ABSTRACT

Title of Document:	AN ANALYSIS OF THE IMPLEMENTATION AND PERCEIVED EFFECTIVENESS OF THE SCHOOLMAX FAMILY PORTAL
	Warren Wesley Watts, Doctor of Education, 2015
Directed By:	Margaret J. McLaughlin, Ph.D. Department of Counseling, Higher Education and Special Education

School districts have spent millions of dollars implementing student information systems that offer family portals with web-based access to parents and students. One of the main purposes of these systems is to improve school-to-home communication. Research has shown that when school-to-home communication is implemented effectively, parent involvement improves and student achievement increases (Epstein, 2001).

The purpose of the study was to (a) understand why parents used or refrained from using the family portal and (b) determine what barriers to use might exist. To

this end, this descriptive study identified the information parent users accessed in the SchoolMAX family portal, determined how frequently parents accessed the portal, and ascertained whether parents perceived an increase in communication with their children about academic matters after they began accessing the portal. Finally, the study sought to identify whether barriers existed that prevented parents from using the family portal.

The inquiry employed three data sources to answer the aforementioned queries. These sources included (a) a survey sent electronically to 19,108 parents who registered online for the SchoolMAX family portal; (b) SchoolMAX portal usage data from the student information system for system usage between January 1, 2015 and June 30, 2015; and (c) a paper survey sent to 691 parents of students that had never used the SchoolMAX family portal in one elementary school, one middle school and one high school that were representative of other schools in the district.

Survey results indicated that parents at all grade levels used the family portal. Usage data also confirmed that approximately 19% of the students had parents who monitored their progress through the family portal. Usage data also showed that parents were monitoring approximately 25% of students in secondary schools (6th – 12th grade) and 16% of students in elementary schools. Of the wide menu of resources available through the SchoolMAX family portal, parents used three areas most frequently: attendance, daily grades, and report cards.

Approximately 70% of parents responded that their communication had improved with their children about academic matters since they started using the SchoolMAX family portal, and 90% of parents responded that the SchoolMAX

family portal was an effective or somewhat effective tool. Parents also expressed interest in the addition of additional information to the SchoolMAX family portal. Specifically, the top three additions parents wanted to see included homework assignments, high stakes test scores, and graduation requirements. Parents also reported that 92% of them spoke to their children at least 2 to 3 times per week about academics.

Due to the low response rate of the parent non-user survey, potential barriers to using the SchoolMAX family portal could not be addressed in this study. However, this issue may be a useful research topic in a future study.

Keywords: school to home communication, student information systems, family portal, parent portal

AN ANALYSIS OF THE IMPLEMENTATION AND PERCEIVED
EFFECTIVENESS OF THE SCHOOLMAX FAMILY PORTAL

By

Warren Wesley Watts

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Advisory Committee:

Professor Margaret J McLaughlin, Chair
Professor Donna L. Wiseman
Professor Helene Kalson Cohen
Professor John Norris
Professor Pamela Shetley

Dedication

To Patricia B. and Warren W. Watts Sr., my parents, for teaching me about life and providing me the opportunity and direction to take this journey.

To Patti, Bobby, Kathleen, Stephen, and Kenny, my sisters and brothers, for your love, friendship, and shoulders to lean on over the years.

To Woody, Joey, and Aiden, my children, for being my pride and joy, my world, and my inspiration.

And to my wife April, for your understanding, your support, and your love. Thank you for allowing me to do this!

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Section I: Introduction to the Problem and Literature Review

In the fall of 2008, District A, a large school district on the east coast of the United States, implemented SchoolMAX, a $4,100,000 web-based student information system designed to consolidate student information into one system that provided the district's 90,270 families access to their children's attendance, grade, homework, schedule, transcript, and discipline information. Over the past six years, approximately 25% of the families in the district have accessed the family portal, and less than 10% of the families use the system quarterly.

SchoolMAX is District A's student information system, and the system's family portal is a web-based software program that is optimized to operate on both a traditional laptop and desktop. District staff also created the mobile family portal as a means to increase the availability of information to students, parents, and staff. The mobile family portal was optimized for smartphones and presents the same information as the SchoolMAX family portal. For the purposes of this study, the term SchoolMAX family portal will refer to both the SchoolMAX family portal and the mobile family portal.

District A is similar to other large school districts across the country that have invested millions of dollars in web-based student information systems. These systems give parents and students access to student information or data portals 24 hours each day (Bird, 2006). One of the main functions of modern student information systems is to provide parents with timely information about their children's daily performance (Weinstein, 2005). The theory of action behind the investments in these systems is that improving the home-school connection and fostering school-to-home communication will

cause parents to become more involved in their children's education, which ideally will lead to increases in student achievement (Kervin, 2005).

Researchers have found that when districts implement school-to-home communication effectively, parent involvement improves and student achievement increases (Epstein, 2001). The National Parent Teacher Association noted that, "When parents are involved in their student's education, those students have higher grades and test scores, better attendance, and complete homework more consistently" (Sedlacek, 2011, p. 3). Further, in a series of focus groups conducted by the Center for the Study of Educational Policy at Illinois State University, parents stressed the importance of having multiple methods of communication between school and home and supported the use of the Internet for certain types of communication (Adkins, 2004).

Family portals. The term *family* or *parent portal* refers to web applications that provide parents with secure access to specific information about their children, like daily attendance, grades, quarterly grades, schedules, discipline actions, and other data (Seibel, 2008). The portal can be an effective way to share information and assist parents in monitoring their child's progress. For example, some parents are not able to visit their child's school frequently, so technologies like the family portal have enabled them to stay informed and extend school-to-home communication beyond face-to-face meetings, letters, email, and phone calls.

Research has shown that most parents perceived that their use of the data in a family portal improved communication with their children about academic matters and resulted in the students' improved attitudes toward school and grades (Starkie, 2012). Dardenne (2010) found that both parents and teachers indicated a favorable change in

student attitudes and behaviors when schools and families used technology as a school-to-home communication tool. In Shayne (2008), surveyed parents again confirmed that improved parent-child communication occurred when parents had access to grades online. However, one study suggested that the use of the family portal might affect parent's tendencies to decrease their involvement as the child moved from elementary to high school (Starkie, 2012). In general, however, research has clearly shown that tools like the family portal have positive effects on school-to-home communication and parent-child communication (Ellis, 2008; Olmstead, 2011; Shayne, 2008; Starkie, 2012; Weiss, Lopez, & Stark, 2010).

District A has spent well over $8 million in the last ten years implementing and maintaining SchoolMAX. With less than 25 percent of the parents using the system, the value of the family portal has not been realized, and the district has missed an opportunity to improve its school-to-home connection with parents. The family portal may provide opportunities for more informed conversations between parents and students, particularly if the portal is accessible to both parties. Therefore, it is important to understand why parents are underutilizing the SchoolMAX system.

History of Information Systems in District A

In 1999, District A's leadership began focusing on the modernization of the administrative information systems, including those related to human resources, benefits, general ledger, accounts payables, account receivable, and procurement. The school district began making plans to replace the aging client server-based mainframe and mid-range computer systems, which required the installation of software on every workstation that needed access to the system. The client server system was very centralized, and

central office staff completed the majority of their data entry using paper forms filled out by school staff.

At the time, most functions were paper-based, and staff entered only essential information into the administrative information system. For example, when completing a purchase order, staff would type a requisition on a 9-copy thick carbon form and send it to the purchasing office, which would ensure that a contract or purchasing vehicle existed with the vendor. Staff then sent the order to the accounting office through the inter-office mail system. The accounting office would confirm that funds were available in the school's account, keep a copy of the requisition, and send the original form back to the purchasing office for approval. Once the director of purchasing approved and signed the requisition, the requisition became a purchase order and was sent to the vendor for processing. Another copy was to accounts payable office to have a record of the purchase order when invoices were received. The purchasing department would send the remaining copies of the purchase order forms back to the originator of the purchase order to keep for their records. Information captured in the administrative information system was limited to the date, amount, company, and cost center the funds were being encumbered. There were no records of what was purchased from the company.

In 1999, the district posted a Request for Proposal (RFP) for a new Administrative Information System. The district selected Oracle's E-Business Suite to replace the aging systems and awarded an $8 million contract to Oracle to provide the software and implement the product. The finance modules went live in November 2002, and HR/Payroll modules went live in May 2003. Implementing any information system in a large organization can often cause stress to the organization, even if it is well-planned

and resourced, and can result in staff resistance, cost overrun, and delayed implementation dates (Vaughn, 2001). These challenges occurred within District A, and by 2003, the implementation of Oracle was over budget by almost 250% and had cost the district approximately $20 million.

Pre-SchoolMAX SIS infrastructure. Prior to 1998, the school system relied on several information systems to manage student data. Elementary schools used the AS/400 to capture enrollment, demographic, and daily attendance data. Prior to the 2003–2004 school year, school staff completed elementary report cards and progress reports by hand. No grade information was captured or saved in the AS/400, meaning the only record of grades in elementary schools were the paper report cards. To improve new reporting requirements under the No Child Left Behind Act of 2001 and enhance the quality of the elementary report cards, District A's Technology Applications Department developed the Elementary Report Card System (ERCS). The ERCS copied the paper form and made it easy for teachers to adjust to the electronic form. The ERCS also added features like spell check and alerts to ensure each teacher submits attendance daily, and programming logic to help schools with NCLB reporting requirements that each child in every course has a teacher of record listed. The report cards were more legible than teacher's handwriting, and the system provided a database that kept grade information for elementary students. The system also began preparing teachers for the new student information system, which would require teachers to take attendance and enter grades electronically.

District A began providing teachers with laptops as a necessary administrative and instructional tool. As the district's technology infrastructure expanded into the

classrooms and more instructional technology became available to them in the classroom, laptops enabled teachers to take advantage of the classroom projector; email; self-service applications for payroll, leave, and benefits; the Internet; and other applications.

In secondary schools, there were three information systems used to capture student data—the AS/400, the HP300, and SBSIS. The AS/400 was used to enroll students. Once students were enrolled, the AS/400 would immediately send a file to the HP3000 so the scheduler could create a class schedule for the student. The HP3000 was primarily responsible for capturing attendance, scheduling, progress reports, report cards, and locker information. School staff completed transcripts by hand from a student's record once they graduated from the district.

Few members of the school-based personnel had access to either the AS/400 or the HP3000 systems. Staff typically took attendance by sending down an envelope to the attendance secretary with the names of the students that were absent for the day. The attendance secretary would enter then enter the data into the HP3000. Teachers typically kept all grades and attendance information in a paper-based gradebook, and they submitted progress reports and quarterly grades on bubble sheets that staff imported into the HP3000. The HP3000 operator would print out progress reports and report cards at a central location and school staff would pick up the report cards.

In an effort to improve operations, the Technology Applications Staff developed the School-Based Student Information System (SBSIS) that allowed teachers to take attendance and enter progress and quarterly grades on a computer in the classroom. The SBSIS began preparing teachers for the electronic submission of attendance and grades and streamlined the information sharing process.

Although the AS/400 and the HP3000 performed well, there were growing concerns about the age of the systems (both the AS/400 and the HP3000 were over twenty years old). Hewlett Packard ended the support for the HP3000 so the school district had to find expertise elsewhere until the district could replace it. Parts for the systems became harder to find. There was also a desire to improve operations and provide timely information to principals, teachers, parents and students; but the district could not do it while supporting five different student information systems. Eventually, district leaders decided to begin planning for a new student information system.

During the 2003-2004 school year, the district developed a RFP for a new student information system. After months of meeting with stakeholders and data owners, the district released the RFP on September 24, 2004. All bids had to be submitted to the purchasing office by 2:00PM on October 25, 2004.

Board action summary: Student information system contract. On May 5, 2005, the Board of Education for District A approved a Board Action Summary that authorized the chief executive officer, or his designee, to execute appropriate contract documents to acquire and implement a student information system at a cost not to exceed $6,000,000. On June 28, 2005, District A's purchasing director signed a contract for $5,419,350, which included an annual software maintenance agreement and help desk support for five years.

Goals for the new student information system. The school district had three major goals with the implementation of a new student information system:

- The system had to be user-friendly and easily accessible by staff, students, and parents;

- All staff, students, and parents would be able to obtain a username and password that they could use across multiple systems (one username and password to get to all appropriate resources); and

- The new SIS would be web-based and available anytime, anywhere, on any supported computing device.

The RFP generated nine responses. During the review of the written proposals, staff eliminated three proposals, and asked the remaining six vendors to do a full-day presentation. In the morning session, the vendor demonstrated the software product and its capabilities; and in the afternoon, there was a question and answer session with subject matter experts. The morning session was scripted, and the vendor received specific areas of interest to discuss with the review committee. During the afternoon session, the review committee could ask any clarifying questions about the product and the morning demonstration. There were approximately 30 District A staff persons on the review committee, and they eliminated three more vendors during this process.

The committee asked the remaining three vendors to present again to a larger audience, review specific areas of their products, and answer additional staff questions. They eliminated one more vendor through this process. The two remaining vendors met with the director of purchasing to review the cost section of the proposal and perform a background check on each of the remaining companies. Each company then submitted their best and final offer to the director of purchasing. The school district awarded the implementation of a new student information system to Maximus, a Vienna, VA-based software development company focused on improving client business processes.

The SchoolMAX Implementation

Once they approved the contract, it took district leaders approximately three years to go live with SchoolMAX. During this time, district staff worked to move and validate 19 years of demographic and student enrollment data, including student addresses, into the new system. School registrars had to select one of the pre-loaded addresses when enrolling a student. To prevent data entry errors and duplicates, school staff cannot create addresses in SchoolMAX. By default, the system enrolls each student in his or her boundary schools. Students must obtain a special to attend a non-boundary school, as school staff cannot override the pre-entered information in SchoolMAX.

SchoolMAX also had to integrate with other information systems that relied on student data, such as the district's Active Directory and Human Resources system, to ensure that all staff and students had access to the data. The integration with the district's Active Directory allowed both staff and students to use the same username and login to access all district services, from computer and wireless access and email services to SchoolMAX. The integration with the district's human resources system automated the process of placing educators in the correct school in SchoolMAX, and the scheduler assigned courses and classes to each educator as they build their schedules. Other systems, such as transportation, food services, and special education also needed to integrate with SchoolMAX.

The new system affected several aspects of school operations, including many business processes, which changed during the implementation of SchoolMAX. Teachers had to begin taking attendance in SchoolMAX instead of sending their attendance down to the main office. They also had to begin using SchoolMAX's gradebook module. The

district even revised Administrative Procedure 5121 to update the process for calculating grades and adjust the number of assignments that teachers had to enter into the gradebook weekly (two grades per week). For example, a teacher would calculate a student's final grade for a high school math class using the following formula: 30% of the grade is classwork, 20% of the grade is homework, and 50% of the grade is assessments. When teachers enter an assignment into the gradebook, they also select whether the assignment is classwork, homework, or an assessment so the assignment is calculated properly.

Discipline, transcripts, and scheduling are also major components of SchoolMAX. While with the previous system, staff recorded disciplinary incidents on paper and kept only the number and type of incidents; with SchoolMAX, staff can enter the details of every disciplinary incident into the system. Transcripts are another critical component of SchoolMAX, especially for juniors and seniors preparing for college. New processes were developed for appropriate staff to enter course and grade information and calculate class rank before printing transcripts. Scheduling is also a key component of the new system. In SchoolMAX, all students, from elementary to high school, have schedules that identify the teacher of record for each portion of the student's day.

Before SchoolMAX went live in August 2008, Information Technology (IT) project staff converted secondary schedules from the HP3000 into the new system. This process allowed the district to focus its efforts on student enrollment and preparing teachers to take attendance and enter grades. District A went live with the entire scheduling module in 2009.

SchoolMAX go-live. The implementation of SchoolMAX put a tremendous strain on the district. School office staff was poorly prepared to enroll and schedule walk-

in students and unfortunately made thousands of errors, causing more work for the school district (R. Bhasin, personal communication, October 16, 2008; M. Hayward, personal communication, November 17, 2008). During the first three months of school, over three thousand duplicate student records were created and identified. Once they identified the duplicate, staff had to determine whether the system was recording schedules, attendance, and grades on the "wrong" student record and, if so, move the data to the correct one. This process was a very complicated, and the issue took the district thousands of hours to correct.

Teachers also had to adjust their processes. While teachers take attendance in elementary school once a day, secondary school teachers have to take attendance each class period. As the district implemented the SchoolMAX system, principals and attendance secretaries reported that they needed more training to monitor teachers' attendance submissions. In response to their concerns, IT developed tools and reports to monitor each teacher at each school so the district could see where staff needed assistance to ensure that teachers entered attendance into the system properly.

One of the biggest pushbacks District A experienced from teachers was in their use of the SchoolMAX gradebook module. Before SchoolMAX, Teachers had been using paper and pencil or an electronic gradebook to enter grades. After the system's rollout, teachers had to conform to the updated Administrative Procedure 5121, which included specific instructions on the calculation of grades, the categories they must use to determine a student's grade, and the number of grades that they had to enter into the system each week. Before SchoolMAX, there was little conformity in this area, which led to big discrepancies in the calculation of grades between classes and teachers. Since

SchoolMAX was implemented, the calculation of a course grade is uniform throughout the district.

During Fall 2008, the district put six SchoolMAX modules into practice: enrollment, walk-in scheduling, attendance, grades, gradebook, and discipline modules. District leaders decided to rollout the family portal in a second phase during the spring of 2009. Before introducing the SchoolMAX family portal, IT developed an APEX application to monitor SchoolMAX usage. This application helped the district to see how many students, parents, and staff was using SchoolMAX at any time or day.

As parents started using the family portal, they alerted the school staff that many teachers were not entering two grades into the system each week for all students. Something unique happened during this period: Parents became advocates for the implementation of the SchoolMAX family portal and vocally began supporting its implementation. Parents began contacting the Board of Education, Superintendent's Office, and the school principals to voice their frustration when teachers did not enter grades into the system (L. Spencer, personal communication, November 3, 2009). To address to these concerns, IT developed reports to help principals monitor teacher gradebooks and ensure that they were entering the proper grading information on time.

Legal and Administrative Procedures Regarding Student-Level Data

Executive support from the Board of Education and the superintendent's cabinet was instrumental in keeping students and parents informed and setting clear expectations for staff. As the SchoolMAX rollout continued, board policy, District A administrative procedures, and parents' voices played a critical role in the successful rollout of the student information system. The Code of Maryland Annotated Regulations (COMAR)

also provided regulations for daily attendance, registration, discipline, and graduation requirements for staff to configure the student information system to meet state regulations (COMAR, 2009).

