WHAT ARE REASONS THAT CAUSE PARENTS TO WITHDRAW THEIR CHILDREN FROM FULL-TIME CYBER CHARTER SCHOOLS?

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Dedication

This labor of love is dedicated to my mother, Luz Delia Quinones. Everything I am, I owe to you. You should be very, very proud...you did well!!
Acknowledgement

I would like to thank all of the people who have supported my efforts in achieving this personal milestone. I would particularly like to thank Joanne Jones Barnett who helped launch my doctoral journey. I also thank my family, friends and colleagues who have encouraged and believed in me, especially my wife Gladys, who has been very understanding and generous with her time throughout this ordeal. She did all she could to ensure that I had the time to concentrate and stay on task. I also thank my two children, Michael and Juliana. They, were also very understanding as they journeyed along with me in this endeavor, especially Juliana, with whom I was unable to play Red Rover as often as she would have liked over the past three years.

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Lastly, I am thankful to the Board of Trustees of Technology Cyber and the study participants. Without their help and assistance, this dissertation would not have been possible. Your willingness to participate in this study will always be remembered and appreciated.
ABSTRACT

WHAT ARE REASONS THAT CAUSE PARENTS TO WITHDRAW THEIR CHILDREN FROM FULL-TIME CYBER CHARTER SCHOOLS?

Jose E. Parrilla
Rand Quinn

This research study examines the contexts and situations that influence student attrition at a K-12, fulltime, comprehensive, cyber (online) charter school in the Commonwealth of Pennsylvania. As compared to their bricks and mortar counterparts, the attrition rate of students attending online K-12 schools appears to be higher. Research shows that student attrition in K-12 online schools and programs appears to be an ongoing phenomenon experienced in other states where cyber schools operate as well. In fact, the attrition phenomenon has been documented to be true even for adults that attend online courses at the college and university level. While there is scholarly research addressing the phenomenon at the university level, there's a dearth of empirical research at the K-12 level. As such, this study will provide an opportunity to carefully investigate the myriad situations and complexities involved in parent decision-making, as they decide to withdraw their children attending the cyber-school.

The research study consults scholarly literature of student persistence in online, higher education programs and adapts some of those concepts, ultimately incorporating them into a cogent conceptual framework. The analysis undertaken is conducted utilizing a case study approach, incorporating mixed methodologies. After surfacing a brief history of online education, the research study applies binomial logistic regression on variables
uncovered through data collection. It then progresses to qualitative analysis of a variety of historical school provided data and selected participant interviews.

The research provides a first-hand view of the myriad issues and concerns that combine in decision-making as students and parents involve themselves in cyber learning. It also highlights the operational demands that make K-12 cyber education a dynamic environment.
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Chapter 1:  
Purpose, Background and Context of Study

Introduction
Charter schools were created to provide diverse educational programs as an alternative to traditional public schools, in response to the shortcomings of the traditional, public, school district model (Hill & Jochim, 2009). The idea for this form of public schooling is two-fold. First, charter schools are provided autonomy to operate independently of the school district in an effort to engage in innovative teaching praxis. Second, charter schools operate to create a diversity of public school options from which parents can choose (Miron & Nelson, 2000). This is the premise underlying the school choice movement in the United States; “parental control over their children’s education, innovation resulting from increased parental demand, alternative to the traditional, inefficient and monopolistic traditional school district” (Hill & Jochim, 2009, p. 7).

Continuing and extending the reasons given for charter schools’ creation, cyber charter schools were created to afford another level of public school innovation and option for parents. The difference between a charter school and a “cyber” charter school is that a charter school brings students to a school building, just like schools in a traditional school district do, for purposes of instruction. For this reason, these types of charter schools are more commonly referred to as “bricks and mortar” charter schools. In contrast, a cyber-charter school typically provides educational instruction via the Internet to students in their own homes. In the Commonwealth of Pennsylvania, 14 cyber charter schools are currently in operation, and combined, they serve approximately 36,600 students from grades K-12.
(Pennsylvania Department of Education, 2014). The Technology Cyber Charter School\(^1\) (Tech Cyber) is one of 14 cyber\(^2\) charter schools operating in the state.

