisner-Feinberg, & Miller-Johnson (2000), led to the acquisition of word letter recognition, which was later linked to reading and comprehension. Anderson (2000), who studied urban second-grade students in an all black school, found advancements in vocabulary and reading when parents focused on literacy. Later, Lin (2003), who examined involvement and literacy, chronicled a significant association between parental involvement and reading, math, and general knowledge. Englund, Luckner, Whaley, and Egeland (2004) found maternal involvement and the presentation of
problem solving as a predecessor to higher intelligence quotient (IQ) and subsequent sustained involvement in child education.

Research findings associated with younger children and parents were significant. They supported a connection between children’s success and both home-based and school-based types of parental involvement. During younger years, school-based parental involvement included visits to the classrooms and direct interactions with educators. Such forms of parent involvement were successful because they exposed parents to the curriculum, built social structures, and increased the effectiveness of home involvement (Comer, 1995; Epstein, 2001; Hill & Taylor, 2004). Home-based parental involvement, such as visiting museums and completing complimentary learning activities and homework, was also successful because it supported and supplemented instruction (Chao, 2000; Comer, 1995; Epstein et. al, 2009; Grolnick & Slowiaczek, 1994), provided directed assistance and structured use of time (Cooper, 1989; Fan & Chen, 2001), and encouraged motivation (Hoover-Dempsey & Sandler, 1995). The involvement noted in the aforementioned studies fell into Epstein’s Six Types of Involvement and were testament to effectiveness at the elementary level.

*Parent Involvement at the Middle and Secondary Level*

Parent involvement and home-school relationships morphed in structure during the secondary years, as Tutwiler (2005) noted. During early and elementary years, parents perceived themselves as being responsible for their children’s schooling in consort with teachers. As a result, parents met with teachers, attended activities, and engaged in home-based activities such as completing homework, discussing school events, and taking educational trips.
Tutwiler (2005) suggested as children entered the secondary grades, parents’ perceptions shifted. During those years, parents perceived teachers as being responsible for schooling and themselves as being passive participants. As a result, parent involvement, such as family educational trips, homework monitoring, and discussions about school events, lessened (Seginer, 2006). It was clear that involvement diminished as children age, however, Desforges and Abouchaar (2003) noted fluctuating levels of parental involvement were “strongly influenced” by the children’s desire to mediate the home-school relationship across all ages.

Henderson and Mapp (2004), suggested something had to occur to maintain parent involvement as students’ progress through school.

The continuity of family involvement at home appears to have a protective effect on children as they progress through our complex education system. The more families support their children’s learning and educational progress, the more their children tend to do well in school and continue their education. (p. 30)

Henderson and Mapp, along with Epstein, Hill and Chao (2009) noted that students, especially those at secondary level, benefitted from progressive and continuous engagement rather than the steady drop-off that existed. Catsambis (1998), Balli, Wedman, & Demo (1997), Fan and Chen (1999), and Shummow and Miller (2001) documented some drawbacks to parent involvement in relation to student grades, test scores, homework, and behavior at the secondary level. Such studies, based on specific populations and examining specific involvement programming, did not align with the results of multitudinous studies supporting the benefits of involvement. What remained was the overwhelming consensus of research, as Henderson and Mapp (2002) reported, boasting that “programs and interventions that engage families” led to school success for children.
Findings Related to Parent Involvement at the Secondary Level

Two qualitative case studies, Wilkins (2004) and Ouimette, Feldman, and Tung (2004), and one descriptive quantitative study, Sanders, Epstein, and Connors-Tadros (1999), highlighted benefits of secondary level parent involvement. The focus of each of these studies was to determine what factors contributed to high levels of parent engagement at an unidentified charter school in California (IIA), the Boston Arts Academy (BAA), in Massachusetts, and six high schools in Maryland, respectively.

Wilkins’ reported “providing parents the tools they need to meet the needs of their children,” contributed to the above average achievement scores of students (p. 5,23). Ouimette, Feldman, and Tung concluded that schools, specifically BAA, that engage parents through frequent teacher initiated communication were successful at engaging parents and raising student performance. Sanders, Epstein, and Connors-Tadros revealed,

…different types of school practices result in different parental involvement behaviors. Specifically, parental reports of involvement at home are positively and significantly influenced by school practices that assist parenting and facilitate interactions with teens and learning activities at home. (p. 13)

Sanders, Epstein, and Connors-Tadros’ implied that school practices that are both academic and parent-centered impacted academic results.

Evidence based on a much larger sample, provided by the US Department of Education (2001), attested to the effectiveness of parent involvement. In locations where educators reported high levels of outreach to parents, reading scores grew at a rate of 50 percent higher, and math test scores were 40 percent higher than in schools where professionals reported low levels of outreach (Westat and Policy Studies Associates, 2001).
Simon (2001) conducted a longitudinal study that revealed secondary students, regardless of background, benefited from involvement that included volunteering, attendance at workshops, and learning at home activities. Then, Patriakakou (2004), concluded,

The long-lasting effects that parent involvement variables have on academic achievement of adolescents and young adults indicate that parent involvement during high school and beyond still remains an important source of guidance and support for the developing individual. (np)

Pate and Andrews (2006) also found great value in parent involvement. Their work centered around parents who were actively involved in their middle school children’s academic lives and who, as a result, had children who achieved higher grades, demonstrated better behavior, and had better attendance. Jeynes (2007) reported parental involvement yielded higher standardized test scores, better grades, and better attitudes about school.

**Middle School Parent Involvement**

During the middle and secondary years, parental involvement took shape in indirect ways (Grolnick et al., 2007; Smetana et al., 2004). For instance, parents conferred with students or school personnel periodically and privately or donated money or time to support school efforts, as opposed to the more obvious and direct ways of involvement, such as chaperoning field trips or volunteering in the school, that they employed during their children’s elementary years.

Indeed, involvement in the middle and secondary years was not as obvious.

Epstein and Sanders (2002) concluded “parental involvement during secondary school is {more so} associated with an increase in the amount of time students spend on homework and with an increase in the percentage of homework completed”. This finding was supported by Cotton and Wikeland (2007), who noted middle school involvement was related to other indirect
means of parent involvement such as homework monitoring and course selection, both of which still produced positive results.

Cooper, Jackson, Nye, and Lindsey (2001) concluded that secondary parent involvement in areas such as homework resulted in more completed assignments, better grades, and higher achievement scores. Van Voorhis (2003) and Sheldon and Epstein (2005) reported similar results when examining what happened when middle school parents received training in science and math homework assistance. Involvement of this ilk hinged on schools’ efforts to communicate expectations, curriculum, and methods of assistance to parents. This research suggested a need for continued investigations of school supported home efforts.

**Home-School Communication**

*Barriers to Involvement and Communication at the Middle Level*

As parental involvement declined at the middle level, so did student potential for success (Christenson & Sheridan, 2001; Pianta & Walsh, 1996; Singh, et al., 1995). There were many factors that contributed to the decline in parental involvement. There were very general factors, such as include geographic distance, teacher training practices, socio-economic and race divides, views of parental involvement, and society’s value of education (Epstein, 1985; Epstein et. al, 2002; Hall et. al, 2005; Moore, 1991). There were also more specific factors having to do with cultural norms (Espinosa, 1995; McDermott & Rothenberg, 2000; Yao, 1988) and passive approaches at building home-school relationships on the part of schools themselves (Liontos, 1992; Miretsky, 2004; U.S. Department of Education, 2002;). The age, cognitive development and natural inclination of adolescents to play a more active role in their own decision-making
were also a barrier to parental involvement (Hill & Tyson, 2009). A review of research on the topic revealed that barriers, however, were imposed, for the most part, by parents and schools.

Parental Imposed Barriers at the Middle Level

Parental beliefs about their own roles in support of education influenced parent involvement at the middle level. A U.S. Department of Education study cited a widely held feeling by middle school parents that children needed to complete school work alone and that they need not help their children if they were not experts in specific school subjects (2002). Some parents reported that they viewed their participation as unnecessary (Dwyer & Hecht, 2001) and others reported being hesitant to become involved because they had poor experiences in school (Decker et al., 2000; Dwyer & Hecht, 2001; Eccles & Harold, 1993; Greenwood & Hickman, 1991; Hall, et. al. 2005). Such parents reported having struggled academically, faced difficulties with promotion or graduation status, or had negative experiences related to disciplinary matters.

Another factor that presented a barrier was parent socio-economic status. Lareau (2001) and Bracey (2001) examined working class parents and indicated that such parents were less likely to become involved. This research suggested that public schools had much to consider when designing parent involvement programming and when establishing effective means of home-school communication.

School Imposed Barriers at the Middle Level

Despite findings such as those presented by Rutherford and Billing (1995), who reported communications between schools and parents contributed to a productive environment in middle schools, the schools themselves created barriers. The number and type of traditional middle
school efforts to involve parents were, for example, problematic. School activities designed to involve parents, including home-school communication efforts, declined at each grade level, and seriously decreased at the transition to middle school (Williams & Chavkin, 1989; Zill & Nord, 1994).

At middle level, a time when children experienced a complex period of emotional, cognitive, physical, and social development, school attempts to elicit parent involvement often waned. In 1993, Swapp noted, it was paradoxical that there was “widespread recognition that parent involvement in schools is important, that it is unequivocally related to improvements in children’s achievement,” yet “most schools do not” offer comprehensive parental engagement programming. This sentiment was echoed by Decker, Decker, Boo, Gregg, and Erickson (2000) and Dodd and Konzal (2000) who reported, schools invited parents to attend informational meetings and conferences, but few invited them to actively participate in extended forms of involvement, inclusive of home-school communication programming.

The structure of middle schools also created a barrier. Middle schools were traditionally larger and offered less personalized attention than most elementary schools (Rutherford, et. al, 1997; U.S. Department of Education, 2002). The progression of students from the single classroom teacher structure of elementary school to the multi-teacher structure of middle school denoted a shift away from the type of typical home-school communication essential for successful parent engagement programming.

Teachers within these structures also presented barriers. Some teachers believed that there was little need for parent involvement or that parents were no longer interested due to the age and grade of the students (Tozer et al, 2006). Some teachers did not recognize that working
with parents was important and had not had training in such matters (Cullingford & Morrison, 1999). Further, another set of obstacles was presented when teachers restricted the types of communication and participation they made available to parents (Miretsky, 2004). Teachers who provided vague expectations and unclear directions (Finders & Lewis, 1994) or those who did not consider parents’ schedules when setting up conferences, meetings, and school appointments (Koonce & Harper, 2005) created barriers.

Research also suggested that educators sometimes stereotyped or passed judgment on parents based on income status and, thus, hindered parent involvement. According to Koonce and Harper (2005) and Lott (2001) some educators adopted the view that low-income parents did not care as much about education, had less to offer their children in terms of academic support, and may have felt inadequately prepared to help their children, therefore the teachers did not extend or minimally invite such parents to become involved in their children’s education.

Middle school communication attempts that are one-way and focus on whole groups of children rather than individuals were also barriers. Eccles (2004), who identified secondary schools as large and bureaucratic, noted the lean number of opportunities for teachers and parents and students to focus on a mutual set of objectives (p. 143). For middle school parents, home-school communication was more focused on the whole group or the school’s policies and procedures rather than on individual students. Efforts tended to include larger invitational events, such as Orientation Nights, detailing school operations and affording minimal contact with teachers.

Barriers such as larger class size, increased and complicated school policies and procedures, and a less personalized approach to curriculum, also contributed to decreases in
middle level home-school communication. Resultant was the tendency for parents of middle school students to assume a less active posture (Walker, 1997; U.S. Department of Education, 2002). This trend continued into the high school level unless involvement efforts were initiated and sustained by the schools and unless schools developed grade level appropriate involvement practices (Christenson & Peterson, 2011; Epstein, 1995; Epstein, 2001; Maike, 1996).

Engaging middle school parents more formally in the learning process, as Vygotsky and Epstein suggested, capitalized on the innate and natural bond between parents and children and afforded opportunities to establish and build on shared objectives. Based on their assessment of data provided by the National Educational Longitudinal Study of 1988, Catsambis and Garland (1997) Epstein (2005), Jackson and Andrews (2004), Jackson and Davis (2000) all confirmed, that parental involvement declined as students entered the middle grades. Given such findings, a better understanding of effective home-school communication practices was necessary and so was an investigation of new advances in home-school communication.

*Home-School Communication and Parent Involvement*

Research held that when parent involvement programming was initiated and sustained by the school, it was successful. Patrikakou (2004) concluded, “Parent involvement continues being a positive and powerful source of influence for the achievement of adolescents and young adults. By encouraging parents to be involved in developmentally appropriate ways, schools can maximize the benefits…”. The degree to which parents were involved, however, depended on the effectiveness of home-school communication (Brown & Banicky, 2002). Some parents reported they were not as engaged in the academic progress as they desired (Catsambis and Garland, 1997) and wanted more information regarding how they could become more involved
Practitioners who engaged in home-school communication, at the secondary level, were often successful. Simon (2004) revealed secondary educators “have the capacity to influence family involvement positively…regardless of the background and achievement of students”. When invited, parents often engaged in academic activities and became “aware more of their teenagers’ progress,” worked “more frequently with their teenagers on homework or school projects” and talked “more with their teenagers about academic related issues” (Simon, 2004).

Deutscher and Ibe (2004) reported the link between achievement at the secondary level and communication with parents regarding “home-type” involvement/activities. Deutscher and Ibe noted parents who engaged in home-school communication regarding specific learning activities had children that performed “better in various areas (significant with STAR Science and California Test in History) of the STAR test or had better grades”. Such results indicated that parent involvement around use of instructional materials was beneficial. One reason that it helped was because it assisted parents in setting reasonable and attainable goals and to monitor advances. When parents and teachers collaborated and communicated, parents were more likely to support students at home (Drake, 2000).