Before the launch of the SchoolMAX system, the district utilized COMAR and school system policies regarding student registration, attendance, grade reporting, and discipline to ensure that they incorporated current business processes into the new student information system. During the implementation, the district attempted to improve upon existing business processes, such as the taking of daily attendance at the high school level. Using the new platform, each classroom teacher would take attendance electronically, and the system provided formula to help staff determine whether a student was absent or present for a half or full day, based upon the number of classes the student attended during the day.

Other processes were difficult to create in SchoolMAX, so the engineers created workarounds to ensure that the system aligned with the district's business practices like enrollment validation. The established parameters allowed SchoolMAX to run a check to ensure that each student is eligible to enroll in a particular school based upon his or her age, address, and relevant permit for a special program.

Code of Maryland Annotated Regulations (COMAR 13A). During the implementation of SchoolMAX, the district used COMAR and local policies as the guideline for configuring business rules in SchoolMAX, including those related to student registration, graduation requirements, attendance regulations, and discipline monitoring. For graduation requirements, SchoolMAX calculates the total number of credits and the number of credits in math, science, English, and social studies. There are

also credits in physical education and other electives. In addition to the calculation of credits, high school students have to meet minimum requirements for assessments (HSAs or Alternate methods such as Bridge Plan for Academic Validation). Students also must have a minimum number of service hours to graduate. The engineers built these requirements into business rules in SchoolMAX to ensure that students meet the standards. The Bridge Plan for Academic Validation is an alternative method of meeting graduation requirements in lieu of the High School Assessments (HSAs). As a work around, the assessment information is maintained externally and a "met" or "not met" data point is provided for each student in SchoolMAX.

For attendance, elementary schools are set up to take attendance once daily. In secondary schools, 6th through 12th grade, teachers take attendance in each period, and SchoolMAX determines whether a student is absent, present, or present for a half day. COMAR and in some cases, District A Board Policy and Administrative Procedures, provide the written rules to build the business rules in a computer application. The implementation of SchoolMAX brought change to all users of the student information system by requiring that staff enter information into the system each day.

Policy 5121 and Administrative Procedure 5121.1, 5121.2 and 5121.3. District leaders rewrote Board Policy 5121, Grading and Reporting for Elementary, Middle, and High Schools, in part, due to the implementation of SchoolMAX's family portal. Prior to the implementation of the new system, the district had no standard electronic format to present grades and report cards to parents. At the time, schools and teachers took it upon themselves to provide an online view of their child's grades. With the launch of the SchoolMAX system, the district mandated that all teachers use the SchoolMAX

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gradebook module that automatically published assignments, grades, and attendance information into the family portal. This process changed everything for teachers. Some teachers liked their current online grade book and wanted to continue using it. Others liked their paper-based grade-attendance book and did not want to use the new SchoolMAX gradebook module. Policy 5121 mandated the use of SchoolMAX gradebook module.

The rollout of the family portal also caused some friction between the parents and teachers, because if the teachers did not enter assignments, the grade book was empty and parents complained. A decision from Executive Cabinet stated that teachers needed to enter two assignments per week into the grade book (District A (a), (b), & (c), 2010). The Executive Cabinet is comprised of the superintendent, deputy superintendent, chief academic officer, chief of student services, chief financial officer, legal council officer, communications officer, chief of human resources, chief of supporting services, chief information officer, performance officer, and the three instructional associate superintendents responsible for schools. Reports were created to monitor teacher's grade books and ensure that staff was adhering to the new administrative procedure.

In addition to the entry of assignments, there were also other issues with the way teachers calculated their grades. Some teachers would calculate homework as 25% of their class grade, and others would calculate homework as 40% for the same course. Administrative Procedure 5121 set uniform standards for each course so that all teachers calculated grades in a similar manner (District A (a), (b), & (c), 2010). The district developed an automated process to run at the beginning of the school year to set up teacher grading factors automatically based upon Administrative Procedure 5121.

Despite the new features in SchoolMAX, families have not accessed the portal to the extent expected.

SchoolMAX Family Portal and Its Evolution

District A launched the SchoolMAX family portal in the spring of 2009. The portal is a web-based application designed to work on desktops and laptops. When a parent logs into the system (Harris Computer Systems, Inc., 2014), they first see the Student Profile Page (see Figure 1); which provides parents access to a variety of information on their student's academic progress. From the Student Profile Page, parents can choose from one of ten tabs: attendance, schedule, student course choices, gradebook, grades, graduation requirements, discipline, transportation, fees, and my profile.

Attendance. The Attendance page of the SchoolMAX family portal allows the parent to see whether their child is present in class on a daily basis. As soon as the teacher submits attendance for a child, the information is available to the parent via the SchoolMAX family portal (see Figure 2).

Schedule. The Schedule page provides parents with a listing of their student's class information. The page details the course IDs, course name, room number, teacher name, and the teacher's email account for all courses in which the student is enrolled (see Figure 3).

Student Course Choices. The Student Course Choices page allows parents to see the courses that their student can take the following year. The district did not implement the student course request function until Spring 2011, and at the time of this study, it was only available for high school students. As high schools plan their schedule for the next

year, students work with their guidance counselors to select their courses. This tab details

the courses that the counselors propose for the student (see Figure 4).

Figure 1. SchoolMAX family portal: Student profile page.

| Attendance | Schedule | Student Course Choices | Gradebook | Grades | Graduation Requirements | Discipline | Transportation | Fees | My Profile |

Student name　::

Today's Attendance

Course ID	Term Code	Course Name	Period	Educator(s)	Type	? Reason Code	Time In	Time Out
Not Absent or Tardy Today								

Today's Hourly Attendance

Course ID	Term Code	Course Name	Period	Educator(s)	Type	? Reason Code	Time In	Time Out
Not Absent or Tardy Today								

Summary Attendance for the Year

Sort by: Term Code ▲ Go

Course ID	Term Code	Course Name	Period	Educator(s)	# of Absences	# of Tardies
106503 - 902	Full Year	English/Lang Art 12	1		1	
NOACAD - 10	Full Year	No Academy	10	null	3	
NOPROG - 11	Full Year	No Program	11	null	3	
375203 - 1	Full Year	Pre Calculus	2		2	
432003 - 2	Full Year	Adv Org Chem S/T	3		1	1
LUNCHA - 4	Semester One	LUNCH	4	null	3	
220103 - 2	Full Year	Adv Place Psychology	5		1	
441113 - 1	Full Year	AP Physics 1	6		1	
166003 - 4	Full Year	Spanish 3	7		2	1

Figure 2. SchoolMAX family portal: Attendance page

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HARRIS School Solutions

Family Portal   Parent Account

Academic Year: 2016 [change]

Attendance	Schedule	Student Course Choices	Gradebook	Grades	Graduation Requirements	Discipline	Transportation	Fees	My Profile

Student name ::

Student Schedule

Please select a term code from the drop down list and click the button.

Exclude Lunch and Study Hall: No ⬍   Change Term Code: Today's Classes ⬍ [Go]

Period	Start Time	End Time	Course ID	Course	Room	Educator(s)
1	08:30 AM	09:20 AM	106503	English/Lang Art 12	T-11	
2	09:21 AM	10:10 AM	375203	Pre Calculus	149	
3	10:15 AM	11:00 AM	432003	Adv Org Chem S/T	235	
4	11:05 AM	11:50 AM	LUNCHA	LUNCH	CAFETERIA	
5	11:55 AM	12:40 PM	220103	Adv Place Psychology	T-17	
6	12:45 PM	01:30 PM	441113	AP Physics 1	139	
7	01:35 PM	02:20 PM	166003	Spanish 3	223	
8	02:25 PM	03:10 PM	345003	Adv Place Comp Sc Ja	115	
10	04:01 PM	04:02 PM	NOACAD	No Academy	000	
11	04:03 PM	04:04 PM	NOPROG	No Program	000	

Figure 3. SchoolMAX family portal: Schedule page

Figure 4. SchoolMAX family portal: Student Course Choices page

Gradebook. The next tab in the SchoolMAX family portal is the Gradebook page, which allows the parent to see all grades for the assignments posted in their child's gradebook in each of his or her courses (see Figure 5). The page also provides the teacher's name and email address for each class. The parent can click on one of the courses to see the grades recorded for each course. This information is available as soon as a teacher enters the assignments in to the gradebook.

Grades. The Grades page has two tabs within the page. The first tab—Unofficial Transcript—provides a listing of each student's completed courses, with the final course grade, sorted by each academic year (see Figure 6). The second tab—Progress Report— shows the student's progress report and report card grade for each quarter. Also, if the course is completed it will show the final grade of the course (see Figure 7).

Mobile family portal. After the release of the SchoolMAX family portal in 2009, District A immediately began to monitor its use. Initially, parents had to come to the school to obtain the 20-digit key code that they needed to set up their account. Each school designated a specific staff member who was responsible for providing parents their codes and supporting the family portal. Schools began having special sessions in the evening and at Back-to-School Night for parents to set up their account. By the end of the 2008-2009 school year, over 15,000 parents had set up accounts. According to parents, this process was not a user-friendly way to set up parent accounts; so in 2014, district leaders created a self-registration process that allowed parents to set up their own account. After the implementation of this process, the number of parents enabling parent portal accounts increased 13.5% the following year. As smartphones became more prevalent, parents began asking about a mobile family portal app.

HARRIS School Solutions

Family Portal   Parent Account

User:

Academic Year: 2016 [change]

Auto Logout in: 28:57

| Attendance | Schedule | Student Course Choices | Grades | Graduation Requirements | Discipline | Transportation | Fees | My Profile |

Student name   ::

Gradebook

Change Gradebook: [1 ▼] Go

Course ID	Course Name	Term	Period	Instructor(s)		
106503-902	English/Lang Art 12	FY	1		[Grades]	[Assignments]
375203-1	Pre Calculus	FY	2		[Grades]	[Assignments]
432003-2	Adv Org Chem S/T	FY	3		[Grades]	[Assignments]
LUNCHA-4	LUNCH	S1	4		[Grades]	[Assignments]
LUNCHB-4	LUNCH	S2	4		[Grades]	[Assignments]
220103-2	Adv Place Psychology	FY	5		[Grades]	[Assignments]
441113-1	AP Physics 1	FY	6		[Grades]	[Assignments]
166003-4	Spanish 3	FY	7		[Grades]	[Assignments]
345003-2	Adv Place Comp Sc Ja	FY	8		[Grades]	[Assignments]
NOACAD-10	No Academy	FY	10		[Grades]	[Assignments]
NOPROG-11	No Program	FY	11		[Grades]	[Assignments]

Figure 5. SchoolMAX family portal: Gradebook page

HARRIS School Solutions

Family Portal   Parent Account

Academic Year: 2016 [change]

| Attendance | Schedule | Student Course Choices | Gradebook | Grades | Graduation Requirements | Discipline | Transportation | Fees | My Profile |

Student name ::

Progress Report   Unofficial Transcript

Gender: Female

Date of Birth:

Counselor:

Graduation Date:

Sort by: Academic Year ⬍ Go

Year	School	Grade Level	Department	Course ID	Section	Course Name	Term	Grade	Points Earned	Attempted Credits	Honor Points	Earned Credits
2011	D MIDDLE	07	954	712702	6	Health Education 7	S2	A	4.0	0.5	2.0	0.5
2011	D MIDDLE	07	954	208703	24	World Cultur/Geog 2	FY	A	4.0	1.0	4.0	1.0
2011	D MIDDLE	07	330	328213	24	ALG/DATA ANL	FY	A	4.0	1.0	4.0	1.0
2011	D MIDDLE	07	954	674702	3	Art 7 - Semester	S2	B	3.0	0.5	1.5	0.5
2011	D MIDDLE	07	954	131703	24	Rdg Eng Lang Art 7	FY	B	3.0	1.0	3.0	1.0
2011	D MIDDLE	07	954	417703	24	Science 7	FY	B	3.0	1.0	3.0	1.0
2011	D MIDDLE	07	954	721701	12	Physical Education 7	S1	A	4.0	0.5	2.0	0.5
2011	D MIDDLE	07	600	161001	3	Introduct to Spanish	S1	B	3.0	0.5	1.5	0.5
2012	D MIDDLE	08	310	331003	15	Algebra 1 Repeat Course	FY	A	4.0	1.0	4.0	1.0
2012	D MIDDLE	08	956	712801	5	Health Education 8	S1	A	4.0	0.5	2.0	0.5
2012	D MIDDLE	08	956	131803	15	Rdg Eng Lang Art 8	FY	A	4.0	1.0	4.0	1.0
2012	D MIDDLE	08	956	417803	15	Science 8	FY	B	3.0	1.0	3.0	1.0

Figure 6. SchoolMAX family portal: Unofficial Transcript page

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HARRIS School Solutions

Family Portal   Parent Account

Academic Year: 2016 [change]

Attendance	Schedule	Student Course Choices	Gradebook	Grades	Graduation Requirements	Discipline	Transportation	Fees	My Profile

Student name   ::

Progress Report

Unofficial Transcript

Change Academic Year: 2016 ↕ Go

Change Grading Period: All ↕ Go

Traditional Grades

Period	Course ID	Course Name	Grade Period 1	Grade Period 2	Grade Period 3	Grade Period 4	GradePeriod 0 FG
1	106503-902	English/Lang Art 12	88				
2	375203-1	Pre Calculus	77				
3	432003-2	Adv Org Chem S/T	97				
5	220103-2	Adv Place Psychology	81				
6	441113-1	AP Physics 1	79				
7	166003-4	Spanish 3	100				
8	345003-2	Adv Place Comp Sc Ja	66				
10	NOACAD-10	No Academy					
11	NOPROG-11	No Program					
4	LUNCHA-4	LUNCH					
4	LUNCHB-4	LUNCH					

106503-902 English/Lang Art 12

| | 88 |

Comments: �?

Figure 7. SchoolMAX family portal: Progress Report page

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District A began discussing the concept of a mobile family portal with the owner of SchoolMAX, Harris School Solutions, who acquired SchoolMAX from Maximus during the 2008-2009 school year. After a few discussions with the vendor, District A decided to move forward with the development of a mobile family portal. Within a year, District A began piloting a mobile family portal application that worked on smartphones and tablets. The portal provided a great user experience for students and parents and allowed parents to see their children's data anywhere their smartphone worked. It also enabled parents who did not have Internet access at home to utilize the mobile family portal via their mobile device (see Figure 8). Figure 9 provides a screenshot of the family mobile portal Attendance and Schedule pages. Figure 10 presents a screenshot of the Gradebook and Unofficial Transcript pages (District A, 2012).
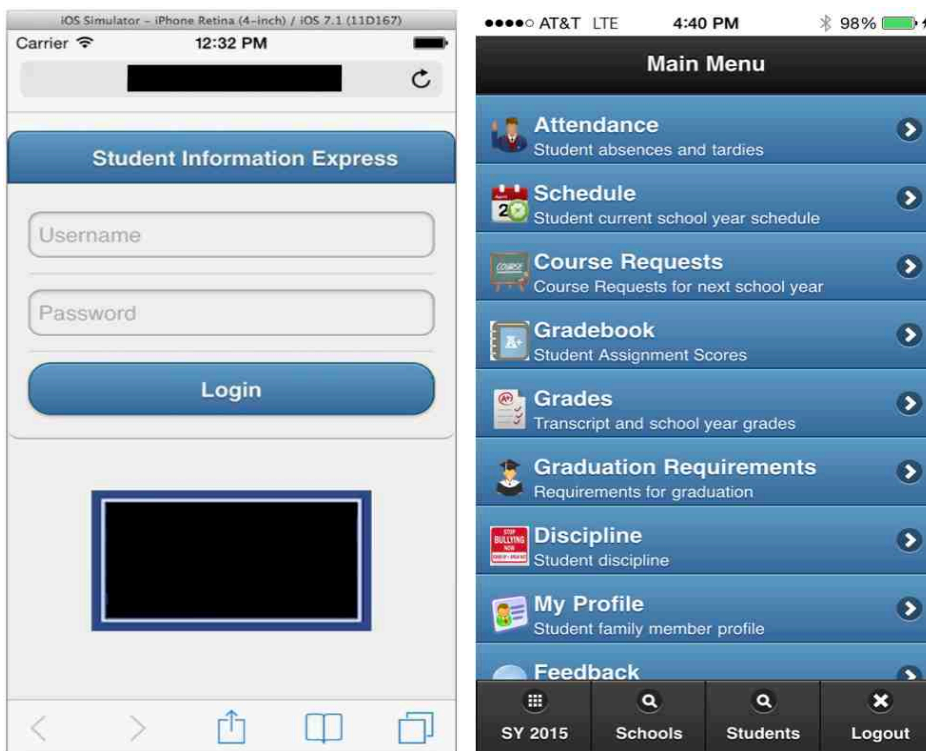
Figure 8. Mobile family portal: Login Screen and Main Menu
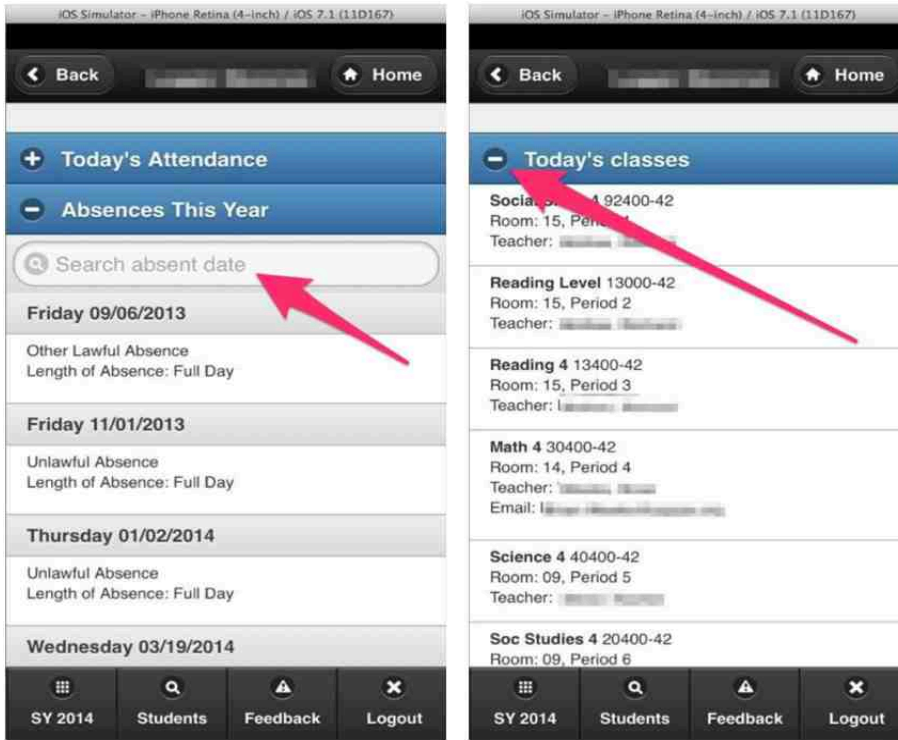
Figure 9. Mobile family portal: Attendance and Schedule
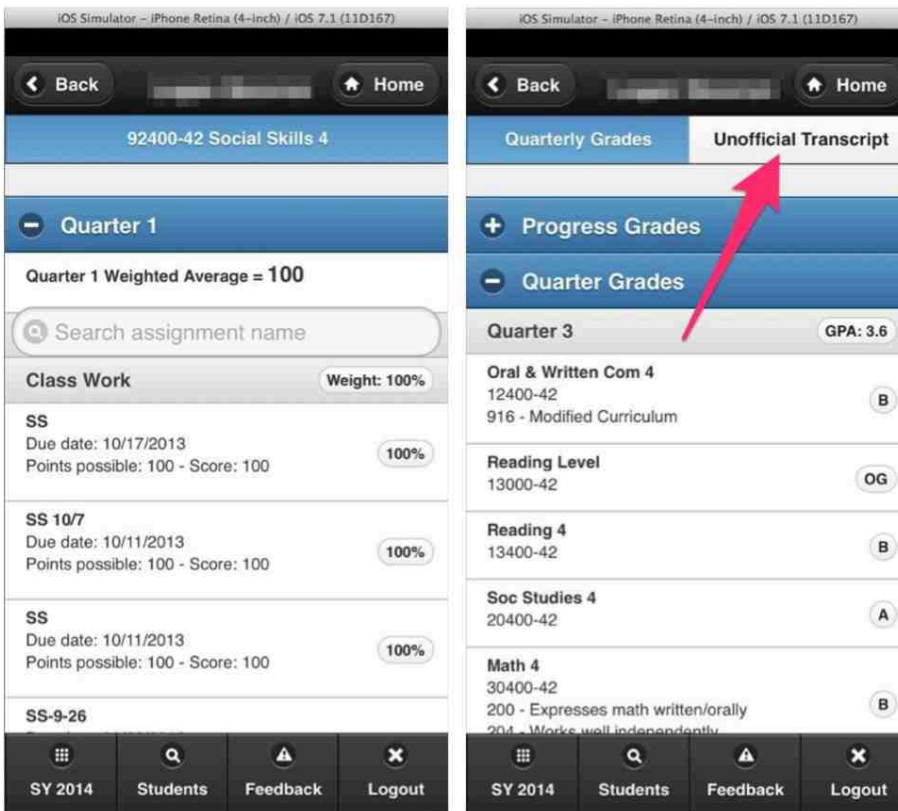
Figure 10. Mobile family portal: Gradebook and Unofficial Transcript pages