The focus of this research, Technology Cyber Charter School, was founded in the early 2000’s. Since its inception, and through the end of the 2009 school year, Tech Cyber’s student enrollment had been constantly increasing. By the end of the 2013-14 school year, Tech Cyber had approximately under 2,700 actively enrolled students. Since then, however, its student enrollment has been steadily declining. While the school collects and has an abundance of information regarding student enrollment, including data on student withdrawal, the enrollment decline has never been studied or well understood, partly because of the complexity involved in determining and analyzing the reasons students decide to withdraw from the school.

The issue of students dropping out of cyber schools also seems to be an ongoing phenomenon occurring in other states where cyber schools operate. The State of Minnesota concluded that between fiscal years 2007 through 2010, full-time students enrolled in K-12 online schools withdraw more frequently than students in general. The same report also found that even when students did not drop out of school, there were “large and steady declines in online course completion” (Office of the Legislative Auditor State of Minnesota, 2011, p. 30). A different study, conducted by the State of Colorado concluded

\(^1\) Technology Cyber Charter School, Technology Cyber, and Tech Cyber are all pseudonyms used in place of the school’s real name.

\(^2\) For purposes of this research study, the terms ‘virtual’, ‘distance’, ‘online’, and ‘cyber’ will be considered interchangeable and used synonymously.
that students attending K-12 online schools have a “much higher mobility incidence than students in traditional school” (Heiney, Lefly & Anderson, 2012, p. 54).

This phenomenon, of attrition in online enrollment, appears to extend into the higher education realm as well. Even with adult on-line learners there seems to be a high incidence of online course drop-out. Park (2007), one of several researchers who has examined online learning attrition in-depth, found that 70% of adult learners, who are sponsored by their company to complete post-secondary education via online learning, do not complete their programs or courses (Park, 2007).

While the aforementioned studies and reports recognize the K-12 online learning attrition issue, little attention has been given to theorizing this phenomenon. To date, the only theoretical model that speaks to the issue of online learner attrition is Ji-Hye Park’s (2007), yet it pertains to experiences of adult online learners. Based on her research, Park (2007) concluded that adult online learners’ attrition could be attributed to the following four factors: learner characteristics, learner skills, external factors and internal factors. Table 1 summarizes Park’s (2007) framework and distinguishes between factors inherent to the student and factors that are environmental. For example, learner characteristics and skills denote demographic characteristics and internal resources of the student. Conversely, Park (2007) describes internal factors as those germane to the online learning environment. Lastly, Park (2007) discusses external factors as those factors that are neither internal to the student nor online learning environment, yet impact the student’s ability to persist in an online environment. For example, family conditions, home environment, health and finances are items grouped and identified as external factors.
To date, however, no empirical studies or theoretical frameworks have been produced with regard to the attrition of elementary and secondary students in online education.

Table 1


Factors relevant to nontraditional student dropout in online post-secondary education.

<table>
<thead>
<tr>
<th>Factors:</th>
<th>Learner Characteristics</th>
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<td>Characteristics exhibited by student prior to online class attendance</td>
<td>Skills necessary for the learner to be successful in an online learning environment</td>
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<tr>
<td></td>
<td>Instructional preference</td>
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<td></td>
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<td></td>
<td></td>
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learning programs. Hence, Park’s (2007) framework has been used as an initial guiding framework in the construction of this research on cyber schooling for K-12 grade students.