**Technology and Home-School Communication**

*Overview*

Home-school communication came in many forms and fell into several categories. It was labeled as formal or informal by Elman (1999) and Gutman (2000). Examples of formal communications were regularly issued report cards, progress reports, and standardized test
reports. Examples of informal communications were phone calls, daily agendas, unscheduled parent meetings, and notes. Earlier literature, substantiated today, revealed secondary level school-initiated communication, as Ziegler (1987) and Epstein (1992) suggested, occurred in many types and forms. For example, invitational involvement such as Open Houses, and non-invitational involvement, such as unscheduled classroom visits, both constituted worthwhile forms of involvement. However, as early as Ziegler (1987), Clark (1993), and Eccles and Harold (1996) there was evidence that communication needed to become less general and more personalized.

Helling (1996), like Ziegler (1987), Epstein (1995), Cai, Moyer, and Wang (1999) and many others insisted that communication with parents needed to be consistent and varied in order to be effective. More current literature, such as Nugent and Mooney (2008) upheld that fruitful parent involvement offered a range of activities which accommodated different schedules, preferences, capabilities, and included consistent communication.

*Technology and Education*

In 1988 Blanchard found that the use of technology in schools indirectly improved communication, instruction, and student motivation, as well as conserved financial and material resources. Since then, communication technologies such as voice messaging (Greninger, 1991), automated answering machines and individual and group telephone technologies (Bissell, 1989; Cameron & Lee, 1997), video technology (Calabrese, 2006, Clevenson, 1999;), school and teacher web sites (Lishka, 2002; Tobolka 2006), individual and list serve e-mail (Clemente, 2002; Tao & Boulware, 2002), and the Internet (Dardenne, 2010; Maher, 2006; Olmstead, 2011) have been examined as they fit into the scheme of home-school communication. In each case,
research reported changes in parent involvement due to one way and/or two way communication between the school and home. These investigations revealed a movement, first suggested by Ziegler (1987), Clark (1993), and Eccles and Harold (1996), from general information about school events to more individualized communication about a specific child’s progress.

**Internet Technologies**

One large reason for this shift was the use of Internet technologies. At the onset of the Internet age, Bauch (1990) posited if time and opportunities were “the barriers” to melding parents, students, and schools in the interest of student success, “then telecommunications technology can come to the rescue.” By 2004, Salend, Duhaney, Anderson, and Gottschalk discovered that the Internet was an “interactive tool for individualizing homework and supporting the involvement of families in the homework process,” both of which were elements that resulted in improved academic performance (p. 65).

The first major study of the impact of Internet-based family-school communication, done by Bouffard (2008), examined Education Longitudinal Study (ELS) 2002 data concerning 14,387 10th graders. The study tracked students to their post-secondary ventures, such as jobs, military, or college, and reported Internet communication was “…associated with higher achievement and higher expectations” regardless of background. In addition to Bouffard, research from Lunts (2003), Weiss, Lopez, and Caspe (2006), Caspe, Lopez, and Wolos, (2006/2007), and Kreider, Caspe, Kennedy, Weiss, (2007), and others, all suggested consistent Internet-based communication impacted parent involvement and students.

The impact of Internet communication on parental involvement and student success has been well documented. For example, Bauch’s (1998) investigation of the Burris-Laboratory
School in Muncie, Indiana, and its use of the *Transparent School Model-Bridge Program* revealed positive increases in engagement after the institution of Internet-related parent programming. Poole, Sky-McIlvain, and Jackson (2006), offered a wealth of information regarding the employment of the aforementioned *TransParent School* model. This model, designed by Bauch and Phillips, was a school to parent communication system. It was originally piloted in 1992 and focused on voice messaging systems. However, as Poole, Sky-McIlvain, and Jackson noted, “Bauch and others recognize that telecommunications is moving in new directions, directions that many parents will find more attractive. Not surprisingly, the Internet is the backbone of the new systems” (p. 211).

The Met School in Providence, Rhode Island, served as a model for schools who adopted Internet parent engagement programs. The school was a public-private partnership supported by the Rhode Island Department of Employment and Training’s Human Resources Investment Council (RIDE), The Annenberg Institute, the CVS Corporation, and a non-profit called The Big Picture Company. The Met school utilized learning plan teams, involved parents in the development of curriculum, and included parents in the assessment of school work. Washor & Mojkowski (2006), who evaluated the Met School, associated its Internet communication parent engagement program with the school’s success with otherwise challenged students. In a measure of school climate and culture entitled “parent engagement”, the Met ranked at 88% compared to the state average of 41% (p. 254).

Researchers found, “The Met has consistently ranked among Rhode Island’s top high schools for attendance, graduation rates, parent involvement, school climate, and quality of instruction” due to its inclusion of parent programming, inclusive of Internet programs (p. 253).
What also existed was evidence that once such programming was in use and parents became accustomed to its ease, and more importantly, its effectiveness, the programs remained (Poole, Sky-McIlvain, & Kackson, 2006, p. 212).

*The Bridge Program,* an expansion of the previously noted *TransParent School Model,* included similar parent programming to that at the Met School. At the program’s conclusion, “The best news was that once (parents) found out they had access to such vital school information, fully 89% of the parents wanted to keep the project as a regular way for schools to keep parents informed” (Bauch, 1998, p. 229).

As Epstein (2001) and others have demonstrated, the crucial factor identified in linking the home and the school, and involving parents in a meaningful way, was communication (Cary, Lewis & Farris, 1998; Martin & Haga-Burke, 2002; Rajala, 2002). Technology appeared to have the capacity to fill gaps in parent involvement via effective home-school communication. As that technology advances, more innovative and intricate practices were showing promise in schools throughout the United States (Decker & Decker, 2003). Existing literature on the topic presented a foundation for the continued study of technology driven communication efforts between home and school. Graham-Clay (2005) who concluded “teachers should strive to use a variety of effective strategies to make communication with parents as informative and interactive as possible, incorporating new communication methods…” would likely agree (p. 126).

**Student Information Systems (SIS)**

_Data as Home-School Communication_

Newly developed Internet-supported Student Information Systems (SIS), complete with parent portals, were the latest technology being used to address the home-school communication
divide. First used in a small number of schools beginning in 1989 (McIntire, 2004), SIS programs provided parents access to their children’s daily school data, such as attendance, class assignment grades, homework, discipline records, and transcripts. What started as a main-frame program purchased by a small number of schools spread to 85% of high schools, 77% of middle schools, and 67% of elementary schools by 2003 and to 100% of the fifty states by 2011 (Data Quality Campaign, 2011; Kimball, 2003).

SIS use, coupled with the Internet’s widespread availability, allowed parents with SIS access to track their children’s educational progress, via the use of parent portals, in an unparalleled manner (Bird, 2006). Newspaper articles and Internet posts and blogs noting the SIS phenomena offered much in the form of testimonials regarding its usability, accessibility, and potential for enhancing home-school communication.

Companies, such as Pearson and Infinite Campus, were SIS producers who catered to an academic climate driven by the need to amass and share data. In fact, there had been a collective expenditure of over one billion dollars on SIS programs from 2000-2012 (Tucker, 2010). An investigation into SIS programs revealed that the largest and most widely known SIS was Pearson’s PowerSchool. First owned by Apple, PowerSchool’s web-based SIS maintained the daily data of over 10 million students in all fifty states and was employed by schools in 65 countries (Pearson Education, Inc., 2010-2011).

Actual research around the area of parental access through Internet-based SIS spanned the past decade and offered an interesting picture. Lunts (2000) and Furger (2006) purported allowing parents to have such access supplemented the historically traditional means of parent involvement. Furger (2006) also suggested five ways to enhance parent involvement, one of
which was to provide parents with on-line access to a portal. Hampton, Anderson, and Sigman (2002) reported the potential for increased GPAs in low achieving students and consistently beneficial results for students, teachers, and parents after use of a parent portal. Jensen (2003) noted parental appreciation for accessibility to data and attributed it to their own capacity to address academic and school disciplinary problems. Fisher, Fielder, Figura, Lobitz, Loiben, and Morris (2003) concluded that access to on-line grading had given birth to a change in home-school communication.

Adkins, Fansler, Hall, and Hines (2004) reported that parents with access to students’ grades linked such access to a decrease in missing schoolwork and an increase in overall grades. Bafile (2006) and Napolitano (2005) reported administrator satisfaction with parent conversations that resulted from portal access. Wilson (2005) who examined the effects of a parent portal, with a feature that permitted two-way communication through e-mail, found it reduced communication barriers between home and school.

More recent research, such as Delaney (2006), Ellis (2008) Shayne (2008), and Mathern (2009) continued to build a case for portals as a means of home-school communication. Mathern (2009) also found access to portal information improved the quality of communication but did not impact student grades, GPA, or attendance. One exception, presented with caution due to low sample size, was a significant and positive relationship between changes in access and changes in GPA for a free and reduced lunch subgroup. Koch (2010), who examined use of a parent portal at the middle level, wrote,

…regardless of parent socio-economic, gender, age, or ethnicity, using email, school websites, and the student information systems provides a good source of information and is the preferred and most convenient way to
communicate with schools.

Collectively, this six year span of research revealed an increase in home-school communication when parents had continuous access to their children’s data through use of parent portals.

Even more promising was a current examination of the Washoe County School District’s (WSCD) ninth graders, in Reno, Nevada. The District reported a correlation between portal activation and student achievement of credit toward graduation of high risk students (NEA Priority Schools Campaign, 2011). Further information about the WCSD’s experience with portal access will be available in the future. One element of the WCSD’s portal venture included parent training in portal access and voluntary workshops for interested parents. WCSD’s examination hinted at what Epstein (2012) and the Harvard Family Research Project (2011) suggested; parent training around the use of data was necessary. What was not present in the current literature about parent portal use was how parents were using portal access data and what, if any, was the result on student learning.

Parents and Data

Over the last decade, there had been a seismic shift in how schools collected, disseminated, and used data. One reason for this shift was the authorization of NCLB (2001) directing schools to provide parents with data in the hopes of involving parents and improving student learning. Companies such as the aforementioned Pearson and Infinite Campus, profiting from this culture of accountability and data collection, were meeting the demands for products that could empower schools to share their data. The result, as previously mentioned, was a wave
of SIS programs that afforded open access to data via parent portals. Data sharing with parents had become a new area for academic discourse and an area in need of further investigation.

Epstein (2012) suggested that use of data sharing through parent portals, in conjunction with parent training, further investigation, and attention to equity, may help build school and home partnerships. Epstein confirmed for this researcher that she ascribed use of the parent portal as a Type-2 form of Parent Involvement moniker. Epstein reiterated, “It is one means of home-school communication but it is not the whole story…” Epstein stipulated that employment of such mechanisms, in consort with other means from all Six Types of Involvement, may address the traditional decline in parental involvement. (Epstein, 2012)

As early as 2002, when the first waves of data post-NCLB were being collected, the Harvard Family Research Project (HRFP) reported that organizations such as the Institute of Education and Social Policy Development (IESP) at New York University (NYU) were helping school systems and their parents make sense of data. System wide issues such as school overcrowding and rezoning of districts were addressed by policy makers and stakeholders who had been compelled by parents. Those parents had been trained in the interpretation and use of school data. (Lopez, 2002). The HRFP suggested that when parents had assistance interpreting data, they had the capacity to bring about change.

More recent publications form the HFRP (2010) reported a shift in data use. They suggested “academic socialization” between schools and families needed to include data sharing and information about children’s individual progress. The HRFP indicated that providing data offered a point at which meaningful communication about children’s learning began (2010). It supported the creation of a “data pathway” on which a child’s progress was tracked from early
childhood through college and onto his or her career. Further, it specified that data on the pathway was to be accessible, understandable, and actionable (Weiss, Lopez, & Stark, 2011). Data accessibility meant the data was relevant and supplied on a consistent basis. Understandable meant that the data was something parents were able to put in the context of their child’s goals and needs. Actionable implied that the data came with tools and resources to help parents address its findings.

Two cases reported by the HFRP highlighted data sharing. Those two cases were the Achievement Reporting and Innovation System (ARIS) Parent Link and Academic Parent-Teacher Teams (APTT). ARIS was being used by parents in New York City Schools. Access to ARIS provided parents with attendance, biographical information, cumulative grades, and formative and state assessment data (Polakow-Suransky, 2011). Parents were provided with the data, training on ARIS’s Parent Link, and resources to address areas of need. Results of implementation were unavailable but the District was tracking parent access and use of resources (Weiss, Lopez, & Stark, 2011). APTT, a teacher-parent endeavor that involved meeting to discuss data, was underway in the Creighton School District of Phoenix, AZ. A report suggested use of this approach had increased parent attendance at school events and noted parents felt empowered to help their children (Weiss, Lopez, & Stark, 2011).

ARIS and APTT were interesting data sharing endeavors. They offered promise about parental access to data when support was afforded to the parents. Weiss, Lopez and Stark (2011) captured the intent of these two programs when they wrote sharing “…data open(ed) the door for meaningful conversations with teachers and students” (p.1)
concerned the conversations that took place between parents and their children once the parents had access to data. That topic represented a gap in current research.

**Summary and Implications for Study**

The review of literature confirmed the important role parents’ assumed in the success of their children. It was clear that elementary parents were more involved than secondary level parents. Literature attested to the decline in parent involvement at the middle level. It also revealed that schools, compelled by research and mandates, were addressing that decline in a number of innovative ways. Over the past twenty years, schools had turned to numerous technological innovations to improve home-school communication efforts while attempting to address this decline in involvement. The latest in these efforts was granting parents access to their children’s data through SIS parent portals.