SchoolMAX Family Portal Usage

Table 1 shows the number of unique staff, family, and students users that have

accessed the SchoolMAX Student Information System (SIS) annually since the launch of

the portal. School staff members do not utilize the family portal; instead, they use specific

modules like Gradebook or Attendance to enter information. In total, users created

15,231 unique parent accounts that they logged into at least once in the last three months

of the 2008-2009 school year (SY). There was a 6% increase in the number of accounts

created and used from SY 2009-10 to SY 2010-11, and a 4% increase from SY 2010-11

to SY 2011-12. The usage of the SchoolMAX family portal started to decrease during SY

2011-12 through SY 2013-14. However, the district saw a 13.5% increase in usage after

the launch of the mobile family portal in SY2014-15.

Table 1

SchoolMAX Yearly Usage Totals

School year	Staff accounts	Family accounts	Students accounts	Total accounts
SY08-09	11,966	15,231	204	27,495
SY09-10	11,227	22,500	45,411	79,623
SY10-11	11,091	23,820	46,033	81,741
SY11-12	11,073	24,845	43,155	80,179
SY12-13	10,442	22,429	37,258	70,129
SY13-14	10,892	22,552	39,658	73,206
SY14-15	11,575	28,984	41,534	82,093

Adapted from "Usage Info Reports," by District A, 2015.

Figure 11 is a sample SchoolMAX usage data chart from District A's Apex

reporting tool that details the number of unique users from a specific point in time. This

particular report provides data from the beginning of SY 2014-15 until February 26,

2015. Figure 11 also shows the number of students that accessed the SchoolMax family

portal. It is possible that the students were sharing their account information with parents, and that parents were monitoring their child's academic progress using the child's login information.

Figure 11. SchoolMAX usage data: Unique users report

Table 2 provides the student enrollment count for SY 2008-09 to SY2014-15. The table also shows the number of families that have children in the district for these school years and the percent of families using the family portal.

Table 2

Percent of Families Using the SchoolMAX Family Portal

School year	Student enrollment	No. of families	Family accounts	% of Families using the SchoolMAX family portal
SY08-09	127,223	-	15,231	-
SY09-10	125,836	-	22,500	-
SY10-11	126,671	-	23,820	-
SY11-12	123,700	96,972	24,845	25.62%
SY12-13	123,862	95,187	22,429	23.56%
SY13-14	125,861	95,443	22,552	23.62%
SY14-15	128,181	90,347	28,984	32.08%

Adapted from "Usage Info Reports," by District A, 2015.

Table 3 shows students' use of the family portal from SY 2008-09 to SY 2014-15. According to District A's Apex reporting tool, on average, 35% of District A students have accessed the family portal annually since SY 2008-09. It is important to note that some parents may have used their child's login to access the portal.

Table 3

Percent of Students Using the SchoolMAX Family Portal

School Year	Student Enrollment	Student Accounts	% of Students Using SchoolMAX Family Portal
SY08-09	127,223	204	0.16%
SY09-10	125,836	45,411	36.09%
SY10-11	126,671	46,033	36.34%
SY11-12	123,700	43,155	34.89%
SY12-13	123,862	37,258	30.08%
SY13-14	125,861	39,658	31.51%
SY14-15	128,181	41,534	32.40%

Adapted from "Usage Info Reports," by District A, 2015.

Tables 4, 5, 6, and 7 provide a different view of the data at specific times throughout the school year. Trends in the data show a spike in usage just before the release of progress reports and report cards.

Table 4

SchoolMAX Usage During First Quarter Release of Report Cards

Date	Concurrent family usage	Parent usage	Student usage
10/30/08	-	-	-
10/29/09	851	3,156	9,092
10/28/10	757	4,152	10,752
10/27/11	813	4,810	11,483
10/25/12	841	5,050	12,397
10/29/13	2,327	6,471	16,822
10/30/14	1,780	4,388	16,578

Adapted from "Usage Info Reports," by District A, 2015.

Table 5

SchoolMAX Usage During Secord Quarter Release of Report Cards

Date	Concurrent family usage	Parent usage	Student usage
1/30/09	-	-	-
1/21/10	785	3,187	8,020
1/25/11	805	4,735	12,166
1/24/12	816	5,006	11,483
1/16/13	1,314	5,212	13,745
1/16/14	1,321	5,358	17,448
1/23/15	2,607	4,353	18,746

Adapted from "Usage Info Reports," by District A, 2015.

Table 6

SchoolMAX Usage During Third Quarter Release of Report Cards

Date	Concurrent family usage	Parent usage	Student usage
3/05/09	-	-	-
3/04/10	452	2,916	8,039
2/28/11	539	3,477	9,600
3/29/12	1,054	4,496	12,490
3/21/13	722	3,971	10,071
3/27/14	2,509	5,463	19,327
3/26/15	1,260	3,260	13,672

Adapted from "Usage Info Reports," by District A, 2015.

Table 7

SchoolMAX Usage During Fourth Quarter Release of Report Cards

Date	Concurrent family usage	Parent usage	Student usage
6/16/09	89	1,494	-
6/14/10	471	2,811	6,439
6/13/11	404	3,014	6,937
6/6/12	487	3,351	7,546
6/5/13	750	3,911	7,690
6/10/14	922	3,624	9,288
6/18/15	1,151	2,964	12,598

Adapted from "Usage Info Reports," by District A, 2015.

Tables 4, 5, 6, and 7 provide snapshots of family portal data during the quarterly release of report cards. The term *concurrent usage* refers to the highest number of parents and students that are accessing the family portal during the date specified at the same time. District A issues a mid-term progress report and a report card each quarter during the school year. A review of the last four years of data revealed that both student and parent usage spiked near the release of both grade reports. On average, approximately five percent of parents and ten percent of all students consistently used the family portal

for each grading period. From school year 2009-2010 to school year 2014-2015, the data showed an increase in the usage of the family portal during the first and second quarter.

District A has spent millions of dollars implementing their student information system and providing a family portal for parents to monitor their students' progress. Even with these resources, the district still must determine the cause of the low levels of parent usage and develop strategies that will encourage parents to utilize the portal. If a direct correlation exists between the use of the family portal and improvement in school-to-home communication, parent-child communication, prolonged parent involvement, and student achievement, then increasing the use of the SchoolMAX family portal would benefit the district.

Review of Research

The investigator conducted a literature review, using Google Scholar and UMD's Research Port, to examine the existing body of research related to school-to-home communication, parent involvement, parent engagement, K-12 family portals, K-12 parent portals, and K-12 student information systems. The researcher also used the references of many of the articles to find additional related articles. The section that follows details a review of seven studies that specifically explored school-to-home communication using technology.

School-to-home communication using technology. School-to-home communication involves the sharing of timely information between school staff and families that help parents stay connected with their children's school. Providing parents access to their children's daily performance data equips them with the information they need to have informed conversations with both their children and the school's staff.

Several researchers have expressed their support for the use of systems that improve school-to-home communication. For example, Wilson (2005) found that, "Giving parents access to their child's assignments, grades, and attendance increased communication between home and school" (p. 1). Parents have commented that the lack of timely communication from their children's school does not help maintain their involvement in their children's education (Sedlacek, 2011). Simon (2001) found that this lack of communication could be of particular concern at the secondary level, as high school staff rarely communicated with parents about their teenagers' attendance, behavior, or academic performance. Koch (2010) and Starkie (2012) also found that at the secondary level, parents have a tendency to become less involved in their students' education.

Shayne (2008) researched the effects of technology on school-to-home communication with parents of middle school students. The study focused on a convenience sample of all 292 parents of private, non-boarding preparatory school that served all male students in Grades 6-8. The school enrolled approximately 850 students from mainly White, upper-class families. Shayne mailed a survey to each of 292 parents with a cover letter, paper survey, and a self-addressed envelope in which they could mail back the survey. The cover letter also asked for volunteers to participate in a focus group interview. Shayne randomly selected and interviewed five of all of the parents that agreed to participate in the focus group. The survey consisted of 18 closed-ended and three open-ended questions. The focus group interview consisted of eight questions that corresponded to the survey questions. The researcher used a mixed method approach to gather both quantitative and qualitative data and attempted to corroborate the data using the process of triangulation.

Shayne (2008) had a 47.6% return rate, which equated to 139 completed surveys. The data showed that 100% of the parents used the family portal; 86% of the parents specified the family portal as the primary source of information (Shayne, 2008). The data also revealed that parents utilized the family portal most to monitor missing assignments and view their children's daily grades (Shayne, 2008). Additionally, almost 50% of the parents accessed the family portal one or two times a week, 20% of the parents accessed the family portal three or more times each week, and about 30% of the parents used the family portal less than once a week (Shayne, 2008).

Shayne (2008) also found that 53% of responding parents noted some improvement in conversations with their children about grades, and 44% of parents reported a substantial improvement. Additionally, 79% of parents stated that communication with their students' teacher was more effective, while 20% reported no change in communication (Shayne, 2008). Results also suggested that use of the portal tended to keep parents involved as their children moved up in grade levels. Shayne also noted some unexpected results from the survey and focus group interviews that related to the poor design of the family portal and the failure of teachers to post homework assignments and grades into the system.

In a related study, Starkie (2012) examined the use of parent portals and their effects on prolonged parent involvement. The research took place at a comprehensive public middle school with approximately 900 students. The school's student body was as follows: 15.7% African American, 3.1% Asian, 5.6% Hispanic, 0.1%1 Native American, and 74.6% White, 0.1% Native Hawaiian/Pacific Islander, and 0.7% Multi-Race/Non-Hispanic (Starkie, 2012). At the time of the study, approximately 620 parents/families in

this school had registered to use the parent portal. Using a concurrent mixed-methods approach, Starkie administered a 20-question closed-ended survey and interviewed 10 of the parent volunteers who responded to the survey. In total, 153 parents responded to the survey, which represented approximately 25% of the users (Starkie, 2012).

Results showed that parents perceived their use of the parent portal data improved communication with their children about academic matters and resulted in an improvement in their student's grades (Starkie, 2012). The study confirmed that most parents saw the parent portal as an effective means of school to home communication and considered it a main source of information from the school. In addition, most parents used the portal to monitor grades and hold their children accountable for completion of work. Results also revealed that most parents were motivated to use the portal by their concern for their student's academic performance, and many stated that the platform made them feel more involved in their children's education (Starkie, 2012). Findings also suggested that the use of the parent portal might affect parent's traditional tendencies to decrease involvement as their children advanced in school (Starkie, 2012).

Olmstead (2011) studied the role of technology in efforts to increase parental involvement. The inquiry took place at a neighborhood elementary school that served 565 students in a small California district of 6,000 students. The demographic make-up of the students was as follows: 50% White, 40% Hispanic, 5% Asian, 3% African American, and 2% Pacific Islander or American Indian (Olmstead, 2011). Twenty percent of the students spoke English as a second language, and 40% qualified as "socioeconomically disadvantaged" (Olmstead, 2011). The school had a variety of technologies available for instruction. Teachers submitted attendance online, and all staff had access to email

accounts and voice mail. Teachers also submitted all grades into an electronic gradebook, and report cards were available online. Additionally, the school's communication system allowed faculty and staff to send automated calls or emails to families in multiple languages (Olmstead, 2011).

Olmstead (2011) invited the parents and teachers of approximately 200 fourth through sixth graders to participate in a survey regarding their perceptions of the electronic communication tools, parent involvement, and parent-teacher communication. Olmstead made the survey available to all participates either online or in hard copy form. The researcher also conducted two focus groups: one with several parents who were representative of the larger school population and a second with all seven 4th grade teachers.

Respondents returned only 89 of the 204 parent surveys distributed for a response rate of 43.6%. All seven teachers completed their surveys. Both surveys were available in English and Spanish. According to the data, parents and teachers perceived that technology could support most types of proactive involvement and communication. Parents stated that they would like teachers to keep their web sites updated and use email to communicate said updates. They also noted that if the school had a family portal, they would use the tool frequently. Parents also expressed an interest in using social media to communicate with the school. Teachers responded that while Twitter could be useful in conveying information to parents, Facebook and text messaging were too personal to use as a professional communication tool. Overall, both parents and teachers valued the use of technology to improve parent involvement.

Koch (2010) also explored the role that electronic communication devices could play in enhancing parental involvement in middle schools. Koch focused on three areas of electronic communication: email, web sites, and parent portal access to student data. The researcher used a three-part survey to gather data from parents with students who attended a middle school in South Dakota. In total, 156 parents participated in the survey, representing a response rate of 60.9% (Koch, 2010). Of the 156 respondents, 76.3% were female and 94.1% were Caucasian (Koch, 2010).

Koch (2010) found that parents—regardless of age, gender, level of education, and ethnicity—indicated that electronic forms of communication are convenient to use. Respondents used the student information system portal most frequently. "With the exception of student behavior and academic progress, parents preferred electronic communication…" when communicating about their child with teachers and school administrators (Koch, 2010, p. 67). These results confirmed Olmstead's (2011) finding that parents considered electronic forms of communication to be convenient to use, but preferred to learn about their children's behavior face to face.

Bouffard (2008) researched the role of the Internet in continuous family-school communication, which researchers have associated with student's academic success and better family involvement. Bouffard used a nationally representative data set of 14,387 tenth graders, their parents, and their school administrators. The researcher collected data using a parent-report questionnaire and standard achievement tests scores from the students during their 10th and 12th grade years. Ninety-two percent of all students participated, as did 88 % of their parents and 92 % of their school administrators (Bouffard, 2008). The parent questionnaire included queries about Internet-based family-

school communication, family-school communication by other methods, questions about discussions between student-parent about education, and inquiries about family involvement in homework. Questions to administrators focused on teacher's use of the Internet as a means of communicating to families (Bouffard, 2008).

The data showed that approximately one-third of the families used the Internet to communicate with schools (Bouffard, 2008). Higher-income families tended to have access to the Internet and used it to communicate with schools. In addition, Bouffard found a correlation between families that used Internet-based family-school communication, higher achievement, and higher expectations. Results also indicated that using Internet-based communication benefits students of all backgrounds (Bouffard, 2008). Finally, the data showed that families tended to use Internet-based communication more when their children were doing well in school (Bouffard, 2008).

In a similar study, Ellis (2008) explored teachers' perceptions of the impact that the PowerSchool family portal had on student achievement and parental involvement in a Catholic school diocese. The research sample included teachers from 14 elementary schools that used the PowerSchool family portal. Ellis surveyed 200 teachers at the schools and reported a response rate of 52%. The survey was broken into two parts: The first part of the survey used seven open-ended questions to gather information from the teachers, and the second part was adapted from the Mankato Teacher Technology Survey Instrument (Johnson, 1998) to gather information about a teacher's comfort with technology. Ellis found that approximately 80% of teachers reported that the timely parent-student communication that the family portal allowed had a positive influence on student academic achievement.

The final study, by Dardanne (2010), explored whether the internet enhanced school-to-home communication, parent involvement, and student achievement. Dardanne found higher achievement scores of schools that provided access to meaningful communication between the home and school using the Internet.

Summary

Although technology is not a replacement for face-to-face communication, it does provide certain benefits, such as the ability to access a child's performance data or other information at a time that is convenient to parents. Platforms like family portals permit parents to access their children's academic information from their home or work computer at any time of day or night (Ellis, 2008). Use of a family portal may also affect parent's traditional tendency to decrease involvement, as their child grows older (Shayne, 2008). As noted by Weiss, Lopez, and Stark (2010), providing parents with information about their children's academic performance makes their engagement with teachers more meaningful and more likely to continue through the students' secondary education. Penuel (2002) reported that over half of all parents surveyed by the National School Boards Association wanted to see their children's schoolwork online and use e-mail to communicate. "Sharing student performance data with families has the potential to turn around the way family engagement is organized. Rather than being a checklist of activities, family engagement becomes purposeful and linked to a system of improvement" (Weiss, 2010, p. 2)

The present researcher included components of each of the reviewed studies in this inquiry into the District A SchoolMAX platform. However, there are clear differences in the research populations, demographics, and types of schools. Shayne's

(2008) research focused on students at private all male Catholic middle and high school, and this population is not representative of the students in District A. Similarly, Ellis' (2008) study took place at a Catholic Diocese in New Jersey and focused on elementary teachers. Starkie's (2012) research occurred in a small district in Massachusetts and focused on a middle school. Olmstead's (2011) study also took place in a small school district and focused on elementary schools. Last, Dardanne's (2010) study focused on middle schools across the state of Arkansas. While these inquiries explored a range of student and school populations, none of them explored the use of a parent portal at multiple schools within a large school district.