**Research Question:**
Against the backdrop described above, this study aims to explore the factors that lead parents to withdraw their children from cyber education, and particularly the Technology Cyber Charter School. Specifically, the research question guiding this inquiry is:

*What are the reasons that cause parents to withdraw their children from a full-time cyber charter school?*

School personnel have lots of theories and anecdotal evidence as to why student withdrawal, at Tech Cyber has been increasing. Anecdotally, it appears that just like Park’s (2007) adult learner model, a combination of issues is likely what causes parents to withdraw their children from the cyber school. Based on anecdotal school experience, it might be likely that Park’s (2007) concept of internal and external factors is also at play in the K-12 segment; affecting student and parent persistence in the K-12 cyber/virtual learning environment. More specifically, home-related (external factors) and/or online school issues (internal factors), in combination with student and parent characteristics and skills conspire to make the cyber-learning format untenable for some students and their parents.

**Background of School Reform Movement in the U.S.**
The school choice movement, part of the school reform movement of the United States, is conditioned on the idea that parents know what is in the best interest of their
children (Jennings, 2012). As such, parents ought to be able to select the school their children attend, whether that school is private or public. There are many examples of what constitutes school choice: charter schools, publicly funded vouchers for private school tuition, or tax credits to pay for private school and public school choice programs such as magnet schools (Berends, Springer, Ballou, & Walberg, 2009). Proponents of school choice contend that parental choice will bring market forces to bear on K-12 education, thereby promoting educational competition and enabling the discontinuation of ineffective schools (Berends, et. al., 2009; Jennings, 2012). Opponents of school choice argue that school choice is a guise used to take scarce public dollars out of the public educational system (Berends, et. al., 2009; Jennings, 2012). Additionally, some argue that charter schools hinder school reform by “creaming,” or taking better performing students out of the local school district (Ripley, 2001). Moreover, others argue charter schools offer duplicitous and inefficient services and do not substantially improve learning for students (Raymond, 2014).

The enactment of Act 22 of 1997 launched the beginning of charter school education in the Commonwealth of Pennsylvania. At the time, charter schools, commonly referred to as bricks and mortar charter schools, were lauded as a means of providing parental choice within the public school system — an attractive alternative to tuition voucher proposals that threatened to divert millions of tax dollars to private and religious schools (PSBA, 2001). Under Act 22, a school can be “chartered” or created by a local school district. Such a configuration provides a semblance of control for traditional public education advocates. A newly chartered school is granted almost all of the rights and
privileges of a school district, but it operates independently of the district (PA Charter School Law, 1997). Because it is considered a public school, the charter school has to comply with the Commonwealth’s School Code and is typically monitored by the chartering entity (either the local chartering district, or the Pennsylvania Department of Education). As charter schools are chartered by a local district, they typically draw students from within the geographic boundaries of their district.

In 2000, Act 88 became law in Pennsylvania and allowed the creation of cyber charter schools in the state (PA Cyber Charter Law, 2002). Cyber charter schools operate under the same regulatory guidelines as bricks and mortar charter schools, yet with two notable exceptions: student instruction is delivered entirely or predominantly via the Internet, and the online delivery of instruction occurs in the students’ homes or at other locations (PSBA 2001). In addition, cyber schools in Pennsylvania are chartered either by a local school district or the Pennsylvania Department of Education. Because cyber charter schools deliver instruction via the Internet, they are not restricted to geographic boundaries like school districts and bricks-and-mortar charter schools. Cyber charter schools serve students throughout the Commonwealth of Pennsylvania irrespective of geographic school district boundary.

**Conceptual Framework**

The conceptual framework for this study makes use of an adapted version of Park’s (2007) Factors Related to Learner Dropout. As earlier mentioned, Park’s (2007) framework was conceptualized to explain why adult, post-secondary learner’s dropout of online courses. Park (2007) builds on the work of Alfred Rovai and his Composite...
Persistence Model (2003), which was based on Vincent Tinto’s (1975) Student Integration Model and John Bean and Barbara Metzner’s (1985) Student Attrition Model. Park (2007) hypothesized that adult-learners, who dropout of online courses, dropout when a combination of learner characteristics, learner skills, external factors and internal factors make continuation unsustainable.