Current literature suggested that schools were beginning to work with parents to understand this data. It confirmed that the data was a starting point for schools and parents to discuss and address system-wide issues, such as teacher shortages and funding. It suggested that the provision of data was also a potential starting point for discussions about individual student progress. This review, however, exposed an area in need of investigation related to this trend in data sharing. What needed to be explored was how data was used between parents and their children. How did parents, granted access to their children’s data through SIS portals, use that data to address learning?
Chapter Three: Research Design

Introduction

A review of literature confirmed the importance of parent involvement in education. It further supported the need for effective methods of home-school communication in order to foster such parent involvement. Literature also confirmed the growing role of technology in home-school communication. Over the past twenty years, researchers had examined technologies such as voice messaging, automated answering machines, telephones, video recorders, teacher web sites, e-mail, and the Internet (Bissell, 1989; Calabrese 2006; Cameron & Lee, 1997; Clemente, 2002; Clevenson, 1999; Dardenne, 2010; Greninger, 1991; Lishka, 2002; Maher, 2006, Olmstead, 2011; Tao & Boulware, 2002; Tobolka 2006) as they fit into the broader scheme of home-school communication. This body of research chronicled changes in parent involvement due to one-way and two-way communication between the school and home.

More recently, research suggested that granting parents access to student data via Student Information System (SIS) parent portals had the potential to help schools and parents communicate (Ellis, 2008; Koch, 2010; Mathern, 2009). Literature also reported that schools were beginning to work with parents to understand district and school data. It confirmed that district and school data was being shared with parents to address system-wide issues. Further, it suggested that provisioning school and individual student data created established a common ground for school and parent discussions about individual student progress. The review of literature, however, exposed an area in need of investigation related to this trend in data sharing. What needed to be explored was how data, such as daily academic data, was being used by parents.
In order to address this gap in research, this investigation examined what motivated parents to use a parent portal. It further examined how parents with access to their children’s academic data, specifically grades on all individual assignments, attendance, and teacher comments, used that data to address learning. It also explored how use of a parent accessible SIS may foster, deepen, and prolong parent involvement.

**Research Questions and Sub-questions**

The following were the study’s research questions:

1. Why do parents use the parent portal?
   1a. What motivates parents to use the portal?
   1b. Does parental relationship influence use of the parent portal?

2. Does parent access to the parent portal support home-school communication?

3. How do parents use data provided via the parent portal?

4. Does use of a parent portal affect parents’ traditional tendencies to decrease engagement?

**Overview of Methodology**

The researcher conducted a *concurrent mixed-methods approach*; an approach that incorporated both quantitative and qualitative forms of inquiry at the same time. Creswell and Plano Clark (2007) explained that the use of both qualitative and quantitative approaches in tandem contributed to an investigation’s strength. Creswell (2009) furthered that when a researcher “collect(ed) both forms of data at the same time and integrate(d) the information in the interpretation of overall results” the investigation may prove greater than when either approach is taken alone (p.15).
In this study a three-part closed ended survey was used to gather quantitative data regarding (I) parental demographic information, (II) trends in current home-school communication methods, and (III) usage habits, experiences and opinions regarding the parent portal.

More specifically, the survey, based on a survey used by Shayne (2008), was broken into three parts and included 20 closed ended questions. Part I, questions 1-2 requested information such as gender and age. Part II, questions 3-6, investigated general patterns of existing home-school communication. Part III, questions 7 – 20, investigated participant’s usage habits, experiences, and opinions regarding the parent portal and its data.

At the same time, parental feelings and experiences related to parent portal use was explored by interviewing a focus group of portal users who responded to the survey. Participants in the interview responded to eight questions, broken into four parts, regarding (I) their motivation to use the portal, (II), the portal as a means of home-school communication, (III) use of portal data, and (IV) the portal’s potential for impacting parental involvement at the secondary level.

The reason for mixing both forms of data was to better understand how implementation and use of one SIS’s parent portal, at the middle school level, fit into parental perspectives of home-school communication, to identify impediments to use of a parent portal, to understand how parents used portal data, and to understand if use of a parent portal affects parents’ traditional tendencies to decrease engagement by converging general numeric trends (quantitative) with detailed views (qualitative data). Creswell (2009) supported use of this
method when both forms of data were not anticipated to be equal in size and rigor and when time and available resources were factors. (p. 216).

The benefits of this approach, as Creswell (2009) suggested, were that it offered a broad perspective, its results sat side by side and offered two pictures, and data collection occurred simultaneously or without analysis of one collection before moving to the next. These benefits made this an appropriate approach in light of the researcher’s goals, intended time frame, and audience.

Quantitative Approach

The quantitative approach used was a survey which consisted of twenty closed ended questions. Survey research provided descriptive data in both numerical and statistical forms (Gay & Airasian, 2003). It helped to generalize about characteristics, attitudes, and behaviors of the population being studied (Creswell, 2003). The twenty question closed-ended survey provided quantitative data regarding (I) parental demographic information, (II) trends in current home-school communication methods, and (III) usage habits, experiences, and opinions regarding the parent portal. A closed-ended survey was utilized because was the most expedient means of gathering data considering the targeted population’s size (Gay & Airasian, 2003).

Qualitative Approach

The qualitative approach consisted of open-ended interview questions posed to a focus group of survey respondents. Participants in the interview responded to eight questions, broken into four parts, regarding (I), their motivation to use the portal, (II), the portal as a means of home-school communication, (III) use of portal data, and (IV) the portal’s potential for impacting parental involvement at the secondary level.
A focus group format was deemed appropriate in light of the participants’ experiences previous to the study. Accessing the parent portal was a solitary or with-in household experience. This semi-structured and “guided” (Mertens, 1998) opportunity for individual portal users to give voice to those experiences while hearing from other members of the focus group yielded detailed qualitative data from participant interplay, dialogue, and responses.

Additionally, garnering the participants’ points of view or perceptions of portal use was crucial to this study. Morgan (1988) noted that the interactions between focus group participants offered the researcher a means of eliciting participants’ point of view more so than in other research-centric interview strategies. As Creswell (2003) suggested, a focus group provided an atmosphere that more likely to evoke participants to share personal experiences than individual interviews. Conducting a focus group was also a time efficient means of collecting qualitative data from a number of participants at the same time, especially because the researcher was attentive and encouraged all members to participate. (p. 133) Table 1 depicted the link between each survey and focus group question and the research questions it addressed.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Research Questions</th>
<th>Corresponding Survey (S) and Focus Group (FG) Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What do parents use the portal?</td>
<td>1a. What motivates parents to use the portal?</td>
<td>1a: S4, S6, S11, S12, S18, FG1</td>
</tr>
<tr>
<td></td>
<td>1b. Does parental relationship influence use of the parent portal?</td>
<td>1b: S1</td>
</tr>
<tr>
<td>2. Does parent access to the parent portal support home-school communication?</td>
<td></td>
<td>2: S3, S4, S14, S19, S20, FG2</td>
</tr>
<tr>
<td>3. How do parents use data provided via the parent portal?</td>
<td></td>
<td>3: S11, S15, S16, S17, FG3, FG4, FG6, FG7</td>
</tr>
<tr>
<td>4. Does use of the parent portal affect parents’ traditional tendency to decrease engagement?</td>
<td></td>
<td>4: S13, FG 5, FG7, FG8</td>
</tr>
</tbody>
</table>
Site and Participants

History

In 1997, The Stoughton Public School District (SPS), an eight school pre-K-12 District, in Stoughton, MA, had its first Information System (SI). The SI ran on an IBM mini-computer and, like most at the time, did not have a parental access feature. The newly hired Director of Educational Technology, Dr. Lawrence Gray, was directed to select and implement new student and finance management software. A team consisting of the High School Principal, Guidance Director, Assistant Superintendent, and Gary, examined various systems and chose Chancery's Open District. This program was popular with schools in Massachusetts but did not initially include features for parent portal access. (L. Gray personal communication 27 April 2012)

Open District became Chancery Student Management System (SMS) and the SPS migrated to the SMS at no charge. The new system came with a parent portal feature. Gray reported that in 2007, the new parent portal feature sparked discussion on the SPS Technology Committee about enabling the feature. But, the program did not have a “single sign-on” feature. The lack of a “single sign-on” feature made accessibility difficult for parents with multiple students and for the system administrators charged with overseeing its operation. The Committee’s suggestion to delay portal access until the program became more “parent friendly” was accepted by the School Committee. (L. Gray personal communication 15 May 2012)

Pearson purchased PowerSchool from Apple and also purchased Chancery’s SMS. The decision of the School Committee and the new Superintendent, under the advisement of Gray, who, again assembled a team and evaluated all of the other student systems with a user base in Massachusetts, was to move to PowerSchool at no cost. The switch to PowerSchool brought
with it a parent portal feature with a “single sign-on”. (L. Gray personal communication 27 April 2012) Opening access to the portal feature was one way to potentially share data with an estimated 75% or more of the District’s families who had Internet access. It also augmented the SPS’s exiting home-school communication programming and presented a means of addressing NCLB parent involvement and data sharing mandates.

The School Committee and Superintendent, under the advisement of Gray, allowed teachers and administrators the 2010-2011 school year to acclimate to PowerSchool before opening the portal in the 2011-12 school year. During the 2010 school year, it required all teachers to use PowerSchool as its sole gradebook program. The District offered voluntary training opportunities, during and after school, conducted by technology support staff. The SPS also allowed teacher and administrators to access video tutorials located on the Pearson website.

The video tutorials were web-hosted so they were highly accessible to teachers and administrators who sought detailed directions about a myriad of topics. The tutorials, some of which were animated, differed in length depending on the topic. Some were as brief as ten minutes and others as lengthy as three hours. Users who accessed the tutorials selected them by topic. Users were able to pause or suspend each tutorial and toggle to their personal PowerSchool window in order to engage in tasks that had been demonstrated. The SPS did not track use of the tutorials nor did it collect attendance data from the voluntary staff trainings.

In August of 2011, after receiving approval of the School Committee, the Superintendent announced that that the parent portal would open to parents of students in grades 6-12 in September of 2011. The exclusion of elementary parents was based on the elementary schools use of standards-based detailed grading, a method too cumbersome for reporting through the
portal. Other aspects of the SPS home-school communication programming, such as individual school web sites, One Call Now, Email lists, Twitter, Cable Bulletin Board, and streaming video feeds, would continue to serve parents throughout the pre-K -12 District.

The SPS partnered with Comcast, an Internet provider, to provide low cost Internet service and inexpensive computing devices for parents without Internet service or for those seeking to decrease its expense. Notices about the Comcast program were sent home with all students in September of 2011. Although formal data regarding Internet accessibility was not collected, Gray estimated 1518 parents of grades 6-12 had Internet access based on their provision of email contact information. That constituted 77% of the 6-12 population. (L. Gray personal communication 29 April 2012)

The Stoughton High School (SHS) Principal and the Dr. Robert G. O’Donnell Middle School (ODMS) Principal crafted a letter to accompany a user agreement developed by Gray and approved by the School Committee. In September of 2011, the principals announced that the parent portal had been enabled and parent access would be granted to each parent who returned a signed user agreement.

On the first day of school, 900 students at ODMS and 1066 students at SHS were given the introductory letters and user agreements, inviting their parents to become parent portal users. As such, users would be able to view their children’s grades on all forms of classroom academic assessments, as well as attendance, schedules, and teacher comments, 24 hours a day, 7 days a week. The invitations were followed by an automated One Call Now message altering parents to the opportunity.

Site and Participant Information
The study site was the Dr. Robert G. O’Donnell Middle School (ODMS). There were 468 males 432 female students for a total enrollment of 900. The school’s race/ethnic data was African American 15.7%, Asian 3.1%, Hispanic 5.6%, Native American 0.1%, White 74.6%, Native Hawaiian/Pacific Islander 0.1%, and Multi-Race/Non-Hispanic 0.7% (Massachusetts Department of Elementary and Secondary Education, 2012).

ODMS parents who returned the signed parent portal user agreements, starting in September of 2011, were emailed a PDF containing directions for portal use developed by Gray. That PDF contained a link to a HelpDesk providing support for portal users during school hours. Distribution of information through email was a means of checking email address accuracy.

By November of 2011, there were approximately 529 registered parent portal users at ODMS. As the year progressed, the remaining parents were encouraged to join. Parents who called the school’s Main Office, who attended meetings about their individual students, and who communicated with teachers via phone or email were reminded of the availability of portal access. School issued documents, such as paper progress reports and reports cards, touted reminders, as did the school’s web site. As of March 2012, there were 620 registered portal users, representing 68% of the school’s total students.

Implication/Predictors from a Previous Study.

In November of 2011, Assistant Principals at ODMS, one of whom is the researcher, investigated parental perceptions of homework. The purpose of the study was to gather data about parental perceptions of content, time, and meaningfulness of assigned homework. The study’s main instrument was a survey with both closed and open ended questions about the amount, quality, type, and value of homework being assigned in each grade, 6-8.
During the study, the 529 parent portal users were invited, via email and phone, to participate in the survey. The survey was constructed and housed on Zoomerang (www.Zoomerang.com), an on-line survey and polling company to which the SPS owned a subscription. A link to the survey was posted on the main page of ODMS’s PowerSchool parent portal.

In total, 148 parents completed the survey. This represented 28% of the portal users. Data from the survey was collected at the Zoomerang site and filtered by grade (6th, 7th, 8th). The data was imported from Zoomerang to a Microsoft Excel document and responses were analyzed for each question by grade. Quantitative results were reported in percentages by grade for each question. Qualitative results for the open ended question were presented by common theme by grade. The findings were presented to the faculty and used as a piece of a discussion regarding possible changes to current homework policy and practice.

The number of respondents provided a reasonable predictor of the number of parent portal users who may respond to another survey when notified in the same manner. Mertens (1998) “rule of thumb” suggested that a total of 100 respondents to quantitative survey research produced a suitable sample size when there was one “major subgroup” invited to participate. In the case of the homework study, the “major sub group” consisted of the 529 parents.