While Shayne's (2008) research took place in Los Angeles, California, the study focused on one private school population that served students from a pre-dominantly White, upper-class population. Koch's (2010) study also focused on a predominantly White middle school in South Dakota. Each of the other studies took place in relatively small school districts or at individual private schools, with the exception of Dardanne (2010), which focused on all public schools with an eighth grade in the state of Arkansas. None of the studies explored public schools in a large urban school district with a substantial minority student population.

According to Shayne's (2008) research, family portals have been well received by parents, but several of the studies mentioned that parents experienced frustration because teachers were not entering data into the system. Parents also expressed frustration with the inability to logon and the sluggish performance of the system. Although District A experienced some of the same issues early in the implementation, district leaders resolved many of these challenges by implementing processes and procedures designed to monitor

the system and ensure that staff entered attendance and grade information into the system in a timely manner.

During the implementation of the SchoolMAX family portal, many parents responded positively to being able to access their children's data online. Although the district experienced implementation problems along the way, SchoolMAX was operating well at the time of this study. Without the numerous policies, regulations, and administrative procedures in place, the executive support from the district, and the hard work of thousands of District A staff; the SchoolMAX implementation would have failed, and the district would have lost millions of dollars, several years of hard work, and perhaps the will to try again. In addition, the quality of the state report submissions has dramatically improved. However, there is still a great opportunity to enhance school-to-home communication that may lead to improvements in student performance. To this end, in April 2014, District A implemented a mobile family portal application to provide parents, staff, and students more flexibility to access their data anytime, anywhere there is an Internet connection. This study examined the use of the SchoolMAX family portal and mobile family portal in District A in an effort to (a) understand parents' decisions to use or refuse to use the family portal and (b) determine what barriers to use may exist.

Section II: Methodology

Purpose of the Study

The purpose of the study was to understand how parents decide whether to use the SchoolMAX family portal in District A and to identify what barriers to use may exist. The researcher sought to (a) ascertain what information parent users accessed in the SchoolMAX family and mobile family portals, (b) determine how frequently parents accessed the portals, and (c) discover whether they perceived that communication with their children about academic matters had increased because of their use of the portal.

Research Questions

The following research questions served as a guide for the development and implementation of this study:

1. What information do parent users access in the SchoolMAX family portal?

2. Who uses the SchoolMAX family portal?

3. How frequently do parent users log onto the SchoolMAX family portal?

4. Do parents who use the SchoolMAX family portal report increased communication with their children regarding academics?

5. What, if any, barriers to using the SchoolMAX family portal do parents report?

Design and Methods

To respond to these queries, the researcher employed a descriptive and exploratory inquiry using three sources of data: (a) the SchoolMAX family portal usage data captured in one of the school district's APEX applications; (b) an online survey of parent users (see Appendix A); and (c) a paper survey (see Appendix C) mailed to a

purposive sample of non-users at one elementary school, one middle school and one high school in District A. The data was collected and analyzed to answer the research questions.

Research Setting

The study took place in District A, one of the largest school districts in the United States. The district purchased the SchoolMAX platform in 2005 as its student information system (SIS). The demographic make-up of the district is: 2.8% Asian, 63% African American, 28% Hispanic, 4.5% Caucasian, and 1.7% other ethnicities. The National School Lunch Program provides free and reduced priced lunch to 73% of the students in District A. Approximately 11.3% of the students received special education services and 16.1% of the students are Limited English Proficient (LEP). The school district has a diverse population with students from over one hundred different countries.

Target Population

This inquiry took place in April and May of 2015. At the time of the study, 25% (19,108) of parents in District A had registered for the mobile family portal. This study targeted two groups of parents. The first group, referred to as *parent users*, included all parents that had registered to use the new online registration portal as of April 2015. A second group, *non-users*, included all parents that had not registered for the family portal since its implementation during SY 2008-09. To obtain information from these non-users, the researcher first purposively sampled three schools—an elementary school, a middle school, and a high school—and selected sites that had demographic populations that were representative of the school district as a whole. The researcher utilized SchoolMAX data to identify 1,725 families at each school that had never logged into the SchoolMAX

family portal, and then used a random generator to select 40% of the non-users (n=691) from each school. The non-users received the survey via mail at the address on record.

Of the 19,108 parents who registered for SchoolMAX, about (5%, n = 983) indicated that they spoke Spanish in their homes. These parents received the Spanish language version of the user survey. The Spanish language version of the non-user survey was sent to 177 families, or 26% of the selected non-user parents that indicated Spanish as the language spoken at home.

Instruments and Data Collection Procedures

To gather information from parents, the researcher developed two surveys using the works of Starkie (2012) and Shayne (2008) as a guide. The parent user survey was a web-based, Qualtrics survey that included seven closed-ended questions. The survey was available in both English and Spanish. A second paper survey contained five questions designed to collect key information from the parent non-users. The researcher also gathered from SchoolMAX all parent usage data from January 1, 2015 to June 30, 2015.

Figure 12 maps the research questions with the survey questions and data from SchoolMAX. Survey Questions 3 and 6 of the SchoolMAX parent user survey addressed Research Question 1. The investigator addressed Research Question 2 through an analysis of the data captured by SchoolMax. Survey questions 1 and 2 of the SchoolMAX parent user survey and Survey Questions 1 and 4 from the non-user survey helped the researcher to determine if parents of elementary, middle, or high school students used the system more often. An analysis of the SchoolMAX family portal usage data helped the researcher to respond to Research Question 3; and Questions 4, 5, and 7 on the parent

user survey addressed Research Question 4. Lastly, Questions 2 and 3 on the non-user survey spoke to Research Question 5.

Survey pilot testing. The researcher asked five individuals who had used the family portal to pilot the parent user survey. Each individual received an email with a link to the parent user survey and a request that the user provide feedback on the email sent to them and the survey itself. After receiving feedback, the researcher modified one of the questions to make it clearer for the parents taking the survey.

Six individuals participated in the non-user survey pilot. These individuals had never used the SchoolMAX family portal. The participants received an envelope with a sample letter that the parents would receive, a consent form, a paper survey, and a pre-addressed envelope. The participants provided feedback about their experience reading the letter, completing the consent form, and taking the survey.

Procedures. The researcher created two surveys for the study. The first survey was a seven-question parent user survey developed in Qualtrics in March 2015 and piloted in April 2015. The second survey was a five-question non-user survey created in Qualtrics in April 2015 and piloted in April 2015. The researcher distributed the non-user survey via mail to the non-users and provided a link to parents in a letter sent via traditional mail.

Research Questions	Survey Questions (a) parent user survey questions (b) non-user survey questions
1. What information do parent users access in the SchoolMAX family portal?	Q3(a). I most frequently use the following three areas in the SchoolMAX family portal. Q6(a). I would like to see other information in the family portal such as _____ .
2. Who uses the SchoolMAX family portal?	Q1(a). I have children in the following grade levels. Q2(a). I access information in the SchoolMAX family portal for my children in the following grades. Q1(b). Do you use the SchoolMAX family portal? Q4(b). I have children in the following grade levels. SchoolMAX Usage Data
3. How frequently do parent users log onto the SchoolMAX family portal?	SchoolMAX Usage Data
4. Do parents who use the SchoolMAX family portal report increased communication with their children regarding academics?	Q4(a). Since I have been using the SchoolMAX family portal, my communication has improved with my children about academic matters. Q5(a). I think the SchoolMAX family portal is _____ . Q7(a). And Q5(b) I speak to my children _____ about academics.
5. What, if any, barriers to using the SchoolMAX family portal do parents report?	Q2(b). Are you aware the school district provides the SchoolMAX family portal for all students and parents? Q3(b). Is there something that prevents you from using the SchoolMAX family portal?

Figure 12. Crosswalk between research questions and survey questions

In April 2015, the researcher requested a data file that included all parents who completed District A's online registration process for the SchoolMAX family portal. The file included the parent's first and last name, login name, email address, and the language spoken in the home. District A's Research and Evaluation Department sent an email (see

Appendix E and G) on behalf of the researcher on April 27, 2015 to all of the parent users of the SchoolMAX family portal asking parents to participate in a survey about the SchoolMAX family portal.

The next step was to utilize demographic district data to determine which elementary, middle, and high schools had demographic makeups that were most similar to that of the school district. The researcher identified one school at each level (elementary, middle, and high school) and extracted data from SchoolMAX on all non-users from the three selected schools in May 2015. The total number of non-users from the three selected schools is 1,977. Approximately forty percent of the total parent non-users (1,977) were randomly selected for a total of 791 parents. In May 2015, the selected parents received a letter by mail requesting their participation in a survey, an informed consent form, a pre-paid return envelope, and a paper survey asking five questions about SchoolMAX (see Appendices C, D, I, J, and K). Parents received the survey in English or Spanish, depending upon the primary language spoken in their home, which is captured in SchoolMAX. The also letter included a web link that gave parents the option of taking the survey online. Figure 13 displays a complete timeline of the steps taken to administer the surveys.

Approximately one week after the initial distribution of the surveys, the researcher sent a friendly email reminder to the parent users (see Appendices F and H) and a reminder post card (see Appendices L and M) to parent non-users of SchoolMAX. Parent participants received a second reminder approximately one week after the first reminder, and a third and last reminder went out to parent users about a week after the second reminder.

The Qualtrics program captured and organized data as parents completed the online surveys. As parents completed the paper survey and returned in the pre-paid return envelope, the researcher entered the resulting information into a spreadsheet and combined it with the data from parent non-users who chose to complete the survey online.
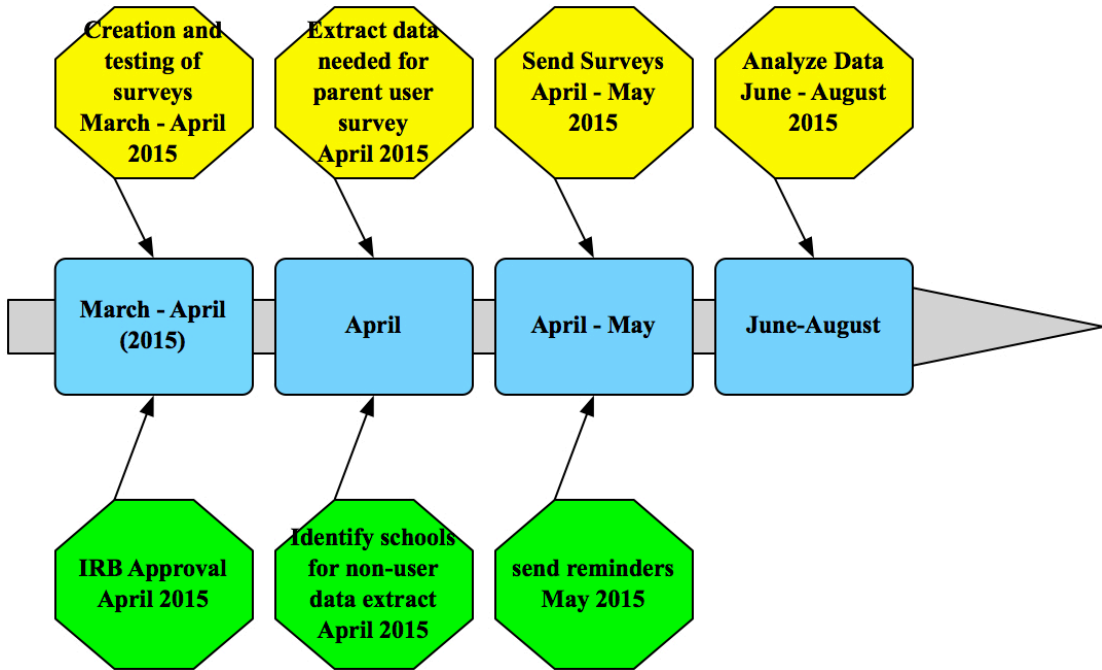
Figure 13. Timeline for parent user and non-user surveys.

Data Analysis

This study included data from three primary sources: (a) a parent user survey, (b) a non-user survey, and (c) usage data from SchoolMAX. Once the survey closed and all willing respondents had completed the parent forms, the researcher exported the data from the Qualtrics survey system into an Excel spreadsheet. In total, 2,515 (13.2%) of the 19,108 parents asked to participate in the survey provided responses.

The first step in the analysis of the parent user data was to tabulate how each parent responded to the survey questions. The researcher then created table and graphs to

display the data using Keynote. Pivot tables also aided in breaking down the parent user data by school level (i.e., elementary, middle, and high school). Because several parents had multiple children, the number of children that they monitored using the SchoolMAX family portal was higher than the number of parents that responded to the survey. Analyzing the data by school level helped the researcher to identify any differences in usage based upon a child's school level.

The researcher then began the analysis of the SchoolMAX usage data set, which included only SchoolMax family portal logins from January 1, 2015 to June 30, 2015. The number of logins during this period totaled 558,806. The researcher imported this information into an Excel spreadsheet and used pivot tables to break the data down by (a) grade level to show the number of parents logging in at each grade level and (b) school level to show the number of parents logging in to see data about their students in elementary, middle, and/or high school. This data set clearly showed the percentage of students at each school level whose parents were using SchoolMAX to monitor their academic progress.

In addition to the grade level and school level data, the usage data showed the number of times (frequency) that an individual logged in between January 1, 2015 and June 30, 2015. This data also revealed the average number of times the parents logged into the SchoolMax each month. Another analysis showed the variation in the number of logins. Figure 26 displays the resulting login trends over the six-month period of study.

Lastly, the researcher examined the non-user survey data. Due to the low return rate from this survey (5 out of 691 or .7%), the researcher did not conduct an analysis of this information.

Human Subject Review and Confidentiality

To protect the school district and the University of Maryland, the researcher adhered to the following procedures to ensure that the identities of all respondents remained confidential:

- All participants of the online survey received an email describing the survey; all participants of the paper survey received a cover letter or email describing the survey.

- The researcher asked that all participants of the online and paper surveys complete an informed consent form before actually taking the survey.

- To maintain confidentiality, the researcher will not used any names or identifying information from the online parent user survey or the non-user paper survey during the analysis of data.

- Final documents will only report results in aggregate form (by users, non-users, gender, etc.) to protect the identity of the participants.

- After the completion of the study, all participants will receive a copy of the results upon request.

- The researcher will retain data from the surveys electronically on an encrypted flash drive and will not share any individual data. All data will be erased after 5 years.

Summary

The researcher selected the methods used in this study to obtain information from parents about their experiences with the SchoolMAX family portal and to analyze their usage of the portal. The next section details the results of this study. Ideally, this

information will help School District A improve its use of the family portal and further

enhance the quality and frequency of the district's school-to-home communication.

Section III: Results, Conclusions and Recommendations for the District

This chapter details the results of this investigation based upon an analysis of the data gathered from the two parent surveys and the usage data from SchoolMAX. The chapter first presents the results based upon the crosswalk of the research questions, the survey questions, and the SchoolMAX usage data, then offers a brief discussion of (a) the data that specifically responds to each of the research question and (b) any unexpected results.

Research Question 1

Research Questions	Survey Questions (a) parent user survey questions (b) non-user survey questions
1. What information do parent users access in the SchoolMAX family portal?	Q3(a). I most frequently use the following three areas in the SchoolMAX family portal. Q6(a). I would like to see other information in the family portal such as _____ .

Figure 14. Crosswalk for Research Question 1.

The data related to Research Question 1 come from participants' responses to parent user Survey Questions 3 and 6. Survey Question 3 stated, "I most frequently use the following areas in the SchoolMAX family portal a) attendance, b) daily grades, c) report cards, d) transcript, e) discipline, f) schedule (select three)." Table 8 displays user responses to this survey item.

Table 8

Parent User Survey Question 3 Data

Frequently accessed information	English speaking	Spanish speaking
Attendance	907	25
Daily Grades	1,893	42
Report Cards	1,934	38
Transcript	342	6
Discipline	311	22
Schedule	553	9

n=2515

Note: The "Spanish speaking" column represents the 983 families who registered for the family portal that indicated that Spanish is the primary language spoken in their home. It does not necessarily represent all Spanish speaking families that took the survey.

The responses to Question 3 of the parent user survey indicate that when using the SchoolMAX family portal, 37% of the parents most frequently accessed the Attendance page, 77% of the parents accessed the Daily Grades page, 78% of the parents accessed the Report Cards page, 14% of the parents accessed the Transcript page, 13% of the parents accessed the Discipline page, and 22% of the parents most frequently accessed the Schedule page in the SchoolMAX family portal (see Figure 15). The responses also showed how parents of children in varying school levels (i.e., elementary, middle, or high school) used the SchoolMAX family portal slightly differently (see Figure 16). According to participant responses, middle and high school parents tended to use the Schedule page more often than did elementary school parents, perhaps because in the higher grade levels, the children change classes for each subject. It is also interesting to note that high school parents tended to use the Attendance page of the SchoolMAX family portal more often than the middle and elementary parents.

Question 3: I most frequently use the following three areas in the SchoolMAX family portal? (Select Three)
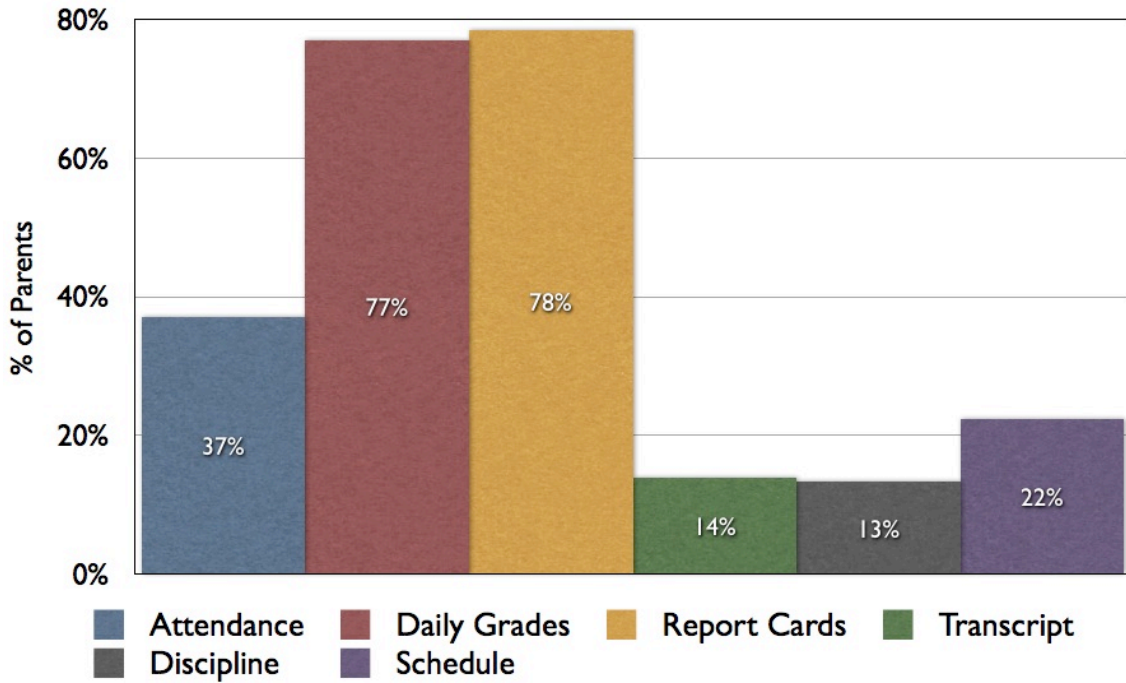

Figure 15. Results from Question 3 of the parent user survey.