![Figure 1: Park’s (2007) Revised Drop-out Model](image)

**Figure 1**  
**Park’s (2007) Revised Drop-out Model**  

As detailed in Figure 1, Park (2007) revises Rovai’s four factor model based on lack of definitive empirical support for some of the variables. As a result, Park places learner characteristics aside and suggests that their inclusion necessitates “relevant further investigation” (Park, 2007). Moreover, Park asserts that external factors come into play not only prior to course commencement but also during participation in the course. Lastly,
Park postulates that internal factors interact with external factors throughout the course lifetime and combine to force students to dropout. In short, Park’s revision takes into account the ebb and flow of life choices and circumstances and revises Rovai’s four factor model to make it more realistic and less linear.

Similarly, this research posits that when K-12 online students experience situations like those described of adult online learners, their online learning, too, becomes difficult. One of the many differences, between the adult online learner and the Technology Cyber Charter School (K-12) online learner, is interaction of the parent and/or learning coach.
Unlike the adult online learner, Tech Cyber (K-12) students in the online environment have to contend with how well their parent and/or learning coach is prepared to support their online learning. Therefore, in order to utilize Park’s (2007) theory in the Tech Cyber (K-12) online operating environment, consideration of parent/learning coach characteristics and skills have to be accounted for. As a result, the conceptual framework for this study will include Park’s (2007) theory, adapted to include learning coach characteristics and learning coach skills as two additional factors that influence whether Tech Cyber (K-12) students continue to attend the virtual school. Figure 2 presents a visual representation of this conceptual framework.

Rationale and Significance of the Study

In the 2009-10 academic year, Tech Cyber had over 3,500 actively enrolled students. By the end of the 2013-2014 school year, Tech Cyber’s student enrollment was down to just under 2,700 actively enrolled students—a net decline of approximately 23% of actively enrolled students in four years. Such a decline in student enrollment, represents many things, not the least of which is loss of market share. Vexing is the fact that overall statewide cyber-student population had been increasing during the same time period that Tech Cyber’s student enrollment was decreasing. Given Tech Cyber’s investment in what its managers believe is an innovative educational program, the steady student enrollment

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3 The instructional model of Technology Cyber mandates that enrolled students need to have a learning coach who is responsible to ensure the student is active and engaged while doing school assignments. In most instances the learning coach is also, the student’s parent. Occasionally, the learning coach is another adult assigned by the student’s parent to serve in that capacity. As a result, and for purposes of this study, the terms parent and learning coach are used interchangeably.
decline was hard to comprehend. As such, the significance of this study is its potential to construct an empirically-based understanding of the attrition problem at the cyber charter school. In doing so, I have used an adapted version of Park’s (2007) model which is detailed below:

1. Student Characteristics and Skills - Up to 50% of the children who go to cyber charter schools are failing in their home districts, and much effort is needed to try to get them back up to grade level (Parrish, 2013). While parents might be looking for an educational alternative for a failing child, the student’s learning gap might be too wide to overcome in a short period of time. Frustration may develop and eventually result in student withdrawal. In such a scenario, confirmation of this theory would allow the school to look at its instructional model and make adjustments to better accommodate students lagging educationally.

2. Parent Characteristics and Skills - Given that the instructional model requires a parent and/or learning coach, especially during the early grades, the instructional delivery might be more challenging for the average adult to facilitate. As such, and given the requirement of a learning coach, there might be a finite length of time that this model is viable for any given parent/learning coach and student combination. Further, it may indicate that additional, or different, parent/learning coach support might be in order to enable parents, learning coaches
and students to stay enrolled longer, thereby benefitting from the virtual instructional model and curriculum.