This researcher, who employed a similar means of invitation and reminder notification employed during the homework study, anticipated a similar number of respondents and, thus, met Mertens “rule of thumb”. The researcher anticipated 10 volunteer focus group participants. This number was derived from the number of participants in the ODMS homework survey (148) and Mertens (1998) “rule of thumb” for a focus group size of 7-10 “per major audience”.
Data Collection Procedures

Survey

In December of 2011, the researcher obtained permission from ODMS’s Principal to conduct this investigation. In March of 2012, this investigation was approved by the Institutional Review Board at Northeastern University.

In March of 2012, the researcher enabled access to a closed-ended electronic survey using SurveyMonkey, an on-line survey and polling company. A link to the survey was located at the bottom of the Invitation/Informed Consent Letter Sent Via E-Mail to all 620 registered parent portal users. A One Call Now Alert Regarding Requests for Participants was sent using the One Call Now Service to alert parent portal users to the invitation. The survey (Appendix A) was available for completion for two weeks and each participant was invited to complete the survey once.

To obtain a high return rate, participants received a Reminder Invitation/Informed Consent Letter Sent Via EMail and a One Call Now Survey Reminder to complete the survey at the mid-point of its availability. No incentives were offered to participants. When the survey closed, there were 153 respondents, representing 25% of portal users.

Focus Group Interview

A request for volunteer participants in a focus group interview was part of the Invitation/Informed Consent Letter Sent Via E-Mail and part of the Reminder Invitation/Informed Consent Letter Sent Via E-Mail. Based on the number of participants in the ODMS pilot survey (148) and Mertens (1998) “rule of thumb” for a focus group size of 7-10 “per major audience”, the first 10 volunteers who responded became focus group participants.
The focus group volunteers received a Focus Group Participant Confirmation and Informational E-Mail. The focus group met on a Thursday at 6:00 PM in April of 2012.

The interview, as Creswell recommended, was held in an area familiar to the interview participants, the ODMS’s Library Media Center. This location was familiar to parents because it was the site of Open House activities, Parent Orientation Night, Parent Teacher Organization Meetings, the Annual Art Show, meeting for parents whose children attended overnight field trips, and other school events to which parents were invited.

The interview took approximately 60 minutes. The focus group interview followed Mertens’s (1998) suggestions for semi-structured format that allowed for discussion and interaction from participants but was led by one moderator. In this case, the moderator was the researcher. Doing so, as Mertens (1998) asserted, ensured coverage of important topics yet allowed for flexibility (p 321).

Group members were asked a total of eight questions (Appendix B). At the conclusion of each discussion surrounding each question, the researcher orally summarized the group’s comments and sought participants’ corroboration of preliminary common themes. The focus group interview was audio taped with the permission of participants. The contents of the audio recording were stored as an MP3 file on the researcher’s primary computer and were used as a reference, during data analysis, when clarification was necessary.

As Creswell (2009) recommended, the interviewer kept a set of notes for each question and recorded responses as they were provided at the group interview. Such notes captured what Mertens (1998) identified as “additional insights gained from the interaction of ideas among the group participants” (p. 321)
Data Analysis

As with Shayne (2008), the researcher constructed the survey so that individual items were coded according to the research questions they addressed. This allowed for computer assisted analysis using software provided by SurveyMonkey and Microsoft Excel. Frequency counts for each coded item were reported and transferred from SurveyMonkey software to a Microsoft Excel spreadsheet for analysis.

Relationship data were also tabulated from survey questions 1 (relationship) in order to see how these factors affected individual scale and cluster results. All survey data was reported by each research question and in the form of percentages based on division by total respondents per item.

Focus group data, which was coded by the research question it addresses, was sorted thematically, and reported by each research question. The researcher corroborated data from both sources for each research question. This method of corroboration, as Gay & Airasian (2003) suggested, increased confidence in the study’s results because it allowed for comparison of data gathered from different sources and approaches to research.

Validity and Credibility

Validity in Quantitative Research

Validity, an important consideration in quantitative research, referred to the degree to which a study accurately reflected or assessed the specific concept the researcher attempted to measure (Thorndike, 1997). Content validity showed the extent to which the survey items and the scores from these items were representative of all the possible questions about the topic. The survey items, as they appeared in Shayne (2008), were piloted with a group of parents. The
survey’s pilot assessed the questions’ relevance to the subject it was aimed to measure, and determined that the survey was a reasonable and well-designed way to gain the needed information.

Subsequently, the survey was approved by Shayne’s primary researchers, St. Luis University’s Associate Professor Angela Walmsley, Professor Michael Grady, and Associate Professor Anne Rule. After alteration, the survey was presented by this researcher to advisors at Northeastern University to further assess its content validity. In this case, content and criterion-related validity of the survey instrument was established by its partial use in Shayne (2008) and via IRB review (Andrea Goldstein personal communication 20 March 2012).

Proceedings of the ODMS pilot study regarding homework offered validity for this survey’s distribution via e-mail. Criterion-related validity, sometimes referenced as instrumental or predictive validity, “demonstrate(d) the accuracy of a measure or procedure by comparing it with another measure or procedure, which has been demonstrated to be valid” (Colorado State University, Overview: Reliability and Validity, 2012). For this purpose, the modified Shayne (2008) survey questionnaire for this study needed to be compared on the consistency of the results with existing instruments, measuring the same construct. However, no such instrument related to use of a parent portal was found.

Credibility in Qualitative Research

Standards for judging qualitative research were different from those of quantitative research. The researcher sought believability (Eisner, 1991) and trustworthiness (Lincoln & Guba, 1985) via verification rather than by traditional validity and reliability measures. In the
qualitative study there was uniqueness or a level of authenticity because of the study’s specific context that prevented it from being exactly replicated in another context.

Acknowledging biases and affiliations strengthened the chances of it being replicated in another setting (Creswell, 2003). To that end, the research’s employment as an Assistant Principal at the investigation’s site was made aware to the primary research and all Northeastern University continuances involved in this investigation. Although the researcher’s affiliation with the investigation’s site was not acknowledged in IRB approved protocols, it can be assumed it was known by participants whose children attend school at the site.

To validate findings, or determine the credibility of the information and whether it matches reality (Merriam, 1988), two primary forms were used in the qualitative portion of the study: (1) member checking by getting feedback from the participants (focus group parents) on the accuracy of the identified themes (after the interview); and (2) external audit in which the researcher had a person outside the project (advisor) review the study and report back (Creswell, 2003; Creswell & Miller, 2002). Member checking occurred at the focus group site. At the conclusion of each discussion surrounding each question, the research orally summarized the group’s responses and sought participants’ corroboration of preliminary common themes. The external audit was conducted by the IRB identified Principal Investigator.
Chapter Four: Presentation of Data and Research Findings

Introduction

There were three purposes for this investigation. The first was to understand what motivated parents to use a parent portal. The second was to examine how parents with access to their children’s academic data, specifically grades on all individual assignments, attendance, and teacher comments, used that data to address learning. The third was to understand how a parent accessible SIS may foster, deepen, and prolong parent involvement.

Research Questions and Sub-questions

The following were the study’s research questions:

1. Why do parents use the parent portal?
   1a. What motivates parents to use the portal?
   1b. Does parental relationship influence use of the parent portal?

2. Does parent access to the parent portal support home-school communication?

3. How do parents use data provided via the parent portal?

4. Does use of the parent portal affect parents’ traditional tendencies to decrease engagement?

Analysis

In this concurrent mixed methods study, a three-part closed ended survey (Appendix A), based on Shayne (2008), was used to gather quantitative data regarding (I) parental demographic information, (II) trends in current home-school communication methods, and (III) usage habits, experiences and opinions regarding the parent portal. At the same time, parental feelings and experiences related to parent portal use was explored by interviewing a focus group of portal
users who responded to the survey. Participants in the interview responded to eight questions (Appendix B), broken into four parts, regarding their (I) their motivation to use the portal, (II), the portal as a means of home-school communication, (III) use of portal data, and (IV) the portal’s potential for impacting parental involvement at the secondary level.

As with Shayne (2008), the researcher constructed the survey so that items were coded according to their research questions. This allowed for computer aided analysis of the 153 completed surveys using SurveyMonkey’s software and Microsoft Excel. Frequency counts for each coded item were reported and transferred from SurveyMonkey to a Microsoft Excel spreadsheet for analysis.

Relationship data were also tabulated from survey question 1 in order to see how this factor affected individual scale and cluster results. 86.3% of survey respondents and 100% of the focus group participants identified themselves as “mothers” in relation to the child for whom they accessed the portal. The remaining 13.7 % of survey respondents identified themselves as “fathers” (10.5%), “stepmothers” (.7%), “grandmothers” (.7%), and “female guardians” (2.0%).

Analysis of the minimal number of respondents in categories other than mother did not yield any trends in response to particular survey questions. The trend of maternal use of parent portal suggested by the high number of respondents and focus group participants who reported their relationship as “mother” was noted as part of data, and subsequently the findings, related to research question 1.

Survey results were reported as “parents”. Survey data was reported by each research question and in the form of percentages based on division by total respondents per item. Focus group data, which was coded for each research question, was sorted thematically and reported
alongside the corresponding quantitative data. Since the researcher employed a concurrent mixed methods approach, data from both sources was corroborated for each research question. This method of corroboration, as Gay & Airasian (2003) suggested, increased confidence in the study’s results because it allowed for comparison of data gathered from different sources and approaches.

The relationship between the research questions and their corresponding survey and focus group questions were delineated in a visual format (Table 2).

<table>
<thead>
<tr>
<th>Table 2</th>
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</thead>
<tbody>
<tr>
<td><strong>Research Questions</strong></td>
<td><strong>Corresponding Survey (S) and Focus Group (FG) Questions</strong></td>
</tr>
<tr>
<td>1. What do parents use the portal?</td>
<td>1.a: S4, S6, S11, S12, S18, FG1</td>
</tr>
<tr>
<td>1a. What motivates parents to use the portal?</td>
<td>1.b: S1</td>
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<tr>
<td>1b. Does parental relationship influence use of the parent portal?</td>
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<tr>
<td>2. Does parent access to the parent portal support home-school communication?</td>
<td>2.: S3, S4, S14, S19, S20, FG2</td>
</tr>
<tr>
<td>3. How do parents use data provided via the parent portal?</td>
<td>3.: S11, S15, S16, S17, FG3, FG4, FG6, FG7</td>
</tr>
<tr>
<td>4. Does use of the parent portal affect parents’ traditional tendency to decrease engagement?</td>
<td>4.: S13, FG 5, FG7, FG8</td>
</tr>
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</table>

Content validity of the quantitative approach was addressed. Survey items, as they appeared in Shayne (2008), were piloted with a group of parents and approved by a dissertation committee at St. Louis University. After alteration, the survey was presented to advisors at Northeastern University to further assess its content validity. In this case, content and criterion-related validity of the survey instrument was established by its partial use in Shayne (2008) and via IRB review (Andrea Goldstein personal communication 20 March 2012).
Credibility of qualitative research (Merriam, 1988) was checked using two tactics: (1) member checking (focus group parents); and (2) external audit (Creswell, 2003; Creswell & Miller, 2002). Member checking occurred at the focus group site. At the conclusion of each discussion surrounding each of the 8 questions, the research orally summarized the group’s responses and sought participants’ corroboration of preliminary common themes. The external audit was conducted by the IRB identified Principal Investigator.

Results

General Demographic Information from Quantitative Approach

Relationship

The survey was taken by 153 participants. Those participants were parents of students at the Dr. Robert G. O’Donnell Middle School covering grades 6-8. Of survey respondents, 86.3% identified themselves as “mother” in relation to the child for whom they accessed the portal. The remaining 13.7% identified themselves as “father” (10.5%), “stepmother” (7%), “grandmother” (.7%), and “female guardian” (2.0%). There were no respondents who reported their relationship as “stepfather”, “grandfather”, or “male guardian”.

Age Group

In terms of age, the highest number of participants, 38.6%, reported being in the 41-45 age group. That was followed by the 30.7% that reported being 46-50. The under 35 age group accounted for 5.2% of participants, the 36-40 age group accounted for 13.1% of participants, and the 51 or older group accounted for 12.4%.

Grade Level
In terms of grade level, 20.5% denoted being a parent of a grade 6 child, 34.9% denoted being a parent of a grade 7 child, and 31.5% reported a being the parent of a child in grade 8. Thirteen percent (13.0%) reported having more than one child in grades 6-8. Seven participants did not indicate a grade level for their children.

**General Usage Trends from Quantitate Approach**

*Access Device*

The highest percentage of respondents, 71.7%, reported accessing the parent portal through a home computer or laptop. Respondents who accessed the portal through a computer or device at a place of employment accounted for 12.4% and those who reported access by a cell phone with Internet access also accounted for 12.4%. Respondents who accessed the portal through a tablet or I-pad device accounted for 3.4% whereas no respondents reported accessing the portal through a library or free access computer or Internet device. Eight (8) participants did not select an answer.

*Frequency*

In terms of frequency of access, 43.1% reported accessing the portal more than once a week, 31.3% once a week, 16.7% every other week, 6.3% once a month, 2.1% only when prompted by the school, and 0.7% at mid-term and/or term ending. Nine participants did not respond to the question. When asked to specify a day on which a participant typically accessed the portal, 80.3% reported accessing the portal any day of the week. Ten percent (10%) reported accessing the portal on Mondays, 4.2% on Wednesdays, 4.2% on Fridays, 0.7% on Saturdays, and 0.7% on Sundays. No respondents reported accessing the portal on Tuesdays or Thursdays. Eleven (11) respondents did not answer this question.
Research Question 1 Concurrent Approach Data Presentation

1. Why do parents use a parent portal?

Research question 1 examined *why parents used a parent portal*. More specifically, research sub question 1a asked *what motivated parents to use the parent portal*. There were 5 survey questions and 1 focus group question used to explore this area. The survey questions were numbers 4, 6, 11, 12 and 18. The focus group question was number 1. What follows is a reporting of each of their results in prose form.