I most frequently use the following three areas in the SchoolMAX family portal? (Select Three)
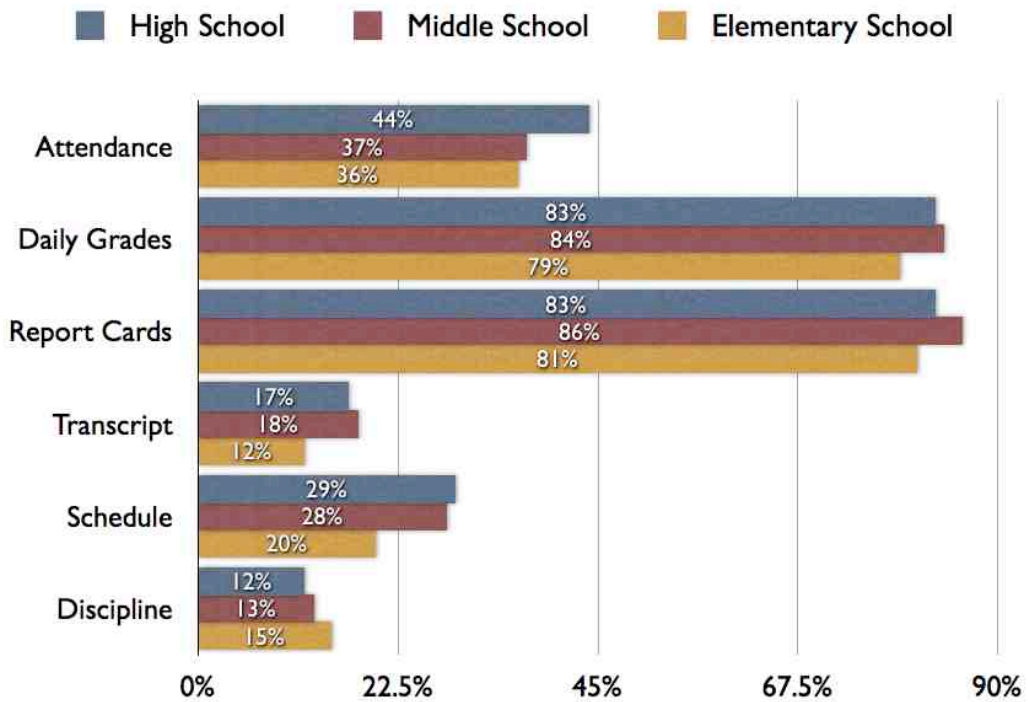
Figure 16. Results from Question 3 of the parent user survey by school level.

Question 6 of the parent user survey stated, "I would like to see information in the SchoolMAX family portal such as a) homework assignments, b) test scores, c) graduation requirements, d) information about scholarships, e) information about SAT/ACT test dates (Please check all that apply)." Table 9 displays a summary of the responses to this survey item.

Table 9

Parent User Survey Question 6 Data

Type of new information in SchoolMAX	English speaking	Spanish speaking
Homework assignments	1,873	34
Test scores	1,613	38
Graduation requirements	1,247	24
Info about scholarships	1,302	35
Info about SAT/ACT	1,187	25

Note: The column in labeled "Spanish speaking" represents the 983 families who registered for the family portal that indicated that Spanish is the primary language spoken in their home. It does not necessarily represent all Spanish speaking families that took the survey.

The responses to Question 6 showed that 76% of the parents would like to see homework assignments added to the SchoolMAX family portal, 66% of the parents would like to see test scores, 51% of the parents would like to see graduation requirements, 53% of the parents would like to see information about scholarships, and 48% of the parents would like to see information about SAT/ACT test dates added to the SchoolMAX family portal (see Figure 17). When broken down into school level, the data from Question 6 indicates that high school parents clearly showed a higher interest in topics like graduation requirements, information about scholarships, and SAT/ACT test dates (see Figure 18).

Question 6: I would like to see information in the SchoolMAX family portal such as: (Please check all that apply.)
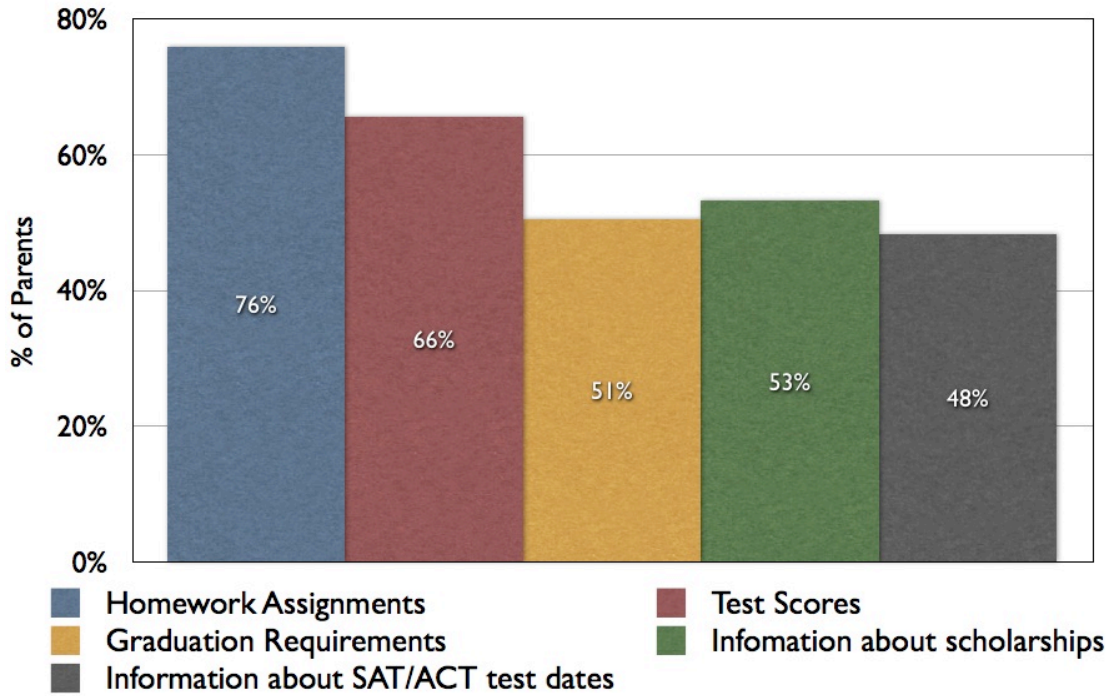
*Figure 17.* Results from Question 6 of the parent user survey.
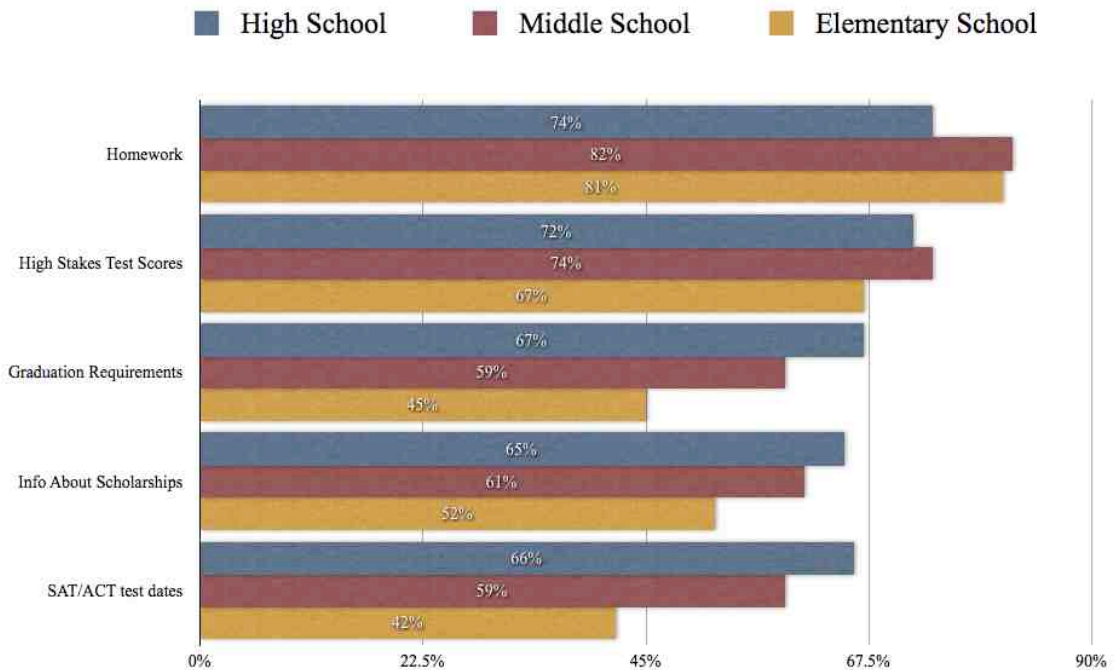
Figure 18. Results from Question 6 of the parent user survey by school level

Research Question 1 asked, "What information do parent users access in the SchoolMAX family portal?" According to the data collected during this study, the top three areas accessed by parents included the following: (a) Report Cards (78%), (b) Daily Grades (77%), and (c) Attendance (37%). These results were very similar at all school levels (see Figure 16). The survey also asked parents about the types of new information they would like to see in the SchoolMAX family portal. A majority of parents at all grade levels wanted to see their children's homework (76%) and test scores (67%). In addition, a majority of parents in high schools wanted to see information about scholarships (67%), graduation requirements (65%), and SAT/ACT test dates (66%).

The family portal usage by grade and school level revealed usage at all levels from pre-K and kindergarten to Grade 12. Feedback from parents showed a high interest in information related to homework assignments, test scores, and graduation requirements. District A should utilize these results to help drive usage and improve school-to-home communications by adding the additional features that the parents noted.

Research Question 2

Research Questions	Survey Questions (c) parent user survey questions non-user survey questions
2. Who uses the SchoolMAX family portal?	Q1(a). I have children in the following grade levels. Q2(a). I access information in the SchoolMAX family portal for my children in the following grades. Q1(b). Do you use the SchoolMAX family portal? Q4(b). I have children in the following grade levels. SchoolMAX Usage Data

Figure 19. Crosswalk for Research Question 2.

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The findings related to Research Question 2 came from SchoolMAX usage data and Questions 1 and 2 from the parent user survey. Due to the poor response rate of the non-user survey, this discussion does not include the results from the non-user survey.

Question 1 of the parent user survey stated, "I have children enrolled in the following grade levels: a) elementary b) middle c) high (check all that apply)." Table 10 displays a summary of the responses to this query.

Table 10

Parent User Survey Question 1 Data

Type of school	English speaking	Spanish speaking
Elementary	1,364	38
Middle	843	12
High	858	15

Note: The column labeled "Spanish speaking" represents the 983 families who registered for the family portal that indicated that Spanish is the primary language spoken in their home. It does not necessarily represent all Spanish speaking families that took the survey.

The results from Question 1 showed that 56% of the parents had children in elementary school, 34% of the parents had children in middle school, and 35% of the parents had children in high school (see Figure 20). According to parent responses, 26% of the parents have children in multiple school levels (see Figure 21). In addition, 38% of the parents indicated that they only have children in elementary school; 16 % of parents responded that they only have children in middle school; and 20% of parents responded that they only have children in high school.

Question 2 of the parent user survey stated, "I access information in SchoolMAX for my children in grade levels: a) elementary b) middle c) high (check all that apply)." Table 11 displays a summary of participant responses to this query.

Question 1: I have children enrolled in the following grade levels: (Check all that apply)
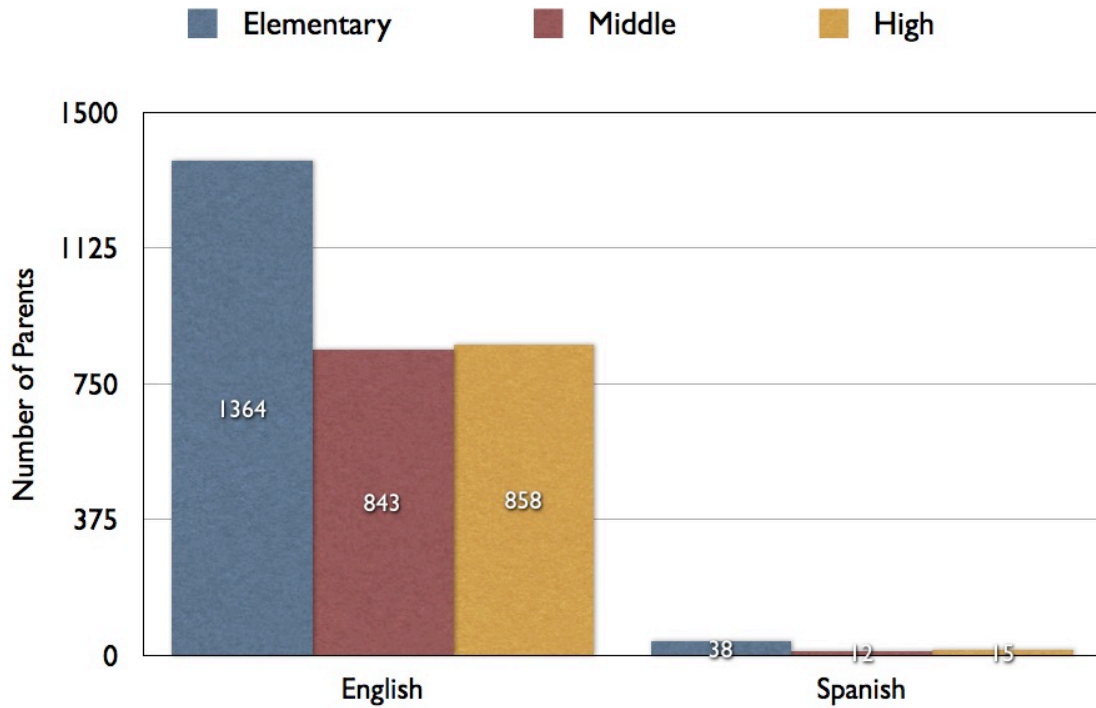
Figure 20. Results from Question 1 of the parent user survey.

I have children enrolled in the following grade levels: (Check all that apply)

Figure 21. Results from Question 1 of parent user survey by school level.

Table 11

Parent User Survey Question 2 Data

Type of school	English speaking	Spanish speaking
Elementary	1,291	34
Middle	839	11
High	815	13

Note: The column labeled "Spanish speaking" represents the 983 families who registered for the family portal that indicated that Spanish is the primary language spoken in their home. It does not necessarily represent all Spanish speaking families that took the survey.

The responses to Question 2 of the parent user survey revealed that 53% of parents accessed information about their children in elementary school, 34% accessed information about their children in middle school, and 33% accessed information about their children in high school.

Question 2: I access information in the SchoolMAX family portal for my children in the following grades: (Check all that apply)
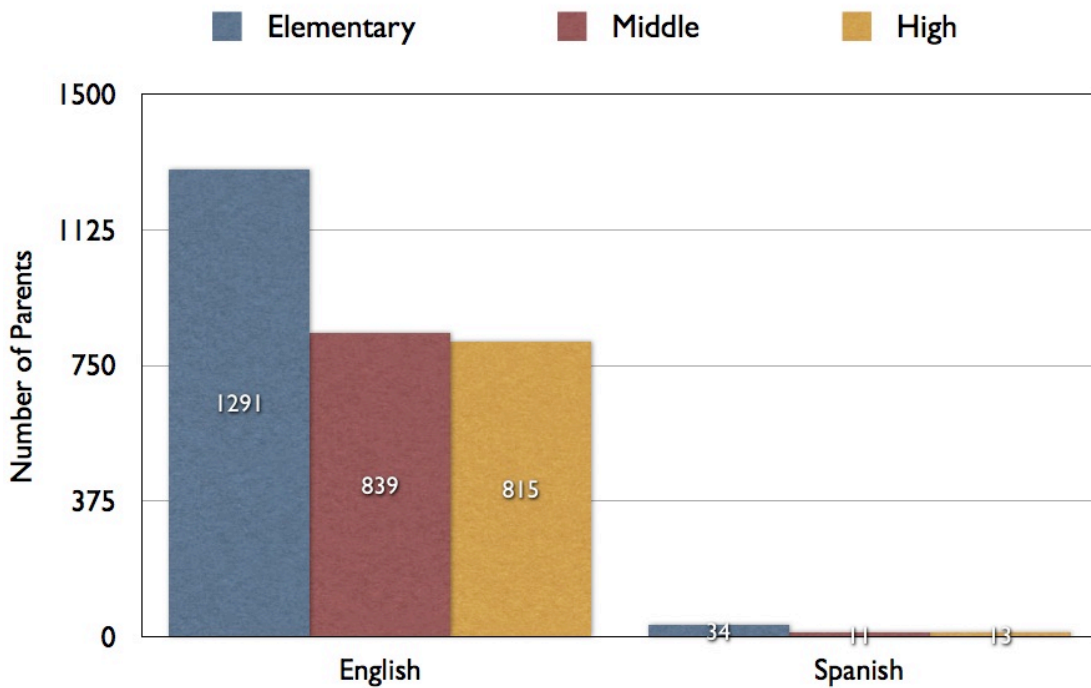
Figure 22. Results from Question 2 of the parent user survey.