3. External Factors - While the curriculum and delivery mode are considered innovative, Tech Cyber is one of fourteen cyber education options in the Commonwealth of Pennsylvania. With the increasing availability of a variety of technologies, parents and students have more options than ever before (Parrish, 2013). Therefore, Tech Cyber may be indistinguishable from all the other cyber options available in the Commonwealth. Confirming or dispelling this theory enables school management to develop plans and marketing tactics to counteract such perceptions in the marketplace.

4. Internal Factors - Tech Cyber offers a technology-driven curriculum that is customizable to individual student needs. Declining enrollment might indicate that the curriculum is not as innovative and customizable as school staff might think. Conversely, continued exodus of students might be an indication that the curriculum and delivery has to be even more innovative and customizable, than it already is, to remain attractive to students and parents. Another issue might be the onboarding process utilized by the school. For example, online course layout may be more challenging, than necessary, for the average adult to navigate. Confirming such a perception allows the school to make adjustments to its online course layout, thereby
making it easier for parents to use. Moreover, student withdrawal may also indicate that structural elements of the school are creating barriers for long term student enrollment.

In the adapted model outlined above, I have embedded assertions based upon anecdotal evidence presented to me via discussions with various school staff.

Another important purpose of this study pertains to the financial stability of the cyber charter school. In order for Tech Cyber to remain financially viable, for the parents and students who might want to avail themselves of the cyber mode of education, financial stability is necessary. In Pennsylvania, the educational funding model for charter schools is contingent on student enrollment - i.e. the money follows the student. Thus, a declining enrollment base means that personnel and programming get pared down. In an uncertain financial environment, the top priority is always to ensure the school remains on solid financial ground (Roza, 2006).

All of the issues presented above may have affected and perhaps, continue to affect student enrollment at Tech Cyber. Therefore, conducting a systematic study of this issue is anticipated to help the cyber charter school leadership understand the contributing factors to its student attrition problem, which could be used to inform modifications to existing educational programming. Additionally, findings from this study may be helpful to other cyber schools in Pennsylvania and elsewhere, in better facilitating a successful charter education program.

Thus far, in the preparation of this report, no scholarly literature has been uncovered that deals directly with the low retention of students in K-12 cyber education. There are
published governmental reports that highlight the high rate of dropouts in K-12 cyber schools, but nothing that has provided empirical data for the reasons why. As such, this research study aims to provide a first-hand glimpse to the reasons behind the low retention of students at a particular cyber charter school. By answering the “what causes?” and to the extent the reasons for leaving are structural, management at Tech Cyber will be in a position to effectuate change at the school. Even if the reasons are not school related, the knowledge gathered puts the school in a better position to counsel future parents and students about the complexity of the model and the inherent difficulties. Moreover, with the study results, different programs might be created to better support and scaffold parents and students as they enter the K-12 cyber model. School districts operating virtual K-12 programs and other cyber charter schools with similar student attrition problems will potentially be able to use the information and data gathered to better inform future students and parents, or plan an inquiry to discover issues relevant to student attrition in their virtual learning environments. Ultimately, the information discovered through this study will enable Technology Cyber Charter School to better understand why students leave and devise countermeasures that will have lasting, positive impact student retention, student academic performance and the school’s financial operation.

**Research Site**

The site on which this investigation was conducted is the Technology Cyber Charter School (Tech Cyber). Tech Cyber is a type of public charter school that began operating in the early 2000’s. Initially, its charter was approved by the local school district. Since then, its charter has been transferred to the State Department of Education, as a result
of Act 88, where it has been renewed twice: once in May 2006 and again in July 2011. For the 2014 academic year, Technology Cyber had provided personalized education to just under 2,700 actively enrolled students in kindergarten through twelfth grades. The school’s enrolled students come from various ethnic, racial, and socio-economic backgrounds from across the Commonwealth. Figure 3 compares selected student demographic data to statewide totals. In comparing demographic data, it is evident that the cyber charter school’s student demographics are very similar, though not identical, to statewide student demographics. For example, just like the statewide demographic, Tech
Cyber’s student population is predominantly White. However, as a percentage of the student population, Caucasian students at Tech Cyber make up a larger percentage as compared to statewide demographic statistics. Additionally, differences exist in the school’s gender makeup, enrollment by grade and Free & Reduced Meal (measure of socio-economic status) categories when compared to statewide averages and percentages.