Survey question 4 asked participants to *indicate their method of receiving or accessing school information*. The purpose of this question was to understand if parental desire for school information was a motivator for accessing the portal. Results from this question revealed 47.7% reported the parent portal as the primary means of accessing school information, 23.8% relied on their children, 13.9% used email, 7.9% used teacher web sites, 6% used One Call Now or telephone calls, 0.7% used face to face meetings at school/parent night, and no respondents selected the local newspaper (Appendix C, Fig. 1). These results revealed that the majority of respondents use the portal as a primary means of accessing school information. Data implied that parental desire for school information was a reason for accessing the portal.

Survey question 6 asked participants *what method of communication they primarily used when accessing or receiving communications with a child’s teachers regarding grades and assignments*. The purpose of this question was to understand which of the following options for communication, telephone, email, written notes, text messages, web sites, parent portal, or face to face meetings was being utilized when parents desired specific information academic information from teachers. Results from this question revealed 44.7% used email, 44% of
participants used the parent portal, 4.7% used face to face conferences, 4% used telephone, 2% used web sites, .7% used written notes, and no respondents used text messages (Appendix C, Fig. 2). Such results revealed that email was the preferred method of communicating with a child’s teacher when seeking specific information. It also revealed that the portal, preferred less than email by only one respondent, is being used by parents seeking specific information from teachers regarding grades and assignments.

**Survey question 11** asked participants to *select the type of information they were most likely accessing the parent portal to learn about*. The purpose of this question was to identify what parents wanted to learn about their children when accessing grades, attendance, and teacher comments through the parent portal. The results revealed 72.9% were seeking current grades, 13.2% progress on specific assignments, test or quizzes, 6.9% missing assignments, 6.3% homework assignments, .7% up and coming tests, quizzes, etc…, and no respondents reported attendance and teacher’s comments (Appendix C, Fig. 3). Such results revealed parents accessed the portal the most to learn about a child’s current grades. Such results also revealed that no parents were most likely to access the portal to learn about attendance and teacher comments.

**Survey question 12** asked participants to *select the reason why they were most likely to access the parent portal*. The purpose of this question was to identify a personal motivation for accessing a child’s grades, attendance, and teacher comments through the portal. The results revealed 81.3% indicated personal concern for a child’s academic performance, 11.8% were encouraged by their child, 6.9% were prompted by the school, and no respondents were prompted by a child’s teacher (Appendix C, Fig. 4). Such results revealed that the vast majority of parents accessed the portal out of concern for their child’s academic performance.
Survey question 18 asked participants to what extent they considered it their primary responsibility to access student progress information provided by the school. The purpose of this question was to understand once parents voluntarily signed up to use the parent portal to what extent did they feel motivated by responsibility to use it. The results revealed 78.7% of respondents preferred to use the portal as their primary source of information regarding their child’s academic progress; it was their responsibility to track student’s progress through the portal, and 21.3% indicated they preferred not to use the portal as their primary source of information regarding their child’s academic progress; it was primarily the school’s responsibility to communicate directly through teacher’s phone calls, e-mails, or other (Appendix C, Fig. 5). Such results revealed that once parents had access to the portal, they felt responsible to continue using it.

Focus group question 1 asked participants to explain why they become parent portal users and to describe, in detail, a typical parent portal experience. Two themes emerged related to motivation for using the parent portal. Those themes were “monitoring” academic activities and “understanding” academic activities. Of the focus group participants, 80% reported becoming portal users because they want to monitor their children’s performance in terms of grades and or completion of tasks such as homework or schoolwork. The other 20%, a far smaller portion, reported becoming portal users to understand “how grades evolve” and “how progress is being made”. In terms of typical portal experiences, no pattern for parental use was established.

One unexpected pattern emerged related to student use of the portal. Of participants, 80% reported that their students routinely accessed the portal. Within this cluster, student use
fell into two categories, “monitoring” their own grades and “checking for accuracy of teacher grade reporting.”

**Analysis of sub question 1a data**

**Subquestion 1a** explored *what motivated parents to use the parent portal*. Data from the survey questions coded for subquestion 1a indicate that the portal was used as the primary means of accessing school information by the majority of parents (47.7%) and that it was the second most utilized means of communicating with a child’s teachers at 44%, the first being direct email contact at 44.7%, the difference of one respondent. The results revealed the majority, at 72.9%, were seeking current grade information when accessing the portal. The majority, at 81.3% who accessed this information, felt their child’s academic performance was their concern. This was corroborated by the 80% of focus group respondents who reported becoming portal users to “monitor” their children’s academic performance. Of respondents, 78.7%, reported it was their responsibility to access the portal for child progress information.

In conclusion, quantitative and qualitative data revealed that parent portal users were motivated to use the portal to access school information, current grades in particular, because of their concern for their children’s academic performance. Parents were likely to continue to access the information because of their responsibility to monitor progress of that performance.

**1b. Does parent relationship influence use of the parent portal?**

As previously noted, **research question 1** examined *why parents used a parent portal*. More specifically, **research subquestion 1b** examined if *the relationship between the portal user and the children for whom they accessed the portal influenced its use*. There was one
survey used to explore this area. The survey question was number 1. What follows is a reporting of its results in prose form.

**Survey question 1** asked participants to *identify the person completing this survey*. The purpose of this question was to establish the relationship between portal users and the children for whom the portal was being accessed. Of respondents 86.3% identified themselves as “mothers”, 10.5% identified themselves as “fathers”, 2.0% as female guardian, .7% as “stepmothers”, and .7% as “grandmothers” (Appendix C, Fig. 6). The purpose of this question was also to examine if the relationship of portal users to their children influenced responses to other parts of this inquiry. Relationship results from this survey question were tabulated in order to see how this factor affected results of other survey questions. Analysis of the minimal number of respondents in categories other than mother did not yield any trends in response to any particular survey questions.

*Focus Group Note related to 1b:* All 10 focus group participants voluntarily identified themselves as “mother” in relation to the child for whom they accessed the portal.

**Analysis of sub question 1b data**

**Subquestion 1b** examined if the relationship between the portal user and the children for whom they accessed the portal influenced its use. Data from the survey question coded for subquestion 1b indicated that the vast majority, 86.3%, of portal users identified themselves as “mother” in relation to the child for whom they accessed the portal. One hundred percent (100%) of the focus group participants voluntarily reported their relationship to the child for whom they accessed the portal as “mother”. In conclusion, this data suggests that “mothers” are
likely to be the parent responsible for monitoring the academic progress of their children by accessing the parent portal.

**Research Question 1 Summary**

1. **Why do parents use a parent portal?**

   Findings of this concurrent approach reveal parents, the majority of which are “mothers”, use the portal as a primary means of accessing school information. Parents also use the portal as the second most utilized means of communicating with a child’s teachers, the first being direct email contact. Most parents use the portal to seek information about their children’s current grades. The majority of parents accessed this information because they felt that their child’s academic performance was their concern. More specifically, parents became portal users to “monitor” their children’s academic performance. Once granted access, parents viewed it as their responsibility to access the portal for child progress information.

**Research Question 2 Concurrent Approach Data Presentation**

2. **Does parent access to the parent portal support home-school communication?**

   **Research question 2** examined *if parent access to the parent portal supported home-school communication*. There were 5 survey questions and 1 focus group question used to explore this area. The survey questions were numbers 3, 4, 14, 19 and 20. The focus group question was number 2. What follows is a reporting of each of their results in prose form.

   **Survey question 3** asked participants *to indicate by which sources they received or accessed school communication*. Respondents were allowed to select more than one answer. The purpose of this question was to understand if the parent portal was perceived as a means for accessing or receiving communication from the school. Results revealed 92.7% selected the
parent portal, followed by 76.8% who indicated the school web site and 76.8% who indicated a child was a source. Of respondents, 62.3% selected email communications from the school, 48.3% selected One Call Now or telephone calls from the school, 47% selected face to face meetings at school/parent nights, 33.1% selected individual teacher web sites, and 10.6% selected the local newspaper (Appendix C, Fig. 7).

Survey question 4 was a follow-up to survey question 3. It asked participants to indicate their primary method of receiving or accessing school information. The purpose of this question was to understand if the parent portal was perceived as a primary method of getting information from the school. Results from this question revealed 47.7% reported the parent portal as the primary means of accessing school information, 23.8% used their children, 13.9% used email, 7.9% used teacher web sites, 6% used One Call Now or telephone calls, 0.7% used face to face meetings at school/parent night, and no respondents selected the local newspaper (Appendix C, Fig. 8). Such results revealed that parents indicated they received school information from the portal more so than any other means of communication offered, including their own children.

Survey question 14 asked how access to the parent portal affected the effectiveness of communication with your child’s teachers. The purpose of this question was to understand if parent portal users perceived the portal as a means of making home-school communication more effective, less effective, or if its use resulted in no change. Results revealed 55.9% reported that portal use made communication with teachers more effective, 2.1% reported that portal use made it less effective, and 42% reported that it resulted in no change (Appendix C, Fig. 9).

Survey question 19 specifically asked participants about their perception of the portal’s primary purpose in terms of home-school communication. The purpose of this question was to
understand if parent portal users perceived the portal as a means of supporting or replacing traditional home-school communication. Results revealed 80.7% perceived the portal as a mechanism to support traditional home-school communication, whereas 19.3% perceived its use as a mechanism to replace traditional home-school communication (Appendix C, Fig. 10). Such results suggest that even though the parent portal is the preferred method of accessing school information, most parents perceive it as a means of supporting traditional home-school communication and not a means of replacing it.

Survey question 20 was a follow up to survey question 19. It asked participants to indicate whether access to the parent portal was perceived as an effective means of home-school communication, was not perceived as a means of home-school communication, or was not perceived an effective means of home-school communication. Results revealed 90.4% selected is an effective means of home-school communication, 4.8% selected is not a means of home-school communication, and 4.8% selected is not an effective means of home-school communication (Appendix C, Fig. 11). Such results suggested that although most parents do not want the parent portal to replace traditional means of home-school communication, they do perceive it as an effective means of home-school communication.

Focus group question 2 asked participants in what ways use of the parent portal affected communication with the school. The majority of participants, 60%, reported some type of increase in communication due to portal access. A pattern of increased communication by email due to portal access emerged from that group. Respondents offered that data accessed through the portal resulted in “email” communication with a child’s teacher about a grade posted on the portal. One parent, 10%, reported a decrease in communication because “now she does not have
to send an email to ask about the grades.” The remaining 30% reported no change because they had no point of comparison, as they have always had access to the portal.

One hundred percent of the participants agreed, when asked, if the portal provided “an effective means of communication”. This was followed by one parent who then referred to the portal as “documentation” rather than communication. This comment was not supported by the other participants who shared a common perception of a communicant (the “school”, “teachers”, “they”, etc..) who were sharing information with parents (“by putting up the grades” “giving you the service” “telling you about access”).

Analysis of Research Question 2 Data

Research question 2 examined if parent access to the parent portal supported home-school communication. Results of the quantitative data revealed that the parent portal was considered the most utilized means, at 92%, of home-school communication among all of the choices offered at the school. It surpassed use of the school website and information gathered by parents from their children. Further quantitative data revealed that the portal was perceived as a primary method, at 47.7%, of getting information from the school. Quantitative results furthered that portal use made communication with teachers more effective. The majority of qualitative results, 60%, revealed that an increase in communication with teachers, specifically, through email, occurred because of the portal. The majority of parents, 80.7%, perceived the portal as a mechanism to support traditional home-school communication and 90.4% selected the portal as an effective means of home-school communication. This was complimented by 100% of qualitative data that supported the portal as “an effective means of communication”.

Research Question 2 Summary
2. Does parent access to the parent portal support home-school communication?

Findings of this concurrent approach revealed parents perceived the portal as a mechanism to support traditional home-school communication. Findings also revealed the portal as an effective means of home-school communication. Further, data suggests that the parent portal was the most utilized means of home-school communication among all of the choices offered at the school. Findings also suggested that use of the portal increased communication with teachers, specifically, through email.

**Research Question 3 Concurrent Approach Data Presentation**

3. How do parents use data provided via the parent portal?

Research question 3 examined how parents used the data provided via the parent portal. There were 3 survey questions and 3 focus group question used to explore this area. The survey questions were numbers 11, 15, and 16. The focus group questions were numbers 3, 4 and 6. What follows is a reporting of each of their results in prose form.

Survey question 11 asked participants to select the type of information they were most likely accessing the parent portal to learn about. The purpose of this question was to identify what type of data parents were seeking when accessing data through the portal. The results revealed 72.9% were seeking current grades, 13.2% progress on specific assignments, test or quizzes, 6.9% missing assignments, 6.3% homework assignments, .7% up and coming tests, quizzes, etc…, and no respondents reported attendance and teacher’s comments (Appendix C, Fig. 12). Such data revealed that the majority of parents accessed the portal to retrieve numerical
data rather than checking progress on specific work or gathering information about assignments, teacher comments, or attendance.

**Survey question 15** was a follow up to question 11 in that it asked participants how access to the parent portal affected communication with their child about academic matters. The purpose of the question was to understand how portal users perceived use of the data accessed through the portal to influence communication with their children. Results revealed 48.3% reported that it has shown substantial improvement in communication, 41.3% report is has shown some improvement, 8.4% report it has shown no improvement, and 2.1% report it has worsened communication (Appendix C, Fig. 13). Such results revealed that 89.6% of parents perceived their access to portal data improved their communication with their children about academic matters.