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Research Question 2 asked, "Who uses the SchoolMAX family portal?" Question 1 of the parent user survey showed that parent respondents had children in the following grade levels: 56% in elementary school (pre-K – 5th grade), 34% in middle school (6th – 8th grade), and 35% in high school (9th – 12th grade). Approximately 26% of the respondents had children in more than one school level, and 4% of them had children in all school levels. Question 2 of the parent user survey showed that parents accessed SchoolMAX for their children in the following grade levels: 53% in elementary school (pre-K – 5th grade), 34% in middle school (6th – 8th grade), and 33% in high school (9th – 12th grade). The SchoolMAX usage data, however, painted a different picture (see Table 12).

Table 12

SchoolMAX Yearly Usage Totals by Grade Level

| Grade level	SY2015 enrollment	Family accounts	Students monitored	Number of logins	Percentage of students
Pre-K	6,313	301	315	4,528	5%
K	10,208	1,054	1,071	13,513	10%
1	10,376	1,179	1,207	16,043	12%
2	10,184	1,484	1,516	25,143	15%
3	9,774	1,636	1,678	25,310	17%
4	9,385	1,716	1,745	28,992	19%
5	9,254	1,807	1,843	30,498	20%
6	9,097	2,078	2,118	42,931	23%
7	9,129	2,304	2,341	58,268	26%
8	8,804	2,302	2,341	56,069	27%
9	11,056	2,540	2,615	79,828	24%
10	8,646	2,120	2,153	67,795	25%
11	7,311	1,871	1,905	61,189	26%
12	8,158	1,811	1,843	48,699	23%
All	127,858	16,984	24,691	558,806	19%

Figure 23 provides a visual representation of the percentage parent/family portal users per grade level. Grades 6 through 12 have the highest percentage of parents using the family portal.

Percentage of Student's Parents Using Family Portal
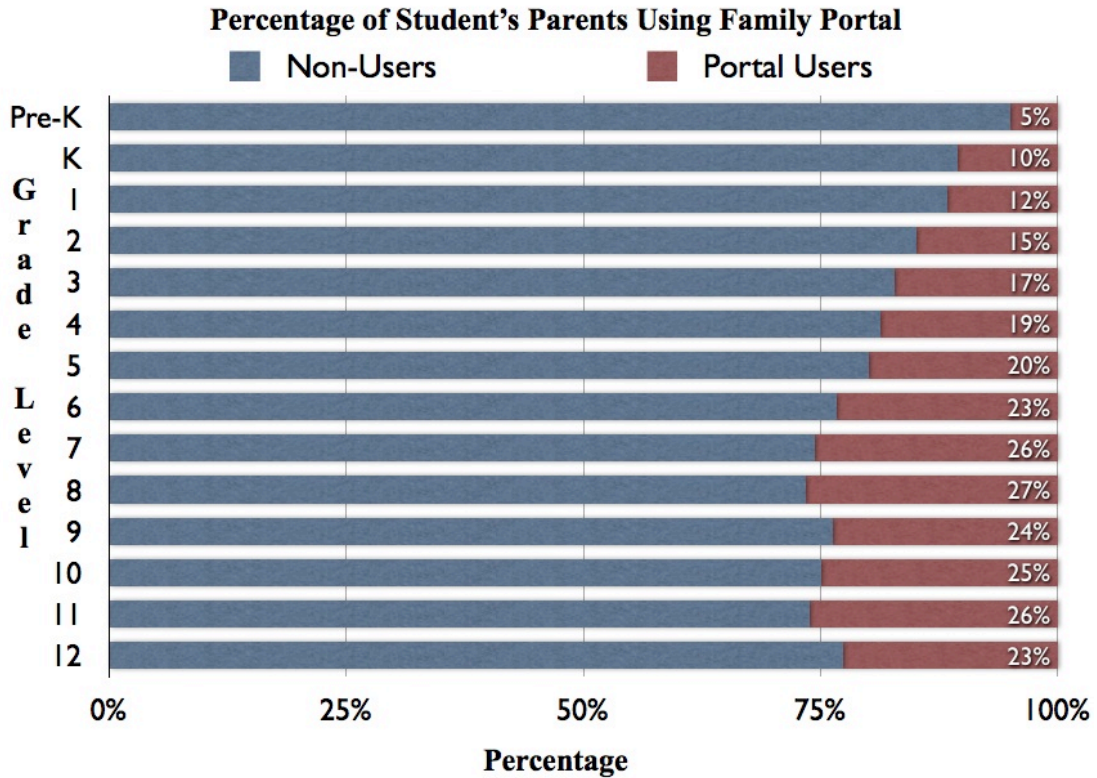
Figure 23. Percentage of parents using family portal by students' grade level

Research Question 3

Research Questions	Survey Questions (a) parent user survey questions non-user survey questions
3. How frequently do parent users log onto the SchoolMAX family portal?	SchoolMAX Usage Data

Figure 24. Crosswalk for Research Question 3

The findings related to Research Question 3 came from SchoolMAX usage data gathered between January 1, 2015 and June 30, 2015. During this timeframe, 16,984 parents used the family portal to view information about their children. Table 12 presents

a breakdown of parent users by student grade level, number of logins over a six-month period, and the number of students monitored by the portal users.

Table 13 presents a breakdown of portal users by school level, as well as the number of students that parents monitored through the family portal and the number of parent logins over a six-month period (January 1, 2015 – June 30, 2015). The table also shares the percentage of students monitored through the family portal by school level.

Table 13

SchoolMAX Yearly Usage Totals by Elementary, Middle and High School

Grade level	SY2015 enrollment	Family accounts	Students monitored	Number of logins	Percentage of students
Elementary (Pre-k – 5th)	65,494	7403	9,375	144,027	14%
Middle (6th – 8th)	27,030	6312	6,800	157,268	25%
High (9th – 12th)	35,171	7645	8,516	257,511	24%
All Grade Levels	127,858	16,984	24,691	558,806	19%

Usage data from SchoolMAX showed that parents used the SchoolMAX family portal to monitor approximately 14% of elementary students, 25% of middle school students, and 24% of high school students. Data also indicated that parents used the portal to monitor approximately 19% of the students in the district. Figure 25 displays the average parent usage of the SchoolMAX family portals over a six-month period from January 1, 2015 to June 30, 2015.
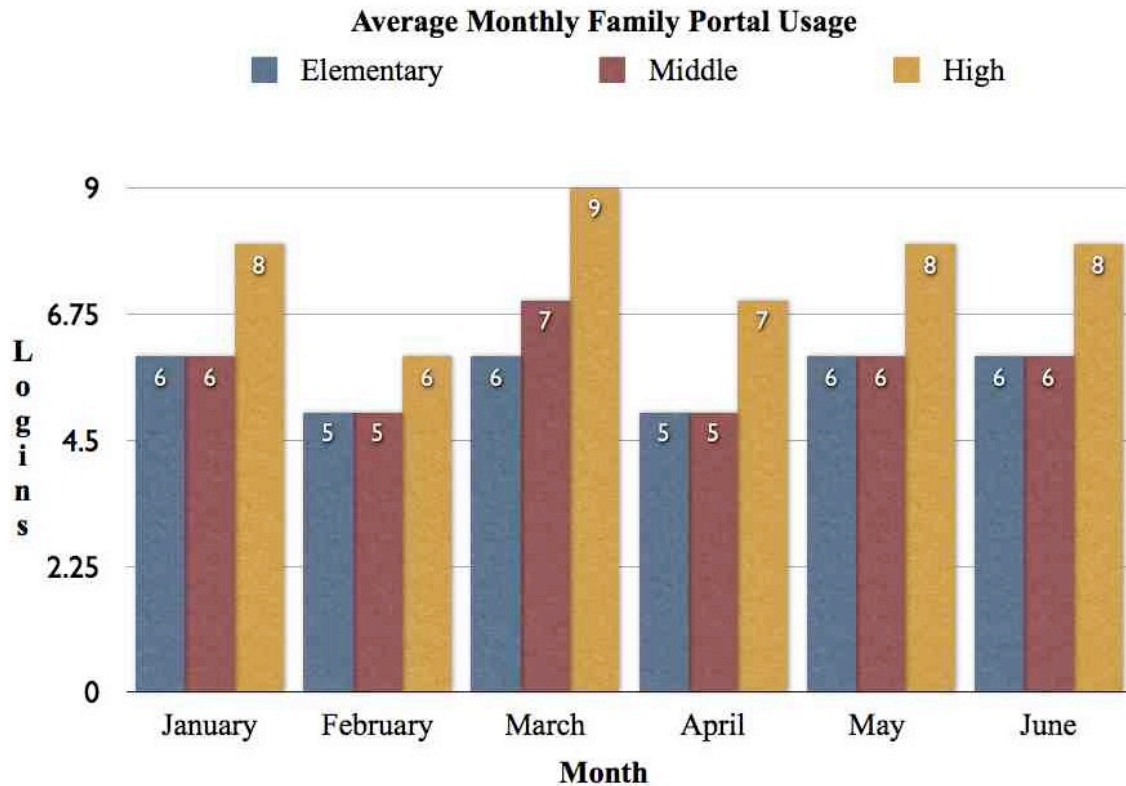
Figure 25. Average monthly family portal usage

Figure 26 shows the number of times parent users have logged into the SchoolMAX family portal over a six-month period from January 1, 2015 to June 30, 2015. It is important to note that some parents only logged into the system once or twice during this period, while a larger percentage of parents logged into the system 24 or more times. Additionally, SchoolMAX family portal usage data indicated that high school parents tended to login more frequently than middle school and elementary school parents (see Table 14).

Parent Portal Login Trends % (January 2015 - June 2015)
Number of Logins over 6 months
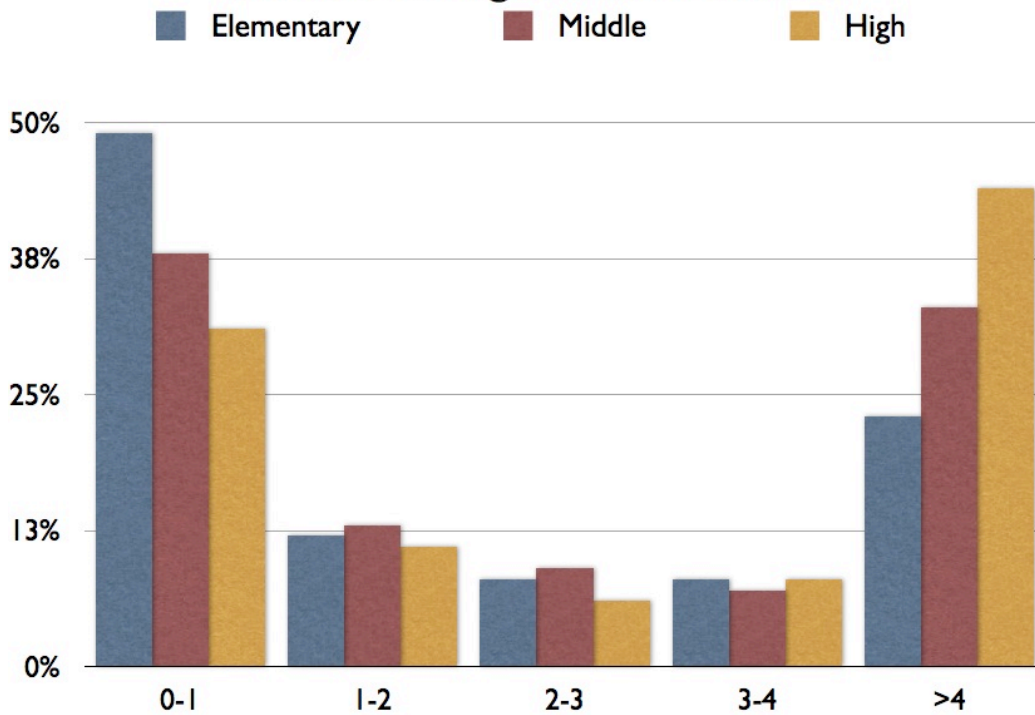
Figure 26. Six-month login usage.

Table 14

SchoolMAX Family Portal Login Frequency (Number of logins over 6 months)

Grade level	0-1	1-2	2-3	3-4	>4
Elementary (Pre-k – 5th)	49%	12%	8%	8%	23%
Middle (6th – 8th)	38%	13%	9%	7%	33%
High (9th – 12th)	31%	11%	6%	8%	44%

Research Question 4

Research Questions	Survey Questions (b) parent user survey questions non-user survey questions
4. Do parents who use the SchoolMAX family portal report increased communication with their children regarding academics?	Q4(a). Since I have been using the SchoolMAX family portal, my communication has improved with my children about academic matters. Q5(a). I think the SchoolMAX family portal is _____ . Q7(a). And Q5(b) I speak to my children ____ about academics.

Figure 27. Crosswalk for Research Question 4.

The findings related to Research Question 4 came from parent responses to Questions 4, 5, and 7 of the parent user survey. Question 4 stated, "Since I have been using the SchoolMAX family portal, my communication has improved with my children about academic matters: a) Yes, all children, b) Yes, some children, c) No, no change". The researcher left the term, "academic matters" up to the respondents' interpretation. Table 15 provides a summary of parents' responses to Question 4.

Table 15

Parent User Survey Question 4 Data

Communication has improved	English speaking	Spanish speaking
Yes, all children	1,328	33
Yes, some children	281	2
No, no change	689	11

Note: The column labeled "Spanish speaking" represents the 983 families who registered for the family portal that indicated that Spanish is the primary language spoken in their home. It does not necessarily represent all Spanish speaking families that took the survey.

According to the data, 58% of the parents stated that communication with their children about academic matters improved after using the SchoolMAX family portal, 12% stated that communication improved for some of their children, and 30% stated that

communication with did not change (see Figure 28). Approximately 70% of the parents

reported that their communication about academic matters improved with all or at least

some of their children after using the SchoolMAX family portal.

**Question 4: Since I have been using the SchoolMAX family portal, my
communication has improved with my children about academic matters.**
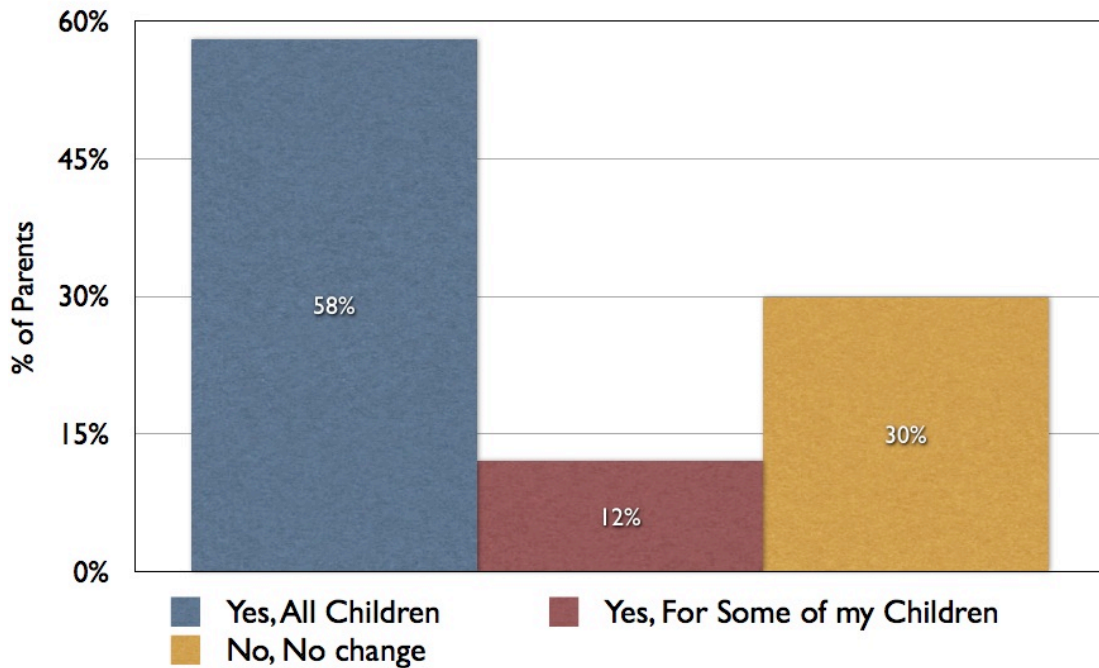
Figure 28. Results from Question 4 of the parent user survey.

Question 5 of the parent user survey stated, "I think the SchoolMAX family portal

is an a) effective tool, b) somewhat effective tool, c) ineffective tool." Table 16 provides

a summary of participants' responses to Question 5.

The responses to Question 5 showed that 50% of the parents believed that the

SchoolMAX family portal was an effective tool, 40% of the parents stated that the

SchoolMAX family portal was a somewhat effective tool, and 10% of the parents stated

that the SchoolMAX family portal was not an effective tool (see Figure 29).

Approximately 90% of the parents stated that the SchoolMAX family portal is an

effective or somewhat effective tool.

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Table 16

Parent User Survey Question 5 Data

| Type of communication tool	English speaking	Spanish speaking
Effective tool	1,148	32
Somewhat effective tool	934	12
Ineffective tool	231	2

Note: The column labeled "Spanish speaking" represents the 983 families who registered for the family portal that indicated that Spanish is the primary language spoken in their home. It does not necessarily represent all Spanish speaking families that took the survey.

Question 5: I think the SchoolMAX family portal is: _____
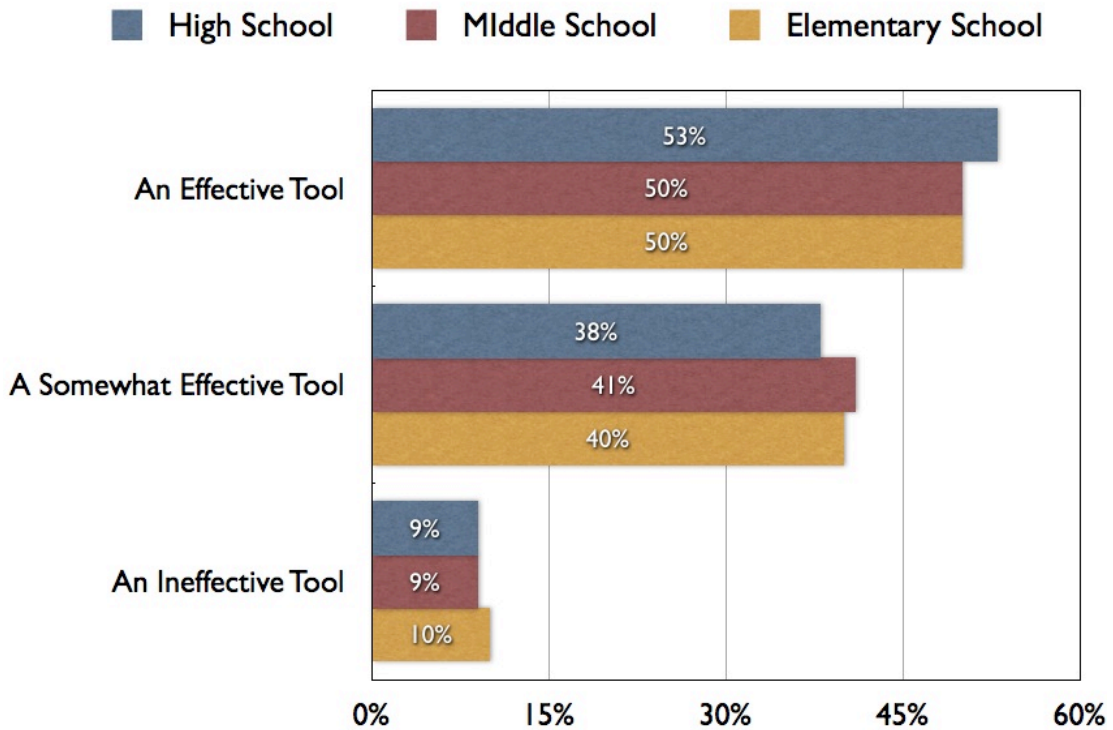
Figure 29. Results from Question 5 of the parent user survey.