**Organizational Constitution of Teaching & Learning**

At the heart of Tech Cyber’s educational program is its collaboration with parents. This partnership is part of a four-pronged approach to education that includes a Learning Coach (usually the student’s parent, but as previously noted, could be another responsible adult as identified and designated by the student’s parent), a highly-qualified, PA-certified teacher(s), a family support representative, and the school’s innovative curriculum developed by K12, Inc. In an effort to ensure that the teaching staff is connecting with students and parents, the school’s academic staff is organized into small learning communities. Traditionally, public schools are organized by elementary, middle and high school grade spans. Typically, elementary schools include grades from Kindergarten through 5th. Middle school typically comprises grades 6th through 8th and high school grades 9th through 12th. Breaking with tradition, small learning communities at Tech Cyber combine smaller grade spans and include the following grade span groupings: K-2, 3-4, 5-6, 7-8, 9-10, 11-12. Students assigned to a small learning community interact with the teachers and a principal assigned to one of these six small learning communities.
Parents and students also interact with family support representatives (FSR) whose main responsibility is to develop programming intended to foster students’ social development. Other major responsibilities of the FSR are outlined below:

1. ensure accurate attendance recording,
2. provide assistance to students and their families for non-academic issues,
3. ensure the implementation of programs that help realize the school's nonacademic goals as specified in the charter.

One way FSR’s foster social development is by planning and managing educational and social outings for their assigned students. Students are assigned to FSR’s by geographic area of responsibility. FSR’s also manage most non-academic functions related to a student. As an example, if a student is having trouble with their school issued computer, they could contact the FSR for guidance on how to report such trouble to the school’s technology team. Another function of the FSR is to help the parent process paperwork when the decision has been made to withdraw the student from the school.

In Tech Cyber’s educational model, the learning coach’s (parent or other parent designated adult) responsibility is to ensure that the student, under her/his charge, is logging into the Online School (OLS), entering daily attendance, participating in online direct synchronous instruction sessions, and completing assignments as given. In combination with the learning coach, a PA State-certified teacher identifies a student’s learning objectives, creates a student's Individual Learning Plan (ILP), and ensures the implementation of the goals and objectives of a student’s ILP. The teacher also develops and directs synchronous instruction, guides asynchronous instruction, authenticates
learning using formative and summative assessment techniques, and monitors and assesses a student's academic performance and achievement.

**Student Enrollment Process**

Tech Cyber is a public, cyber charter school in the Commonwealth of Pennsylvania. It is so, by virtue of PA Act 88 of 2002 (PA Cyber Charter Law, 2002). As such, Technology Cyber Charter School is:

an independent public school established and operated under a charter from the Department of Education and in which the school uses technology in order to provide a significant portion of its curriculum and to deliver a significant portion of instruction to its students through the Internet or other electronic means (PA Cyber Charter Law, 2002).