**Survey Question 16** asked participants what extent access to the parent portal affected their child’s attitude toward school achievement. The purpose of this question was to gather information regarding parent perceptions of the impact of their portal data use on their children’s attitudes about achievement. Results revealed 58.7% reported use of the data made it more positive, 38.5% reported that it made no difference, and 2.8% reported data use made it more negative (Appendix C, Fig. 14). Such results revealed that most parents felt their access to portal data made their child’s attitude about school more positive.

**Survey question 17** was a follow up to question 16 in that it asked participants to identify what extent parent portal access has affected their child’s grades. The purpose of this question was to understand if parents perceived their use of portal data as a means of improving their children’s grades at school. Results revealed 16.8% reported a substantial improvement,
57.3% reported some improvement, and 25.9% reported no improvement. No respondents indicated that use of portal data worsened their child’s grades (Appendix C, Fig. 15). Such results revealed that 74.1% of parents perceived their access to portal data improved their children’s grades.

**Focus group question 3** asked participants *in what ways use of the parent portal affected communication with their child about school*. Respondents noted that communication had “increased”, “made it more” and “become endless”. One parent said “It is a positive and a negative for communication and it depends on how your child is doing.” All participants, 100%, agreed with this comment. “Checking”, “monitoring”, “accountable” “awareness” and the “elimination of surprise” were words and phrases repeated during discourse. Two patterns emerged. A pattern of home communication with a focus on “accountability” emerged, as 100% of participants offered experiences that involved confirming task completion (i.e. studying, completing homework, finishing assigned work, and completing projects).

A pattern regarding student-initiated conversations about academic performance also emerged. A clarifying and concluding statement, offered by the moderator, was “Students are volunteering information without being asked because of the portal” was met by approval 100% of participants.

**Focus group question 4** asked participants *to describe the usefulness of the information accessed through the parent portal*. Conversation regarding usefulness of portal data, again, centered around parents holding students “accountable” for completion of assigned work, homework, in particular. Seventy percent, 70%, reported or agreed with others who reported that the portal data was “useful to the students themselves” so they could “monitor” their own work.
A theme around “awareness” emerged, as 60% of the parents shared that information was useful because they were “aware” of grades, missing assignments, what work was not done, what had to be done, work that could be made up, and how children were doing in school.

What was absent from the conversation was how parents used either their “awareness” or their “monitoring” with their children. There was no mention of using the data to address specific learning needs, to converse about specific curricular areas, or to foster skill development or improve cognition. One parent, 10%, reported a concern that having portal data would stop her daughter from asking teachers about her own progress. All participants, 100%, either commented on, or agreed with, data being useful because it was “real time” or “accessible”.

**Focus group question 6** asked participants to explain what they learned about their children’s academic performance or tendencies by having access to the parent portal. Of participants, 60% noted learning about their student’s “behavior” as a result of portal access. Those parents used words such as “honesty” “truthful” “trying his best” “not keeping up like he should” and “being accountable” when discussing what portal access revealed to them. Thirty percent, 30%, reported learning specific information about their children’s performance at school. Those parents used phrases such as “better on homework than test and quizzes”, “examine the trends and see he is a poor test taker with certain strengths and weaknesses”, and “confirmed that she struggles with academics”. One parent, 10%, reported that she does not like to share portal data because she has learned it “creates pressure”.

**Analysis of Research Question 3 Data**

Research question 3 examined how parents use data provided via the parent portal?
Quantitative results revealed the majority of parents, 72.9%, were seeking current grades when accessing portal as opposed to progress on specific assignments, test or quizzes, missing assignments, homework assignments, up and coming tests, quizzes, and attendance and teacher’s comments. Most parents, 48.3%, reported that accessing such portal data has shown substantial improvement in communication with their children. Qualitative data informed that home communication, for 100% of parents, was about student “accountability” for task completion. Qualitative data also confirmed that students were also initiating conversations because their parents had access to the portal. Quantitative data revealed 58.7% reported use of the portal data made their child’s attitude about school more positive and that a total of 74.1% perceived their child as showing improvement in school because of their access to the portal. Qualitative data suggested most parents, 70%, found portal data useful for “monitoring” students’ completion of assigned work, homework, in particular. Most parents found the information useful, 60%, because they were “aware” of general school progress. All participants, 100%, either commented on or agreed with data being useful because it was “real time” or “accessible” and 60% specified its use in identifying their student’s behaviors, whereas 30% reported its usefulness in understanding actual “performance”.

**Research Question 3 Summary**

3. **How do parents use data provided via the parent portal?**

   Findings of this concurrent approach suggest that most parents used the portal to check on student’s grades. Most parents found the information useful because they were “aware” of general school progress. Most parents reported having access to this information improved communication with their children, especially about student “accountability” for task completion.
and students’ “behaviors”. Findings suggested few parents used the data to discuss specific school performance and tendencies. Findings suggested parents believed their access to the portal made their child’s attitude about school more positive and that the majority perceived their portal use resulted in their children showing improvement in school. Findings suggested parental access to portal data also increased student-led conversations about academic activities.

**Research Question 4 Concurrent Approach Data Presentation**

4. Does use of the parent portal affect parents’ traditional tendency to decrease engagement?

**Research question 4** examined *if use of the parent portal affects parents’ traditional tendency to decrease engagement*. There was 1 survey questions and 2 focus group questions used to explore this area. The survey question was number 13. The focus group questions were numbers 7 and 8. What follows is a reporting of each of their results in prose form.

**Survey question 13** asked participants *to decide how access to the parent portal has affected the amount of time spent communicating with your child’s teachers*. The purpose of this question was to understand if use of the parent portal influenced the traditional tendency of parents to communicate with their children’s teachers. Results revealed 34% reported that it increased communication, 47.2% reported that it decreased communication, and 18.8% reported that it resulted in no change in the amount of time spent communicating with teachers (Appendix C, Fig. 16). Such data revealed that most parents reported having less communication with teachers because they had access to the parent portal.

**Focus group question 5** asked participants *to identify some of the impediments or drawbacks to accessing the parent portal, technological or other*. Of respondents, 60% of the
participants reported that there were “no” drawbacks to using the portal, 20% voiced concern over “dwelling” or “obsessing” on it, 10% mentioned the “interface is raw”, and 10% noted the disappearance of term grades for quarter length classes.

A pattern emerged around the need for “parent training”. One parent referenced the informational packet received at the onset of portal registration. The discussion then revealed that 80% of the participants did not share the same understanding of the parent portal’s features. For example, one parent was unaware that by clicking on a current grade, she could access detailed information about all the assignments contributing to that grade. Another was unaware of the teacher comment feature. In conclusion, a participant suggested offering parents a class or training in use of the portal. One hundred percent, 100%, agreed with this suggestion.

**Focus group question 7** asked participants to describe how gaining access to the parent portal has influenced parental involvement in their child’s schooling. A theme of “more involvement” developed as 90% of participants either nodded or verbally agreed with the parent who said, “there is definitely more involvement.” Within this cluster, one parent noted she felt “more included” and another offered she felt involved in a “different way” because she could ask less questions but “more pointed questions” to get better answers. Another parent offered she felt “more involved” because now she could “keep tabs” and another shared “more opportunities to be involved”. One parent, 10%, noted “no change in involvement” because she “has always been involved”.

**Focus group question 8** asked participants to consider that research revealed a decline in parental involvement as children progressed through school and particularly as children enter middle school. They were asked how having access to the parent portal might help maintain
parental involvement. All participants, 100%, indicated that access to the parent portal may help maintain parental involvement.

When probed about reasons why, a pattern emerged related to “accessibility”. Eighty percent (80%) of participants used phrases such as “ready access”, “quickly get it” “always updated” “convenient” “easier to find” and “easier to get”. Of participants, 20%, or two parents reported that it would help identify areas of strength or weakness.

**Analysis of Research Question 4 Data**

Research question 4 explored if use of the parent portal affect parents’ traditional tendency to decrease engagement. Results from the quantitative data revealed 47.2% reported use of the portal led to a decreased communication with teachers. However, qualitative data revealed that 100% of parents desired training in use of the parent portal and a majority, 60%, found no drawbacks to its use. The majority of parents noted that use of the portal made them feel more involved in their children’s schooling and 100% indicated that portal use might help them maintain involvement as children progress through school. This notion was also supported by the 78% of parents who reported feeling it was their responsibility to access data through the portal once they had been granted access.

**Research Question 4 Results Summary**

Does use of the parent portal affect parents’ traditional tendency to decrease engagement?

In summation, use of the parent portal may affect parents’ traditional tendency to decrease engagement. Results from this concurrent approach suggested portal use led to a decreased communication with teachers. However, results suggested use of the portal made
parents feel more involved in their children’s schooling and that portal use might help maintain involvement as children progress through school. Parents also reported feeling it was their responsibility to access data through the portal once they had been granted access. The majority of parents desired training in use of the parent portal, suggesting interest in understanding how to better use it.

**Findings within the Context of Investigative Purpose**

There were three purposes for this investigation. The first was to understand what motivated parents to use a parent portal. *This concurrent approach confirmed that most parents perceived the portal as an effective means of home communication and accessed it to retrieve information from the school. It also confirmed that most parents were motivated to use the portal by their concern for their students’ academic performance, more specifically, as the preferred means of getting their students current grades.*

The second purpose was to examine how parents with access to their children’s academic data, specifically grades on all individual assignments, attendance, and teacher comments, used that data to address learning. Most parents, however, accessed the portal to view student’s current grades and not their attendance or teacher comments. *This concurrent approach revealed that most parents did not use portal data to address specific learning needs.* Most parents did not, at this early stage of portal use and without training, use acquired data to understand the specifics of class content and how their child was or was acquiring it. Parents did not report using portal data to aid their children with actual class material while their children were studying. At this early phase of portal use, and without training or assistance, *most parents used portal data to “monitor” grades and hold students “accountable” for task completion.* Parents
perceived that their use of portal data resulted in improved communication with their children about academic matters, resulted in their children's improved attitude toward school, and resulted in an improvement in their students' grades.

The third purpose was to understand how a parent accessible SIS may foster, deepen, and prolong parent involvement. This concurrent mixed methods investigation suggested that use of a parent portal may affect parents’ traditional tendencies to decrease involvement as children enter middle school. Its results revealed that portal use made most parents feel more involved. It confirmed that portal use might help parents maintain involvement as their children progress through school. Further, it confirmed a need for parent training in portal use so that parents would do as most suggested and continue to access the portal out of responsibility now that access had been granted.
Chapter 5: Discussion and Implications

Overview of Purpose and Method

The significance of parent involvement, the need for effective home-school communication, and the evolving role technology plays in bridging the home-school divide was confirmed after a literature review. That review also suggested that parental access to student data via a Student Information System (SIS) was a newer means of addressing gaps amongst the three areas. Research suggested that providing parents individual student data created a starting point for school and parent discussions about student progress. The review, however, exposed an area in need of investigation related to this trend in data sharing.

In order to address this gap in research, this investigation explored what motivated parents to use a parent portal. It further examined how parents with access to their children’s academic data used that data to address learning. It also explored how use of a parent accessible SIS may foster, deepen, and prolong parent involvement.

Overview of Methodology

This researcher employed a concurrent mixed-methods approach; an approach that incorporated both quantitative and qualitative forms of inquiry. In this study, 153 of 620 registered parent portal users (25%) at a middle school responded to an invitation to complete an electronic 20 question closed ended survey. At the same time, parental feelings and experiences were explored at a semi-structured focus group interview of 10 volunteers who responded to the survey. Data collection occurred simultaneously and resulted in the opportunity to examine the results as they sat side by side and offered two pictures of the same topics.
The researcher coded the survey so that individual items coded according to the research questions they addressed. This allowed for computer assisted analysis using software provided by SurveyMonkey and Microsoft Excel. Frequency counts for each coded item were reported and transferred from SurveyMonkey software to a Microsoft Excel spreadsheet for analysis. Survey data was reported by each research question and in the form of percentages based on division by total respondents per item. Focus group data was sorted thematically and reported through percentages by each research question. The researcher corroborated data from both sources for each research question.

**Statement of Findings**

There were three purposes for this investigation and it yielded a total of seven findings. The first purpose was to understand what motivated parents to use a parent portal. This investigation confirmed that *most parents perceived the portal as an effective means of home communication* and considered it a main source of information from the school. It confirmed that *most parents were motivated to use the portal by their concern for their students’ academic performance*, more specifically, as the preferred means of getting their students’ current grades.

Another purpose was to explore how parents with access to their children’s academic data, specifically grades on all individual assignments, attendance, and teacher comments, used that data to address learning. Most parents, however, accessed the portal to view student’s current grades and not their attendance or teacher comments. This study revealed that *most parents did not use portal data to address specific learning needs*. Parents, without training in data sharing, did not report using portal information to address specifics about academic content and how their children were or were not acquiring knowledge or skills. Holding discussions and
providing help to their children regarding specific class material in specific subjects that are highlighted by their observations of the real-time grades was not reported. Nor was use of portal data to aid their children with actual class material. Rather, most parents used portal data to “monitor” grades and hold students “accountable” for task completion. Most parents perceived that their use of portal data resulted in improved communication with their children about academic matters, resulted in their children’s improved attitude toward school, and resulted in an improvement in their students’ grades.

The final purpose was to understand how use of a parent accessible SIS may foster, deepen, and prolong parent involvement. This investigation suggested that use of a parent portal may affect parents’ traditional tendencies to decrease involvement as children advance in school. Its results revealed that portal use made most parents feel more involved. It suggested that portal use might help parents maintain involvement as their children progress through school. Further, it confirmed a need for parent training in portal use. It is perhaps more likely that parents would do as most suggested they would, continue to access the portal out of responsibility now that access had been granted, if trained.