Question 7 of the parent user survey stated, "I talk to my children ___ about academics a) daily, b) 2-3 times a week, c) once a week, d) 2-3 times a month, e) once a

month, f) less than once a month, g) never." Table 17 provides a summary of parent

responses to this query.

Table 17

Parent User Survey Question 7 Data

"I Talk to my children"	English speaking	Spanish speaking
Daily	1,718	34
2-3 times a week	444	11
Once a week	112	1
2-3 times a month	51	1
Once a month	15	0
Less than once a month	5	0
Never	6	1

Note: The column labeled "Spanish speaking" represents the 983 families who registered for the family portal that indicated that Spanish is the primary language spoken in their home. It does not necessarily represent all Spanish speaking families that took the survey.

The responses to Question 7 of the parent user survey indicated that 73% of the

parents spoke to their children daily about academics. Data also showed that 19% of the

parents spoke to their children two to three times per week, 5% of the parents spoke to

their children once per week, 2% of the parents spoke to their children two to three times

per month, and about 1% of the parents spoke to their children less than once per month

about academics (see Figure 30).

Question 7: I talk to my children _____ about academics.
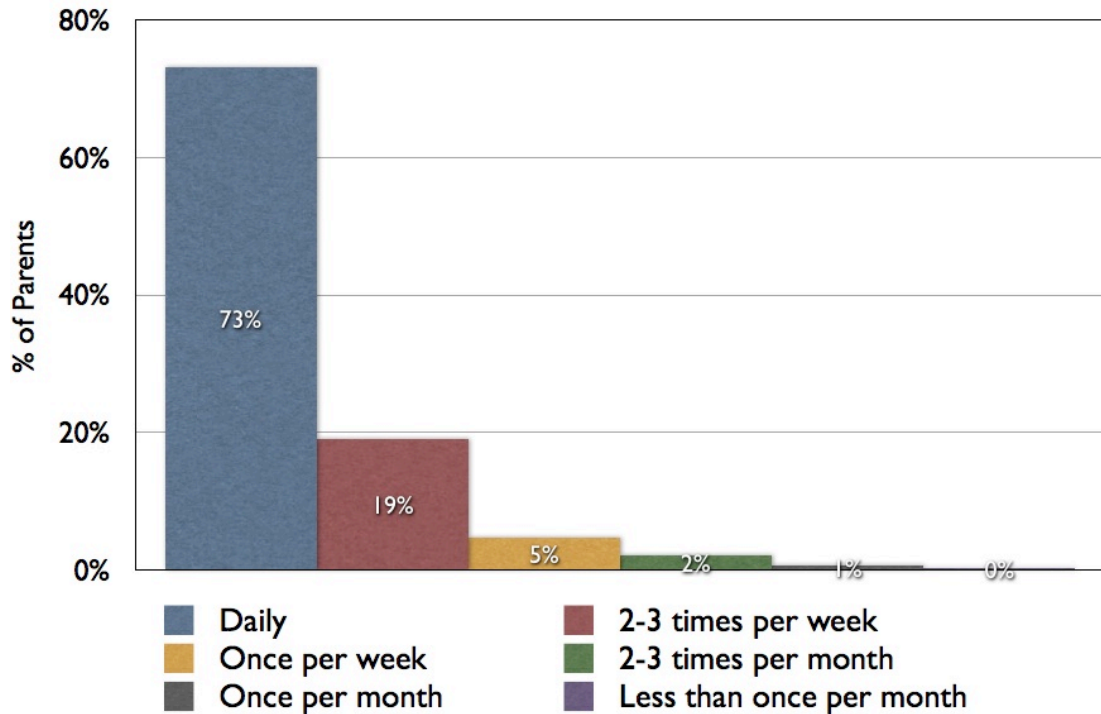
Figure 30. Results from Question 7 of the parent user survey

Approximately 70% of parents indicated that their communication improved with at least one of their children after they began using the SchoolMAX family portal. In addition, half of all parents surveyed responded that the SchoolMAX family portal was an effective tool, and 40% of the parents stated the SchoolMAX family portal was a somewhat effective tool. Ninety-five percent of parents also indicated that they spoke to their children at least once per week about academics.

A majority of the parents surveyed stated that communication with their children about academics improve since they started using the family portal. This result shows the potential that a family portal can have to improve parent-child communication. Family portals can also provide parents with near real-time academic information, and improve communication with their children about academics.

Research Question 5

Research Questions	Survey Questions (a) parent user survey questions non-user survey questions
5. What, if any, barriers to using the SchoolMAX family portal do parents report?	Q2(b). Are you aware the school district provides the SchoolMAX family portal for all students and parents? Q3(b). Is there something that prevents you from using the SchoolMAX family portal?

Figure 31. Crosswalk for Research Question 5

Unfortunately, only 5 of the 691 (.72%) non-user parents who received an invitation actually participated in the survey. Due to the poor response rate, the researcher chose not to include the data from the five respondents in the study. This survey went out in May 2015 to a select group of parents that had never used the SchoolMAX family portal. Response rates for mail surveys have declined since the 1950s, possibly due to the saturation of the market. In addition, individuals have little free time, so they choose to use it doing other things (Baruch, 1999). However, understanding why parents are not using the family portal is important to school districts and SIS vendors and further studies should be considered to gain this knowledge.

Research Question 5 asked, "What barriers to using the SchoolMAX family portal do parents report?" Due to the poor response rate on the parent non-user survey, this question may be a good query to explore in future studies.

Connections to the Literature

The results of this study support some of the findings in the existing literature. For example, like Shayne (2008) and Starkie (2013), research data from the present study revealed that parents most frequently utilized the family portal to (a) monitor missing

assignments and (b) view their children's daily grades. In District A, parents most frequently used the Daily Grades and Report Cards pages. Also like Shayne and Starkie, data indicated that use of the family portal tended to keep parents involved as their children moved up in grade level, as the responses showed that parents in District A utilized the portal more when they had children in the secondary school (grades 6-12). Starkie found that parents believed their use of the family portal enhanced their conversations with their children about academics. Data from the present study yielded similar results, as 70% of the parents stated that the family portal helped to improve their academic-related communications with their students. Lastly, in District A, 90% of the parents felt the family portal was an effective or somewhat effective tool. This finding confirmed a similar conclusion in Starkie's study.

Limitations of the Study

This inquiry included two populations of parents that were invited to respond to a survey about District A's SchoolMAX family portal. The first population of this study consisted of 19,108 parents that had registered for District A's mobile family portal. The response rate for the parent user survey was 13% (approximately 2,515). The second population of parents represented a purposeful sample of non-users from one elementary school, one middle school, and one high school in whose demographic profiles approximated that of the school district. The researcher randomly selected close to 40% of the non-users for a sample set of 691 parents. Unfortunately, there was a very poor response rate to the non-user survey that prevented the researcher from answering Research Question 4, "What barriers to using the SchoolMAX family portal do parents report?" Given the low response rates, the results of this study may not be generalizable

to other families in the district and certainly not beyond a population similar to the selected sample.

The survey instrument served as another limitation of the study. The surveys included no open-ended questions, so parents had to choose from one of the pre-determined answers. This format likely contributed to obtaining responses, but did limit the amount of information that the researcher could collect about ways to enhance the portal. Some parents did email the researcher to provide additional information regarding the SchoolMAX family portal beyond the questions of the survey. The parent non-user survey was a paper survey that was mailed to randomly selected parents from three schools. It was not possible to identify non-users in any way that would allow the researcher to distribute the survey electronically. Additionally, there was no way to ensure that the mailing addresses were valid, nor whether individuals in the target households even opened the envelope. The researcher received only five responses from this

Recommendations

There are several recommendations for District A to consider as they continue their efforts to improve the usage and usefulness of the SchoolMAX family portal. The first recommendation is to design a study that would allow the district to obtain feedback from the non-users of the SchoolMAX family portal. The lack of response in this study indicates that it may be helpful to look into different ways to collect information from non-users of the family portal. Focus groups or interviews conducted with parents would be a better way to obtain information, particularly if these groups could include convenience samples selected during scheduled school events.

Another recommendation involves the analysis of parent usage data to determine the patterns of use. The inquiry could focus on examining why so many parents only log into the portal once or twice during the school year (e.g., 61% of the elementary school family portal users, 51% of the middle school family portal users, and 42% of the high school family portal users). District A could contact the parents that have stopped using the system or only use the system once or twice annually to determine the reasoning behind this pattern of use and develop strategies for improving regular usage.

As noted earlier, while the survey of users did not specifically solicit this type of feedback, 64 parents sent emails to the researcher sharing additional information about their experiences and thoughts about the family portal. Some of the feedback included: concern about an unfriendly user interface, difficulty logging in, lack of support or assistance in using the portal, teachers not entering grades in a timely manner, and a request for a phone app (which has been available for the past 2 years). District A should contact these individuals to gain further information to help them improve patent's experience with the family portal.

This researcher also recommends that district leaders survey district employees who use the SIS: teachers, registrars, counselors, schedulers, and other staff and administrators. This survey should focus on their perceptions of the family portal and could capture important information about how to make the system more user-friendly and responsive to parents, students, and staff. For instance, since use appears to be greatest at the early grades and then at the secondary level, it might be important to see get the input of middle school staff about important information that they district could

add to the system that might be useful for parents or students. Providing information that parents value might increase the chances that they will use the system more often.

According to the survey responses, parent users were very interested in being able to see homework assignments and high stakes test scores in the SchoolMAX family portal. At the high school level, parents wanted to be able to see the graduation requirements, scholarship information, and SAT/ACT test dates. This information will help inform parents about the courses their children need to graduate and will help them to remain aware of test dates and scholarship information for their children's postsecondary education. SchoolMAX currently has the capability to share test scores and graduation requirements.

District leaders should also survey students to understand how they use the system and the components of the platform that they value. It would also be interesting to identify the additional features that students would like to see added to the family portal. The district could also compare indicators of student performance—such as attendance and grades—of students whose parents use the SchoolMAX family portal frequently to the students whose parents are not using the SchoolMAX family portal.

Finally, District A should invest in a campaign blitz to inform parents of the SchoolMAX family portal and share the benefits of registering and using the product. District A has spent millions of dollars implementing SchoolMAX and has an opportunity to help more families benefit from the product so that the district can get a good return on its investment.

Summary

District A has invested millions of dollars since 2005 implementing their SIS. The SIS manages all student data, registration, course scheduling, attendance, grades, progress reports, report cards, and transcripts. The SIS is the most widely used information system District A manages and while initial implementation costs were high, the district currently spends approximately $350,000 for annual maintenance of the software, at a cost of less than $1,700 per school. The results of the parent user survey indicate that 90% of the parent user sample considered the SchoolMAX family portal to be an effective or somewhat effective tool in improving school-to-home communication. In addition, 70% of parents stated that their communication with some or all of their children improved after they started using the SchoolMAX family portal. These results certainly suggest that the portal has the potential to improve important school-to-home communication that research has shown can have positive effects on attendance, grades, and parent-child communication. Therefore, to continue to enhance the value of the system, it is important that District A (a) use the feedback of parents, students and staff to improve the system and (b) inform parents about the availability of the family portal.

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Appendices

Appendix A: Parent User Survey

Informed Consent Form
Introduction

This research is being conducted by Warren Watts at the University of Maryland, College Park.

We are inviting you to participate in this research project because you are a parent/guardian of a child in Prince George's County Public Schools. You must also be at least 18 years of age.

Procedures

You are being asked to take a shory survey that will take less than 5 minutes to complete.

The survey will ask several questions related to how you use or if you do not use the SchoolMAX family portal. The survey will also ask whether you have children in elementary, middle, or high school, how you communicate with your children about school, and if there are additional features you would like to see in the SchoolMAX family portal.

Risks/Discomforts

There are no known risks to you if you chose to participate.

Your responses to the online survey will be anonymous.

Benefits

There are no direct benefits to you from participating in this survey.

However, the findings of this research will be important to Prince George's County Public Schools as they will be used to improve the SchoolMAX family portal and make it more family friendly.

Confidentiality

Your responses to the questions will be combined with those of other parents and at no time will any of your individual information or responses be disclosed.

All of the responses will be stored in a HIPPA-compliant, Qualtrics secure database that only Mr. Watts will be able to access until the data has been deleted.

Right to Withdraw and Questions

Your participation in this research is completely voluntary. You have the right to refuse to participate.

If you have questions regarding the study, you may contact Warren Watts at watts1@umd.edu.

If you have any questions you do not feel comfortable asking the researcher, you may contact Dr. Margaret McLaughlin at mjm@umd.edu.

I have read, understood, and may print a copy of the above consent form and desire of my own free will to participate in this study.

○ Yes

○ No

Parent User Survey

I have children enrolled in the following grade levels:
(Check all that apply)
_____

☐ Elementary School

☐ Middle School

☐ High School

I access information in the SchoolMAX family portal for my children in the following grades:
(Check all that apply)
_____

☐ Elementary School

☐ Middle School

☐ High School

I most frequently use the following three areas in the SchoolMAX family portal?
(Select Three)
_____

☐ Attendance

☐ Daily Grades

☐ Report Cards/Progress Reports

☐ Transcript

☐ Discipline

☐ Schedule

Since I have been using the SchoolMAX family portal, my communication has improved with my children about academic matters.
_____

○ Yes - for all of my children

○ Yes - for some of my children

○ No - no change

Parent User Survey

I think the SchoolMAX family portal is:

○ an effective tool for school to home communication.

○ a somewhat effective tool for school to home communication.

○ not an effective tool for school to home communication.

I would like to see information in the SchoolMAX family portal such as:
(Please check all that apply.)

☐ Homework assignments

☐ High stakes test scores such as MSA's, HSA's, or PARCC assessments

☐ Graduation requirments

☐ Information about scholarships

☐ Information about SAT and ACT test dates

I talk to my children _____ about academics.

○ Daily

○ 2-3 Times a Week

○ Once a Week

○ 2-3 Times a Month

○ Once a Month

○ Less than Once a Month

○ Never

Appendix B: Parent User Survey (Spanish Version)

Default Question Block

Preguntas en Bloque

Consentimiento Informado

Forma de Introducción/Propósito del Estudio

Este estudio esta siendo conducido por Warren Watts en la Universidad de Maryland, College Park.

Estamos invitándole a usted a participar en esta investigación porque usted es un padre/guardián de un niño en las Escuelas Públicas del Condado de Prince George.
Usted debe tener al menos 18 años de edad.

El propósito de este estudio es entender porque los padres usan , o no usan, el portal familiar de SchoolMAX y determinar si existen barreras para uso del portal.

Procedimientos

Se le ha pedido que tome una corta encuesta que tomará menos de 5 minutos en completar.

La encuesta hará una serie de preguntas relacionadas a como usted usa o si no usa el portal familiar de SchoolMAX.
La encuesta le preguntará si tiene niños en escuela elemental, intermedia o secundaria y como se comunica usted con sus hijos acerca de la escuela.

Posibles Riesgos y Molestias

Los riesgos para usted son mínimos si escoge participar. Cuando las respuestas de la encuesta sean recibidos, las respuestas de los padres serán entradas en una base de datos que no incluirá ningún nombre de individuos o padres. Los papeles de la encuesta y las formas de consentimientos firmadas serán aseguradas en un armario con seguro.

Beneficios Potenciales

No existen beneficios directos hacia usted por participar en esta encuesta. Sin embargo, los hallazgos de esta investigación serán importantes para las Escuelas Públicas del Condado de Prince George ya que serán usados para mejorar el portar familiar de SchoolMAX y para hacerlo más familiar.

Confidencialidad

Sus respuestas a las preguntas serán combinadas con las de los otros padres y en ningún momento ninguna información o respuestas individuales serán divulgadas. Todas las respuestas se almacenarán en una base de datos segura Qualtrics, acorde a HIPPA, que sólo el Sr. Watts podrá acceder hasta que se haya eliminado los datos.

Participación

Su participación en esta investigación es completamente voluntaria. Usted tiene el derecho a negarse a participar.

Preguntas acerca de la investigación

Si tiene preguntas acerca del estudio, puede contactar a W. Wesley Watts Jr. en watts1@umd.edu.

Preguntas de sus derechos como participantes de la investigación

Si usted tiene cualquier pregunta que usted no se siente cómodo haciéndole al investigador, usted puede contactar a la Dr. Margaret McLaughlin en mjm@umd.edu.

He leído la forma de consentimiento arriba expuesta y decido libre y voluntariamente participar en este estudio.

○ Sí (por favor escribe el nombre completo)

○ No

Tengo niños matriculados en los siguientes niveles:
(Marque todos los que aplican)

☐ Escuela elemental

☐ Escuela intermedia

☐

Parent Non Survey (Spanish Version)

Escuela secundaria

Yo acceso información de mis hijos en el portal familiar de School MAX en los siguientes grados:
(Marque todos los que apliquen)

☐ Escuela elemental

☐ Escuela intermedia

☐ Escuela secundaria

Yo mayormente uso las siguientes tres áreas del portal familiar de SchoolMAX?
(Seleccione tres)

☐ Asistencia diaria

☐ Grados reportes

☐ Tarjetas/Reportes de progreso

☐ Transcripciones

☐ Disciplina

☐ Horario

Desde que uso el portal familiar de SchoolMAX mi comunicación con mis niños sobre temas académicos ha mejorado.

○ Sí – para todos mis niños

○ Sí – para algunos de mis niños

○ No – ningún cambio

Yo pienso que el portal familiar de SchoolMAX es:

○ Un método efectivo para la escuela comunicarse con los hogares.

○ Casi un método efectivo para la escuela comunicarse con los hogares.

○ No es un método efectivo para la escuela para comunicarse con los hogares.

Me gustaría ver información en el portal familiar de SchoolMAX como la siguiente:
(Favor marcar toda la que aplique.)

☐ Asignaciones para hacer en el hogar

☐ Resultados de exámenes como MSA, HSA, o PARCC

☐ Requisitos de graduación

☐ Información sobre becas

☐ Información sobre las fechas de los exámenes de SAT y ACT

Le hablo a mis hijos sobre sus estudios _____ .

○ Diario

○ 2-3 veces a la semana

○ una vez a la semana

○

Parent User Survey (Spanish Version)

2-3 veces al mes

○ una vez al mes

○ menos de una vez al mes

○ nunca

Appendix C: Parent Non-User Survey

Informed Consent Form
Introduction

This research is being conducted by Warren Watts at the University of Maryland, College Park.

We are inviting you to participate in this research project because you are a parent/guardian of a child in Prince George's County Public Schools. You must also be at least 18 years of age.

Procedures

You are being asked to take a shory survey that will take less than 5 minutes to complete.

The survey will ask several questions related to how you use or if you do not use the SchoolMAX family portal. The survey will also ask whether you have children in elementary, middle, or high school, how you communicate with your children about school, and if there are additional features you would like to see in the SchoolMAX family portal.

Risks/Discomforts

There are no known risks to you if you chose to participate.

Your responses to the online survey will be anonymous.

Benefits

There are no direct benefits to you from participating in this survey.

However, the findings of this research will be important to Prince George's County Public Schools as they will be used to improve the SchoolMAX family portal and make it more family friendly.

Confidentiality

Your responses to the questions will be combined with those of other parents and at no time will any of your individual information or responses be disclosed.

All of the responses will be stored in a HIPPA-compliant, Qualtrics secure database that only Mr. Watts will be able to access until the data has been deleted.

Right to Withdraw and Questions

Your participation in this research is completely voluntary. You have the right to refuse to participate.

If you have questions regarding the study, you may contact Warren Watts at watts1@umd.edu.

If you have any questions you do not feel comfortable asking the researcher, you may contact Dr. Margaret McLaughlin at mjm@umd.edu.

I have read, understood, and may print a copy of the above consent form and desire of my own free will to participate in

this study.

○ Yes

○ No

Parent Non-User Survey

I use the SchoolMAX family portal?

☐ Yes - I have my own account.

☐ Yes - I use my child's username and password.

☐ No - I do not use the SchoolMAX family portal.

I am aware that the school district provides the SchoolMAX family portal to all parents and students?

☐ Yes

☐ No

Is there something that prevents you from using the SchoolMAX family portal?

○ No - I just do not use it. I monitor my child's progress in another manner.

○ No Internet/Computer access.

○ No smartphone

○ I had trouble setting up my account

I have children enrolled in the following grade levels:
(Check all that apply)

☐ Elementary School

☐ Middle School

☐ High School

I talk to my children _____ about academics.

○ Daily

○ 2-3 Times a Week

○ Once a Week

○ 2-3 Times a Month

○
Once a Month

○ Less than Once a Month

○ Never

Appendix D: Parent Non-User Survey (Spanish Version)

Default Question Block

Preguntas en Bloque

Consentimiento Informado

Forma de Introducción/Propósito del Estudio

Este estudio esta siendo conducido por Warren Watts en la Universidad de Maryland, College Park.

Estamos invitándole a usted a participar en esta investigación porque usted es un padre/guardián de un niño en las Escuelas Públicas del Condado de Prince George.
Usted debe tener al menos 18 años de edad.

El propósito de este estudio es entender porque los padres usan , o no usan, el portal familiar de SchoolMAX y determinar si existen barreras para uso del portal.

Procedimientos

Se le ha pedido que tome una corta encuesta que tomará menos de 5 minutos en completar.

La encuesta hará una serie de preguntas relacionadas a como usted usa o si no usa el portal familiar de SchoolMAX.
La encuesta le preguntará si tiene niños en escuela elemental, intermedia o secundaria y como se comunica usted con sus hijos acerca de la escuela.

Posibles Riesgos y Molestias

Los riesgos para usted son mínimos si escoge participar. Cuando las respuestas de la encuesta sean recibidos, las respuestas de los padres serán entradas en una base de datos que no incluirá ningún nombre de individuos o padres. Los papeles de la encuesta y las formas de consentimientos firmadas serán aseguradas en un armario con seguro.

Beneficios Potenciales

No existen beneficios directos hacia usted por participar en esta encuesta. Sin embargo, los hallazgos de esta investigación serán importantes para las Escuelas Públicas del Condado de Prince George ya que serán usados para mejorar el portar familiar de SchoolMAX y para hacerlo más familiar.

Confidencialidad

Sus respuestas a las preguntas serán combinadas con las de los otros padres y en ningún momento ninguna información o respuestas individuales serán divulgadas. Todas las respuestas se almacenarán en una base de datos segura Qualtrics, acorde a HIPPA, que sólo el Sr. Watts podrá acceder hasta que se haya eliminado los datos.

Participación

Su participación en esta investigación es completamente voluntaria. Usted tiene el derecho a negarse a participar.

Preguntas acerca de la investigación

Si tiene preguntas acerca del estudio, puede contactar a W. Wesley Watts Jr. en watts1@umd.edu.

Preguntas de sus derechos como participantes de la investigación

Si usted tiene cualquier pregunta que usted no se siente cómodo haciéndole al investigador, usted puede contactar a la Dr. Margaret McLaughlin en mjm@umd.edu.

He leído la forma de consentimiento arriba expuesta y decido libre y voluntariamente participar en este estudio.

○ Sí

○ No

Yo uso el portal familia SchoolMax ?

☐ Sí - tengo mi propia cuenta.

☐ Sí - yo usamos nombre de usuario y la contraseña de mi hijo.

☐ No - Yo no uso el portal familia SchoolMax.

Appendix D (continued)

Parent Non-User Survey (Spanish Version)

Soy consciente de que el distrito escolar ofrece el portal de familia SchoolMax a todos los padres y estudiantes?

☐ Sí

☐ No

¿Hay algo que no le permite usar el portal de familia SchoolMax?

○ No - sólo que no lo uso . Controlo el progreso de mi hijo de otra manera.

○ No hay acceso a la computadora a Internet .

○ No teléfono inteligente.

○ Tuve problemas para configurar mi cuenta.

Tengo niños matriculados en los siguientes niveles:
(Marque todos los que aplican)

☐ Escuela elemental

☐ Escuela intermedia

☐ Escuela secundaria

Hablo con mis hijos _____ lo académico .

○ Diario

○ 2-3 veces a la semana

○ una vez a la semana

○ 2-3 veces al mes

○ una vez al mes

○ menos de una vez al mes

○ nunca

Appendix E: Email to Parent Users

FIRST EMAIL

This e-mail has been sent on behalf of Mr. Warren Watts, a PhD candidate with the University of Maryland at College Park, to protect your privacy. Neither your name, nor email address has been shared with Mr. Watts.

Dear %First Name% %Last Name%:

My name is Warren Watts, Jr., a doctoral candidate at the University of Maryland, College Park. I am writing to ask if you would be willing to participate in a study regarding the Prince George's County Public School's student information system, SchoolMAX. This study is being conducted as part of my doctoral dissertation research under the direction of Dr. Margaret J. McLaughlin, Professor at the University of Maryland. This study is being conducted through a brief 5-minute survey.

This study will be important to school districts that use family portals as the results could be used to improve family portals and make the application more family friendly.

If you are willing to participate, please click here:
https://umdsurvey.umd.edu/SE/?SID=SV_8H6bRIdbmCJMVs9

I have been approved by the University of Maryland and the Prince George's County Public Schools Institutional Review Board (IRB) to conduct this study.

Thank you for considering your participation in the study.

Sincerely,

Warren Watts
wwatts1@umd.edu

Appendix F: Reminder Email to Parent Users

REMINDER EMAIL

This e-mail has been sent on behalf of Mr. Warren Watts, a PhD candidate with the University of Maryland at College Park, to protect your privacy. Neither your name, nor email address has been shared with Mr. Watts.

Dear %First Name% %Last Name%,

I recently contacted you about participating in a short 5-minute survey about the school district's student information system, SchoolMAX. Your participation could help school districts improve its family portal and make it more family friendly.

The last day of the survey is May 18, 2015.

Please take a few minutes to complete the survey. Your answers will be kept entirely confidential. If you have already completed the survey, thank you and you can disregard this email.

Click here to take the 5-minute survey.
https://umdsurvey.umd.edu/SE/?SID=SV_8H6bRIdbmCJMVs9

Thank You,

Warren
wwatts1@umd.edu

Appendix G: Email to Parent Users (Spanish Version)

PRIMER CORREO ELECTRÓNICO

Este mensaje ha sido enviado en nombre del Sr. Warren Watts, un estudiante de doctorado con la Universidad de Maryland en College Park, para proteger su privacidad. Ni su nombre, ni dirección de correo electrónico ha sido compartida con el Sr. Watts.

Querido %First Name% %Last Name%,

Mi nombre es Warren Watts, Jr., un estudiante de doctorado en la Universidad de Maryland, College Park. Le escribo para preguntarle si estaría dispuesto a participar en un estudio sobre el sistema de información del estudiante de Escuelas Públicas del Condado de Prince George, SchoolMax. Este estudio se lleva a cabo como parte de mi investigación de tesis doctoral bajo la dirección del Dr. Margaret J. McLaughlin , profesor de la Universidad de Maryland. Este estudio se realiza a través de una breve encuesta de 5 minutos.

Este estudio será importante para los distritos escolares que utilizan los portales de la familia ya que los resultados podrían ser utilizados para mejorar los portales de la familia y hacer la aplicación más familiar.

Si desea participar, favor marcar aquí.
https://umdsurvey.umd.edu/SE/?SID=SV_8hKviNWWQOZQAsd

He sido aprobado por la Universidad de Maryland y por la Junta Revisadora Institucional del Condado de Prince George (IRB) para conducir este estudio

Gracias por considerar su participación en el estudio.

Sinceramente,

Warren Watts
wwatts1@umd.edu

Appendix H: Reminder Email to Parent Users (Spanish Version)

RECORDATORIO POR CORREO ELECTRÓNICO

Este mensaje ha sido enviado en nombre del Sr. Warren Watts, un estudiante de doctorado con la Universidad de Maryland en College Park, para proteger su privacidad. Ni su nombre, ni dirección de correo electrónico ha sido compartida con el Sr. Watts.

Querido %First Name% %Last Name%,

Le contacté recientemente para participar en una encuesta corta de 5 minutos acerca del sistema de información del distrito escolar del estudiante, "SchoolMAX." Su participación ayudará al distrito escolar a mejorar su portal de la familia y a hacerlo más familiar para usted.

El último día de la encuesta es el 18 de mayo de 2015.

Por favor tome unos minutos para completar la encuesta. Sus respuestas serán mantenidas en completa confidencialidad.

Puede completar la encuesta en línea accediendo la misma en la siguiente dirección: (https://umdsurvey.umd.edu/SE/?SID=SV_8hKviNWWQOZQAsd)

Muchas gracias,

Warren Watts

wwatts1@umd.edumailto:wwatts1@umd.edu
mailto:wwatts1@umd.edu

Appendix I: Recruitment Letter to Non-Users

<Parent First & Last Name>
<Parent Address 1>
<Parent City, State, Zip>

Dear <Parent First & Last Name>:

The accompanying letter, consent form, and survey are being sent on behalf of Mr. Warren Watts, Jr., a doctoral candidate at the University of Maryland, College Park. The proposed research for which he seeks your participation has been reviewed by the Department of Research and Evaluation and found to be consistent with the school system's Board of Education (BOE) Policy #5125.4 and Administrative Procedure #4131.34. However, the school system is not sponsoring the research nor is the school system responsible for the conduct of the research.

If you are willing to participate, please fill out the consent form and the survey and send both back in the self-addressed envelope. Unless you signify your intention to participate in the research by completing the consent form and the survey, Mr. Watts will not know who you are. Neither your name, nor address has been given to him.

If you have any questions or require additional clarification on Prince George's County Public Schools' role in the proposed research, please contact me at 301-952-6245 or by email at kolawole.sunmonu@pgcps.org. However, all questions specific to the proposed research should be directed at Mr. Warren Watts, Jr. at watt1@umd.edu.

Sincerely,

Kola K. Sunmonu, Ph.D.
Director, Department of Research & Evaluation

KKS:kks

Appendix J: Recruitment Letter from Researcher to Non-Users

April 27, 2015

Dear Parent/Guardian,

My name is Warren Watts, a doctoral candidate at the University of Maryland, College Park. I am writing to ask if you would be willing to participate in a study regarding the Prince George's County Public School's student information system, SchoolMAX. This study is being conducted through a brief 5-minute survey. This study is being conducted as part of my doctoral dissertation research under the direction of Dr. Margaret J. McLaughlin, Professor at the University of Maryland

This study will be important to school districts that use family portals as the results could be used to improve family portals and make the application more family friendly.

Included with this letter are a consent form, a 5-question survey, and a self-addressed return envelope. If you are willing to participate, please fill out the consent form and the survey and send both back in the self-addressed envelope.

If you would like to complete the consent form and the survey online, click here. https://umdsurvey.umd.edu/SE/?SID=SV_d6jephypvYTrevP

I have been approved by the University of Maryland and the Prince George's County Public Schools Institutional Review Board (IRB) to conduct this study.

Thank you for considering your participation in the study.

Sincerely,

Warren Watts
wwatts1@umd.edu

Appendix K: Recruitment Letter to Non-Users (Spanish Version)

27 de abril de 2015

<Parent First & Last Name>
<Parent Address 1>
<Parent City, State, Zip>

Querido <Parent First & Last Name>,

Le estoy escribiendo para preguntarle si le gustaría participar en un estudio del distrito escolar relacionado al sistema de información del estudiante, SchoolMAX. Este estudio se está llevando a cabo a través de una encuesta corta de 5 minutos.

El estudio será importante para el sistema escolar de las Escuelas Públicas del Condado de Prince George ya que el resultado será utilizado para mejorar el portal familiar de SchoolMAX y para hacerlo más familiar.

En esta carta se incluye una forma de consentimiento, la encuesta de 5 minutos, y un sobre pre-dirigido. Si usted desea participar, favor de llenar la forma de consentimiento y enviarla devuelta en el sobre pre-dirigido.

Si desea completar la forma de consentimiento y la encuesta en línea, puede marcar aquí. https://umdsurvey.umd.edu/SE/?SID=SV_231HjMsk878A3w9

He sido aprobado por la Universidad de Maryland y por la Junta Revisadora Institucional del Condado de Prince George (IRB) para conducir este estudio.

Gracias por considerar su participación en el estudio.

Sinceramente,

Warren Watts
wwatts1@umd.edu

Appendix L: Reminder Postcard to Non-Users

Prince George's County Public Schools
Dept. of Research & Evaluation
14201 School Lane, Room 202-C
Upper Marlboro, MD 20721

<center>
<Parent First & Last Name>
<Parent Address 1>
<Parent City, State, Zip>
</center>

This postcard is being sent on behalf of Mr. Wesley Watts, Jr. to protect your privacy

Dear <Parent First> <Last Name>,

We recently contacted you on behalf of Mr. Wesley Watts, Jr. about participating in a short 5-item survey Mr. Watts is conducting about the school district's student information system, SchoolMAX. The survey is part of Mr. Watts' doctoral dissertation research and findings from the survey may help public school districts improve their family portal and make it more family friendly.

The last day of the survey is May 22, 2015.

Please take a few minutes to complete the survey. Your answers will be kept entirely confidential.

You can take the survey online at the following web site:
https://umdsurvey.umd.edu/SE/?SID=SV_d6jephypvYTrevP

Thank You,

PGCPS Department of Research of Evaluation

Appendix M: Reminder Postcard to Non-Users (Spanish Version)

Escuelas Públicas del Condado de Prince George
 Departamento de Investigación y Evaluación
14201 School Lane, Room 202-C
Upper Marlboro, MD 20721

<Parent First & Last Name>
<Parent Address 1>
<Parent City, State, Zip>

Esta postal se envía en nombre del Sr. Wesley Watts, Jr. para proteger su privacidad.

Querido <Parent First> <Last Name>,

Hace poco que contactamos en nombre del Sr. Wesley Watts, Jr. sobre cómo participar en una breve encuesta de 5 ítems Sr. Watts está llevando a cabo sobre el sistema de información de los estudiantes del distrito escolar, SchoolMax. La encuesta es parte de la investigación y los hallazgos de la encuesta tesis doctoral Sr. Watts ' puede ayudar a los distritos escolares públicos a mejorar su portal de familia y hacen que sea más familiar.

El último día de la encuesta es 22 de mayo 2015.

Por favor tómese unos minutos para completar la encuesta . Sus respuestas serán totalmente confidenciales.

Usted puede tomar la encuesta en línea en el siguiente sitio web:
 https://umdsurvey.umd.edu/SE/?SID=SV_231HjMsk878A3w9

Gracias,

Departamento de Investigación de Evaluación PGCPS

Appendix N: Glossary

APEX Applications – a web-based application built using SQL and PL/SQL with Oracle's Application Express tool and used by the school district's development team to build web-based applications

AS/400 (Application System/400) - the first generation and original name of IBM's System i midrange business computers, which merged into the Power Systems brand

Bridge Plan for Academic Validation – a Maryland State Department of Education approved plan for students to meet graduations requirements that have failed the a specific HSA exam twice; participated in a District A extended learning/tutoring program; passed the HSA-related course; and made satisfactory progress toward graduation

Elementary Report Card System (ERCS) – a widely accepted application built on the FileMaker Pro platform that was the first effort to replicate the paper report cards used by the school system using an electronic system

HP3000 - a line of midrange computers that run the Hewlett-Packard proprietary MPE operating system and include the TurboIMAGE database, which Hewlett-Packard first released in 1972 and has constantly updated and sold since then

Mainframe - a very large and expensive computer capable of supporting hundreds, or even thousands, of users simultaneously

No Child Left Behind Act of 2001 (NCLB) - the most recent iteration of the Elementary and Secondary Education Act of 1965 (ESEA) and a major federal law authorizing the largest source of federal spending on programs to support K-12 schooling

Qualtrics – an industry-leading provider of online survey software

Request for Proposal - a solicitation, often made through a bidding process, by an agency or company interested in procurement of a commodity, service, or valuable asset, to potential suppliers to submit business proposals.

School-Based Student Information System (SBSIS) – an application built on the FileMaker Pro platform that (a) allows teachers to take attendance in the classroom with their laptops and submit their progress report and report cards grades electronically at the end of each marking period and (b) enables the school district to transition from scantron grading sheets to electronic submission of grades for secondary schools

Teacher of Record – a teacher who is responsible for a specific course/subject for a student

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