Findings and Literature

First Finding

Home-School Communication. Findings related to portal use as a means of home-school communication fit best within the progression of research surrounding this topic. In 1988 Blanchard reported that the use of technology indirectly improved communication. Since then, twenty years of research on communication technologies from primitive as voice messaging and answering machines to the Internet and email (Bissell, 1989; Calabrese 2006; Cameron & Lee,
1997; Clemente, 2002; Clevenson, 1999; Dardenne, 2010; Greninger, 1991; Lishka, 2002; Maher, 2006; Olmstead, 2011; Tao & Boulware, 2002; Tobolka 2006) have proven such technologies to be effective mechanisms for communication between the school and home.

In chronology, these investigations suggested a movement, first suggested by Ziegler (1987), Clark (1993), and Eccles and Harold (1996), from the provision of general information to the provision of more individualized communication about a specific child’s progress. Eccles (2004), noted that there were a lean number of opportunities for teachers and parents and students to communicate and establish a mutual set of objectives (p. 143). This suggested a deficiency in home-school communication. However, around the same time, Fisher, Fielder, Figura, Lobitz, Loiben, and Morris (2003) concluded that newly provided access to on-line grading had given birth to a change in home-school communication. This work signaled the beginnings of research surrounding Student Information Systems (SIS) parent portals as a means of home-school communication.

Wilson (2005), who examined the effects of a parent portal, found it reduced communication barriers between home and school. Delaney (2006), Ellis (2008) Shayne (2008), and Matherm (2009), and Koch (2010) revealed increases in home-school communication when parents had continuous access to their children’s data through use of parent portals. Their investigations built a case for portals as a means of home-school communication. The finding of this investigation that most parents perceived the portal as an effective means of home communication complimented that research and contributed to that existing body of research.

Second Finding
Parental motivation. This investigation revealed *that most parents were motivated to use the portal by their concern for their students’ academic performance.* This finding supported the work of the Family-School Partnership Lab (2002), in conjunction with Sandler and Hoover-Dempsey, who found that “what parents believe they should do to help their child succeed in school was the most important parental variable motivating involvement.” This investigation’s finding related to parental motivation for accessing the portal also aligned with Sandler and Hoover-Dempsey’s (2002) who reported that, middle school parents’ decisions to engage in child-specific involvement, such as SIS portal use, were related primarily to parents’ beliefs about what they are supposed to do, or their responsibility, to help the child succeed in school. This sense of responsibility was captured in this investigation’s data.

**Third Finding**

*Use of data.* Bird (2006) shared that SIS use allowed parents with SIS access to track their children’s educational progress, via the use of parent portals, in an unparalleled manner. And a recent publication revealed there has been a collective expenditure of over one billion dollars on SIS programs over the past decade (Tucker, 2010). Hampton, Anderson, and Sigman (2002) reported the potential for increased GPAs and Jensen (2003) noted parents attributed portal use to their own capacity to address academic and school disciplinary problems.

More recent research, such as Delaney (2006), Ellis (2008) Shayne (2008), and Mathern (2009) and Koch (2010) documented various benefits of parent portal use. However, previous to this investigation, there was no evidence of an investigation into how parents who accessed data used such data to address learning. That was a gap in research that this study addressed.
This study revealed that *most parents did not use portal data to address specific learning needs*. This investigation suggested that parents did not use the data to discuss specific areas of study nor did they use it to discuss cognition or skills development; all elements of learning. Data was more often the topic of conversations around numerical grades earned and tasks completed.

Using portal data to assist their children with academic material may not have arisen at this stage of having portal access, particularly without any training. Use of portal data to address specific class material in specific subjects as a result of their access to current grades may follow if training is provided and parents have time to become more familiar with portal features. Further, parents may be empowered to have prescriptive interactions with their children once they are trained in data interpretation and in accessing resources to address concerns resultant from data interpretation. Lopez (2012) and the early coverage of programs such as ARIS Parent Link suggest those possibilities. Henderson and Mapp (2002), who stipulate that parent involvement that is focused on student learning has a greater effect on achievement than more general forms of involvement would likely concur.

**Fourth Finding**

**Use of Data.** This study found that *most parents used portal data to “monitor” grades and hold students “accountable” for task completion*. Most parents reported that conversations resultant from data access offered insight into behaviors and accomplishment of tasks. This result alluded to Simon (2004) who reported that when invited, parents often engage in academic activities and become “aware more of their teenagers’ progress. It also alluded to research done
by Adkins, Fansler, Hall, and Hines (2004), who reported that parents with access to students’ grades linked such access to a decrease in missing schoolwork.

**Fifth Finding**

*Perceptions of data access.* Previous to this study Hampton, Anderson, and Sigman (2002) reported the potential for increased GPAs in low achieving students after use of a parent portal. Mathern (2009) found accessing portal information through SIS improved communication but did not impact student grades, GPA, or attendance. Mathern presented one exception, with caution, and that was a significant and positive relationship between changes in access and changes in GPA for a free and reduced lunch subgroup.

The present investigation found that *most parents perceived that their use of portal data resulted in improved communication with their children about academic matters, resulted in their children’s improved attitude toward school, and resulted in an improvement in their students’ grades.* These findings echoed portions of Jensen (2003), who recorded parental appreciation for accessibility to data and attributed it to their own capacity to address academic and school disciplinary problems. Adkins, Fansler, Hall, and Hines (2004) reported that parents with access to students’ grades linked such access to an increase in overall grades. This finding could also be attributed to research that suggested parental involvement motivated children to exert more effort and to achieve more (Grolnick, 2003; Grolnick, Benjet, Kurowski, & Apostoleris, 1997; Grolnick and Slowiaczek, 1994; Maynard & Howley, 1997).

**Sixth Finding**

*Parent Involvement.* With respect to Epstein, finding 6 is presented with caution. Epstein’s body of work from 1992 to 2012 supported the need for inclusion of all Six Types of
Involvement in order to address the decline in parent involvement. As previously noted, Epstein shared that she considered portal access to data as a Type 2 means of communicating with parents. She stipulated that its use, in conjunction with use of the other five Types of Involvement programming, may address the decline in involvement.

This investigation’s finding, relative to home-school communication, aligned with Epstein’s research. However, finding 6 suggested use of a parent portal may affect parents’ traditional tendencies to decrease involvement. This finding also complimented the work of Lunts (2000) and Furger (2006), who reported allowing parents to have such access supplemented the historically traditional means of parent involvement, as well as the work of Lunts (2003), Weiss, Lopez, and Caspe (2006), Caspe, Lopez, and Wolos, (2006/2007), and Kreider, Caspe, Kennedy, Weiss, (2007), who all reported that Internet-based communication impacted parent involvement.

This investigation’s data that revealed that portal use made most parents feel more involved and confirmed that portal use might help parents maintain involvement as their children progressed through school. This supported Epstein (2001) and numerous others who have identified communication as the crucial factor in linking the home and the school, and involving parents in a meaningful way (Cary, Lewis & Farris, 1998; Martin & Haga-Burke, 2002; Rajala, 2002).

It also supported Partikakou (2004), who held that when parent involvement programming is initiated and sustained by the school, as is the case with an SIS parent portal, it is successful. This finding also supported the work of Nugent and Mooney (2008) who found that fruitful parent involvement accommodated different schedules, preferences, capabilities, and
included consistent communication. These were all features of an SIS parent portal chronicled in the data provided by this study. With respect to Epstein, this finding is presented with caution and is presented as an implication for future research.

**Seventh Finding**

**Parent Training.** This investigation *revealed a need for parent training in portal use.* This finding aligned with statements from Epstein (2012), who suggested that use of data sharing through parent portals, in conjunction with parent training, further investigation, and attention to equity, may help build school and home partnerships.

This finding also aligned with reporting from the Harvard Family Research Project (HRFP), which chronicled parent training around data use and the resultant impact on district level school issues (Lopez, 2002). Such reporting suggested that when parents had assistance interpreting data, they had the capacity to bring about change. This finding also aligned with HFRP’s (2010) suggestion for the inclusion of data sharing and training as part of the “academic socialization” between schools and families. Further, the HRFP specified that data shared with parents should be accessible, understandable, and actionable (Weiss, Lopez, & Stark, 2011).

**Implications for Future Investigation**

There is a need for further research in five areas related to this investigation. Those areas are parent use of portal data, parent training in data use, equity of access, student use of data, and the portal’s capacities to foster, deepen, and prolong parent engagement.

Most often, the intent of sharing data with families is to impact student performance. Confirmation of this intent comes from federal level stakeholders, such as the U.S. Secretary of Education, Arne Duncan, right down to the School Committee who approves access to the parent
portal at the site of this investigation. Agencies such as the Harvard Family Research Project and the National Network of Partnership Schools, led by Dr. Joyce Epstein, are reporting on instances of data sharing, both great and small. Their reporting, as well as the content of this investigation, strongly suggests that there is an obligation, both financial and ethical, to investigate how parents make use of that data. Without such information, there will not be an understanding of if and how data sharing in the home will truly impact learning.

There is also a need to investigate the existing programs that offer training in data use for parents. An investigation into the impact of the data sharing component of the *Tools of the Mind* curriculum, rooted in Vygotsky’s work, and chronicled by the HFRP, may yield much needed information about the impact of parent training for data use. Research resultant from investigations of The Achievement Reporting and Innovation System (ARIS) Parent Link, used in New York City Schools and the Academic Parent-Teacher Teams (APTT) used in the Creighton School District of Phoenix, AZ, will undoubtedly offer insight into the benefits of parent training and data use.

Further, this researcher suggests the use of parent liaison, such as those noted in Chapter 1, for use in parent training. Those individuals, who often have access to school equipment such as computers, could serve as trainers to help parents better understand and use data. Part of making use of that data will, as early research suggests, involve locating academic resources that will help parents to help their students with learning. Parent liaisons may be useful in locating such resources.

Additionally, if companies like Pearson are going to be marketing parent portals with “prescriptive” features, such as links to academic resources, someone is going to have to assist
the parents with those resources. Perhaps parent liaisons will fill that gap. Research regarding parent training programs, whether they include parent liaisons or other resources such as video tutorials or parent training nights, should also be followed by an investigation into the extent to which training in data use impacts student learning.

An investigation of equity issues as they impact the use of home-school communication and parent engagement efforts is warranted. Numerous studies, as well as the recent remarks of Epstein (2012) and Lopez (2012), bring to light the fact that all parents do not have Internet access. This lack of access, in the home and/or provided by the school, eliminates restricts their participation in the many Internet-related parent involvement programs being offered to those who have access.

There is a movement afoot in the United States to provide broadband Internet service to all households by 2020 (Federal Communication Commission, 2012), however, that is years from now especially when one considers that children currently in the fourth grade will have completed their compulsory public education by 2020. Those fourth grade students who have parents without Internet access will not have opportunities to reap the benefits of Internet-based parent involvement and communication programming.

If parent involvement is a necessary and acknowledged component of a “free and public education for all” then the burden falls on the schools to provide parents and students alike with the requisite equipment and services to fully engage in that component. Schools may provide one-to-one devices for student and parents use, set up Internet access areas for parent and student use, and/or partner with Internet providers, as in this study’s site, to provide low to no cost services. This investigation’s findings bode favorably on the use of one Internet-based program
and, therefore, suggest that schools should provide equity of access for its parent constituency. An examination of school systems that do provide access should be conducted.

Further, an examination of why parents with Internet access elect not to use a parent portal may prove both interesting and informative. At this particular site, it is estimated that 77% of the parents grades 6-12 have Internet access, yet only 68% of parents grades 6-8 are registered parent portal users. An investigation involving the 9% who elect not to use the portal feature, particularly an investigation that is qualitative in nature, would offer insight into their reasons for not engaging in this method of home-school communication and parent involvement. Such information may have implications for a new program’s design, implementation, and use and may have implications for the structure and continued use of the portal at this particular site.

During this investigation, the researcher came to understand that the parent portal designed and marketed to provide parents with data and to connect parents and schools is being utilized by students. This certainly warrants an investigation. An initial Internet search reveals a number of schools, C.D. Hylton Senior High School, Woodbridge, VA, in particular, that automatically assigns portal accounts to students. An investigation of data sharing, through SIS portal use for students, will also yield valuable insights into data’s potential to improve student learning.

Lastly, this investigation’s finding that suggested use of a parent portal may affect parents’ traditional tendencies to decrease involvement as children enter middle school, provides compelling evidence and lays the foundation for further investigation. It complements the research of others but is unique in that it presents use of the portal independent of other
involvement tactics as a possible impetus to prolong parent involvement. That claim needs further substantiation.

This investigation’s data that revealed that portal use made most parents feel more involved and confirmed that portal use might help parents maintain involvement as their children progressed through school. This supported Epstein (2001) and numerous others who have identified communication’s importance and acknowledged the school’s obligation to initiate and sustain this communication in a means that is accessible and convenient. These were all features of an SIS parent portal chronicled in the data provided by this study.

**Conclusion**

Froebel and Vygotsky assert that approaching education from the basic progression of parent to child, or knowing adult to developing student, leads children to gain self-awareness, categorize knowledge, understand metacognitive functions, and, ultimately, learn. Epstein furthers that the relationship amongst the parent, the child, and the school is vital to success. Her research, as well as other investigations covering five decades, heightens awareness of the importance of this relationship. Schools, accepting what research reveals and facing the task of creating a cohesive partnership between themselves and children’s parents, continue to investigate and implement new programming. A good portion of that programming, initiated over the last decade, addresses deficits in home-school communication via Internet technology.

Although Internet technology does not present the cure all for today’s educational conundrums, it does offer a means of bridging the well-documented gap between the home and the school. It a vehicle to potentially increase parent involvement and its use reveals promise as
a way to improve learning. Internet-based Student Information Systems (SIS) affording schools opportunities to share individual children’s data with their parents also offer much promise.

Findings of this investigation confirm what recent research has indicated. Sharing data with parents through SIS portals is perceived by parents as an effective means of home-school communication. Parents who have access to data through SIS portals are motivated to use those portals by their concern for their students’ academic performance. Further, parents with portal access may continue to use the portal, thus remaining involved as their children progress in school.

This investigation also addresses a gap in research, as it suggests that most parents, without training in data interpretation and use, do not use portal data to address specific learning needs. Rather, this investigation reveals, that most parents use portal data to “monitor” grades and hold students “accountable” for task completion. Marshall and Rosett posit, “the strongest predictor of academic achievement is the family’s ability to create an encouraging home environment, to express high but realistic expectations for achievement and the future, and to become involved in their children’s education” (Marshall 1997). Although a case can be made that “monitoring” and holding students “accountable” contribute to learning that case is in sharp contrast to the lofty intent of data sharing so well expressed by high level stakeholders.

Programs in existence already such as the aforementioned ARIS Parent Link and Academic Teacher Teams call attention to the potential benefits of parent involvement through data sharing. Using parents liaisons, such as those employed in Fairfax County, Virginia, may be the key to individualizing parent training and personalizing the use of data so that it may impact student learning.
The future at this particular study’s site is slated to involve parent liaisons. This District has plans to hire two parent-family coordinators who will eventually oversee eight newly hired parent liaisons. It is the hope of this researcher that a portion of their time will be spent helping to address parent training in data use and resource acquisition as well as equity of access. Further, those parent liaisons could be crucial in gaining information from parents who do not use the portal, either due to equity or choice issues. Such information will be invaluable as parent involvement programming, especially programming related to Internet technologies, continues to expand.

Another interesting means of tutoring parents in data sharing is under investigation at Madison Junior High in Naperville, Illinois. Epstein (2012) reports that the school is having students teach their parents how to log-in to the portal and how to access data regarding their grades. This interesting approach begins as an initial homework assignment in September and carries throughout the school year. Perhaps this method signals a new movement toward a “data sharing union” amongst teachers, parents, and their children. Information gathered from Madison Junior High may prove helpful as schools continue to move in the direction of data sharing and as they begin to explore meaningful ways to train parents in data analysis and use.

As time passes, more and more schools will turn to the Internet, as well as other emerging forms of technology, to communicate with parents. Certainly it is the obligation of educators and researchers to continue to investigate how these new methods of communication, such as the use of portals for data sharing, may build a home-school alliance around learning and may live up to their intended purposes. Accepting that call, this educator, scholar, and researcher submits this investigation. It serves as a valuable starting point for those seeking to investigate further and to
the constituencies interested in how the processes of sharing data may be implemented to impact learning.
References


Davis Company: Philadelphia.


(ERIC ED446835)


Educational Statistics.


Gathright, J. L. (2012). Phone Interview with Barbara Starkie on 30 April 2012 at 1:00 PM. Typed Personal Notes.


Hampton, L.F., Anderson, C. & Sigman, D. (2002). *The impact on student academic achievement using an online process provided to students and parents.* San Antonio, TX:


University. Durham, NC.


Lareau, A. (2001). Linking Bordie’s concept of capital to the broader field: The case of family-
school relationships. In B.J. Biddle (Ed.) Social class, poverty, and education: Policy
and practice pp. 77-100. New York: Routledge/Falmer.

386-396.

Levine, L.A. (2002). Teacher’s perceptions of parental involvement: How it effects our
children’s development in literacy. (ERIC Document Reproduction Service
No.ED465438)

University, Harvard Family Research Project from <http://www.harvard.edu>


Clearinghouse on Educational Management.

Lishka, S. (2002). Using the internet to increase parent school communication: A survey of
parent interested and intended use of school web sites. Unpublished Doctoral
Dissertation, Hartford, CT: University of Hartford.


Lopez, M.E. (2012). Phone interview with Barbara Starkie (research study author) on Thursday,
May 25, 2012 at 2:00 PM Eastern Time. Typed Personal Notes.

259.

Unpublished manuscript. University of Rochester, Rochester NY, US.

by using telecommunication technologies. MERIDIAN: A middle school technologies

communication tools. Dissertation submitted in partial fulfillment of a degree in
Distributed Learning. Royal Roads University, Canada 2006.


Pearson. (2008). *Better school-to-home communication starting in middle school will benefit student academic performance, parents say 96% of parents with a child in grades K-12 view parent involvement as a key factor in student achievement; 95% think achievement would improve if there was better communication between school and home*. Rancho Codova, CA. A Pearson Publication. Accessed on 11 May 2012 at <http://www.pearsonschoolsystems.com>


Southwest Educational Development Laboratory. (2001). *Emerging key issues in the field of family and community connections with schools*. Southwest Educational Development Laboratory. Austin, TX.


Appendix A

PARENT PORTAL and COMMUNICATION SURVEY

Part I: The following questions provide demographic information.

1. Please identify the person completing this survey.
   ___ Mother
   ___ Father
   ___ Stepmother
   ___ Stepfather
   ___ Grandmother
   ___ Grandfather
   ___ Female Guardian
   ___ Male Guardian

2. Please select the age group of the person completing this survey.
   ___ under 35
   ___ 36-40
   ___ 41-45
   ___ 46-50
   ___ 51 or older

Part II The following questions are about home-school communication

3. From which sources do you receive or access school communication? (check all that apply)
   ___ the OMS school web site
   ___ individual teacher web sites
   ___ the parent portal
   ___ face to face meetings at school/parent night
   ___ One Call Now or telephone calls from the school
   ___ email communications from the school
   ___ the local newspaper
   ___ your child

4. What is your primary method of receiving or accessing school information?
   ___ individual teacher web sites
   ___ the parent portal
   ___ face to face meetings at school/parent night
   ___ One Call Now or telephone calls from the school
   ___ email communications from the school
   ___ the local newspaper
   ___ your child
5. Please check the type of academic information about your child that you receive from the school.
   _____ current grades
   _____ missing assignments
   _____ homework assignments
   _____ information about up and coming projects, tests, quizzes, etc.
   _____ standardized test information

6. What method of communication do you primarily use when accessing or receiving communications with your child’s teachers regarding grades and assignments?
   _____ telephone
   _____ e-mail
   _____ written notes
   _____ text messages
   _____ web sites
   _____ parent portal
   _____ face to face conferencing

Part III The following questions deal with your experiences using the parent portal.

7. The child for whom I access the parent portal is in grade:
   _____ six
   _____ seven
   _____ eight
   _____ more than one child in grades 6-8

8. I most often access the parent portal by using:
   _____ a library or free access computer or Internet device
   _____ my home computer or laptop
   _____ a computer or device at my place of employment
   _____ my cell phone with Internet access
   _____ my tablet or I-pad device

9. I access the parent portal:
   _____ once a week
   _____ more than once a week
   _____ every other week
   _____ once a month
   _____ at mid-term and/or term ending
   _____ only when prompted by a school OneCall reminder or a teacher
10. I am most likely to access the parent portal on the following day of the week:
   - Monday
   - Tuesday
   - Wednesday
   - Thursday
   - Friday
   - Saturday
   - Sunday
   - Any day

11. I am most likely to access the parent portal to learn about my student’s:
   - current grades
   - missing assignments
   - attendance
   - progress on specific assignments, test or quizzes
   - up and coming tests, quizzes, etc…
   - homework assignments
   - teacher’s comments about my child

12. I am most likely to access the parent portal because
   - My child encourages me to access the portal
   - My child’s teachers prompt me to access the portal
   - My child’s school prompts me to access the portal
   - My child’s academic performance is my concern

13. How has access to the parent portal affected the amount of time you spend communicating with your child’s teachers?
   - increased it
   - decreased it
   - resulted in no change

14. How has access to the parent portal affected the effectiveness of communication with your child’s teachers?
   - made it more effective
   - made it less effective
   - resulted in no change

15. How has access to the parent portal affected your communication with your child about academic matters?
   - has shown substantial improvement
   - has shown some improvement
   - has shown no improvement
   - has worsened it
16. To what extent has access to the parent portal affected your child’s attitude toward school achievement?
   _____ made it more positive
   _____ made no difference
   _____ made it more negative

17. To what extent has access to the parent portal affected your child’s grades?
   _____ substantial improvement
   _____ some improvement
   _____ no improvement
   _____ worsened them

18. To what extent do you consider it your primary responsibility to access student progress information provided by the school?
   _____ I prefer not to use the portal as my primary source of information regarding my child’s academic progress; it is primarily the school’s responsibility to communicate directly with me through teacher’s phone calls, e-mails, or other.
   _____ I prefer to use the portal as my primary source of information regarding my child’s academic progress; it is my responsibility to track my student’s progress through the portal

19. In my opinion, the primary purpose of the parent portal is
   _____ to support traditional home-school communication (phone calls, progress reports, and other traditional communications)
   _____ to replace traditional home-school communication (phone calls, progress reports, and other traditional communications)

20. In my opinion, access to the parent portal
   _____ is an effective means of home-school communication
   _____ is not a means of home-school communication
   _____ is not an effective means of home-school communication

If you are interested in participating in a focus group, please contact Barbara Starkie, Northeastern University student, at 1-781-344-7002 ext. 6153 or at starkie.b@husky.neu.edu.
Appendix B

FOCUS GROUP QUESTIONS

1. Explain why you have become a parent portal user and describe, in detail, a typical parent portal experience.

2. In what ways has use of the parent portal affected your communication with the school?

3. In what ways has use of the parent portal affected your communication with your child about school?

4. Describe the usefulness of the information you are able to access through the parent portal?

5. What are some of the impediments or drawbacks to accessing the parent portal, technological or other?

6. Explain what you have learned about your child’s academic performance or tendencies by having access to the parent portal?

7. Describe how gaining access to the parent portal has influenced your parental involvement in your child’s schooling.

8. Research reveals a decline in parental involvement as children progress through school and particularly as children enter middle school. How might having access to the parent portal help maintain parental involvement?
Appendix C

Figure 1: Survey Question 4 Results

What is your primary method of receiving or accessing school information?

- your child
- the local newspaper
- email communications
- One Call Now or...
- face to face...
- the parent portal
- individual teacher...

0.0% 20.0% 40.0% 60.0%

- individual teacher web sites
- the parent portal
- face to face meetings at school/parent night
- One Call Now or telephone calls from the school
- email communications from the school
- the local newspaper
- your child

Figure 2: Survey Question 6 Results

What method of communication do you primarily use when accessing or receiving communications with your child’s teachers regarding grades and assignments?

- face to face...
- parent portal
- web sites
- text...
- written notes
- e-mail
- telephone

0.0% 20.0% 40.0% 60.0%

- telephone
- e-mail
- written notes
- text messages
- web sites
- parent portal
- face to face conferencing
Figure 3: Survey Question 11 Results

I am most likely to access the parent portal to learn about my student’s:

- Current grades
- Missing assignments
- Attendance
- Progress on specific assignments, tests or quizzes
- Up and coming tests, quizzes, etc...
- Homework assignments
- Teacher’s comments about my child

Figure 4: Survey Question 12 Results

I am most likely to access the parent portal because

- My child’s academic performance
- My child’s school prompts
- My child’s teachers prompt
- My child encourages me to...

- My child encourages me to access the portal
- My child’s teachers prompt me to access the portal
- My child’s school prompts me to access the portal
- My child’s academic performance is my concern
Figure 5: Survey Questions 18 Results

To what extent do you consider it your primary responsibility to access student progress information provided by the school?

- I prefer to use the portal as my primary source of information
- I prefer not to use the portal as my primary source of information

Figure 6: Survey Question 1 Results

Please identify the person completing this survey.

- Male Guardian
- Female...
- Grandfather
- Grandmother
- Stepfather
- Stepmother
- Father
- Mother

- Mother
- Father
- Stepfather
- Stepmother
- Grandmother
- Grandmother
- Grandfather
Figure 7: *Survey Question 3 Results*

![Bar chart showing the percentage of respondents who receive school communication from various sources.](chart1)

*From which sources do you receive or access school communication (select all that apply)?*

- The school website: [Percentage]
- The parent portal: [Percentage]
- One Call or telephone calls from the school: [Percentage]
- The local newspaper: [Percentage]

Figure 8: *Survey Question 4 Results*

![Bar chart showing the percentage of respondents who receive school information through various methods.](chart2)

*What is your primary method of receiving or accessing school information?*

- Your child: [Percentage]
- The local newspaper: [Percentage]
- Email communications: [Percentage]
- One Call Now or face to face: [Percentage]
- The parent portal: [Percentage]
- Individual teacher: [Percentage]
Figure 9: *Survey Question 14 Results*

**How has access to the parent portal affected the effectiveness of communication with your child’s teachers?**

- Resulted in no change
- Made it less effective
- Made it more effective

**Figure 10: *Survey Question 19 Results***

**In my opinion, the primary purpose of the parent portal is**

- To replace traditional home-school communication (phone...)
- To support traditional home-school communication (phone...)
- To replace traditional home-school communication (phone calls, progress reports, and other traditional communications)
- To support traditional home-school communication (phone calls, progress reports, and other traditional communications)
Figure 11: *Survey Question 20 Results*

![Survey Question 20 Results](image1)

Figure 12: *Survey Question 11 Results*

![Survey Question 11 Results](image2)
Figure 13: *Survey Question 15 Results*

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How has access to the parent portal affected your communication with your child about academic matters?

- has worsened it
- has shown no improvement
- has shown some improvement
- has shown substantial improvement

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Figure 14: *Survey Question 16 Results*

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To what extent has access to the parent portal affected your child's attitude toward school achievement?

- made it more negative
- made no difference
- made it more positive

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Figure 15: Survey Question 17 Results

To what extent has access to the parent portal affected your child's grades?

- Worsened them
- No improvement
- Some improvement
- Substantial improvement

Figure 16: Survey Question 13

How has access to the parent portal affected the amount of time you spend communicating with your child's teachers?

- Resulted in no change
- Decreased it
- Increased it

Legend:
- Increased it
- Decreased it
- Resulted in no change