As a virtual school, Tech Cyber meets the definition, provided by Barker, Wendel & Richmond, of a school with “a structured learning environment wherein the program is under the complete supervision of a teacher; electronic delivery to students who are at home or in a physical setting other than that of a teacher; and instruction that may be synchronous or asynchronous” (Barker, Wendel, & Richmond, 1999, p. 2). Because it is a public school, and just like other public schools in the Commonwealth, Tech Cyber offers education to citizens of the state who are of compulsory education age. Moreover, as a public agency, it cannot discriminate based on gender, religion, or political affiliation. Therefore, the educational services of the school are available to any citizen of the Commonwealth of Pennsylvania who is of compulsory school age. To avail themselves of the benefits of a cyber education at Tech Cyber, all a parent has to do is make an appointment to enroll at the school.
Parents begin the enrollment process by visiting the school’s website and completing an enrollment application. Once the enrollment application has been submitted, the school’s marketing and enrollment team review submitted applications for completeness. This entails confirming data supplied by parents in the online application, as well as follow-up with parents to ensure that required documentation is also in order. Enrollment documents required, are those prescribed by Pennsylvania Code and include proof of the child’s age, proof of immunizations required by law, proof of residency, a parent registration statement, and home language survey as prescribed by the U.S. Department of Education’s Office for Civil Rights (Enrollment of Students, 2009). After the required documents have been received, reviewed and validated by the school’s Registrar, the application’s status changes to “compliant,” and the process is moved over to the enrollment and placement team (EPT). The term ‘compliant’ is an internal term, used by school staff to indicate that an application is in conformance with the enrollment requirements of Pennsylvania Code.

The enrollment and placement team (EPT) is the unit of the school that informs parents of the school’s academic requirements, and assigns students to a course of study; this occurs after the student has been moved to compliant status. The EPT is comprised of teachers whose sole responsibility is to meet with parents to inform them of Tech Cyber’s academic program requirements and review incoming academic records. Once parents have been informed of the school’s academic requirements, an enrollment conference is scheduled. The enrollment conference, held either in person or virtually, demarks the point in time at which a compliant application is converted to an enrollment. Prior to the
enrollment conference, applications contain prospective students. After the enrollment conference, children officially become students of Tech Cyber.

At the enrollment conference, parents sign paperwork that memorializes the conversion from prospect to student. The paperwork in question includes the Charter School Enrollment Notification Form (Notif Form), Release of Records (Release), and Enrollment Acceptance Form (Acceptance). The Notif Form, prescribed by the Pennsylvania Department of Education (PDE), is provided to the newly enrolled student’s resident school district (Basic Education Circular - Enrollment, 2004). Provision of the Notif Form to the resident school district serves four purposes. First, it informs the student’s resident district that the student is an officially enrolled student of the cyber charter school. Second, it also serves as a request of academic records, from the resident district, for newly enrolled students. In essence, the Notif Form serves as student “transfer” documentation between school districts and charter schools in Pennsylvania. Third, it is the documentation that serves as the basis by which the cyber charter school begins to bill the resident school district for tuition. Lastly, it warns the parent against simultaneous enrollment, defined as enrollment in a charter school and a private or public school at the same time. Because the Notif Form is an instrument of the PDE, if the student has recently moved into the Commonwealth, the cyber charter school’s Release is the document forwarded to the child’s former out of state district requesting academic records. The Acceptance is a three-page form that succinctly encapsulates the parents’ responsibility as a learning coach in the virtual educational model.
Once the aforementioned documentation has been secured by the EPT, the enrollment conference culminates in an “approved” application. Approval denotes an internal system action, where the EPT marks the student as approved in the school’s student application system. This action begins the student creation process. Student creation is an auto-generation process of creating a student record in the school’s student information system (SIS) known as Sapphire. Once a student record has been created, the EPT team is able to assign academic courses to students.

**Post Enrollment**

After the child is officially enrolled, the parent is provided a welcome packet. The parent’s “welcome” is in the form of an email with seven (7) attachments. For elementary and middle school parents, the attachments in question contain thirty-nine (39) pages. For the parent of a high school student the attachments contain fifty-five (55) pages. While the email welcoming new parents is courteous and professional in tone, it does not guide the parent as to which attached document to read first. It notes that the attachments include a welcome letter, but does not explicitly ask the parent to read that document first. The presupposition is that the parent will notice the welcome letter and read that document first.

The attached welcome letter contains the student’s official enrollment date, the student’s official start date, and login credentials for the school’s learning management system (Blackboard). Tech Cyber has an operating policy that indicates that students start school on Mondays. This operating policy has been put into place to give parents time to exit their local school district, because students of the Commonwealth cannot be simultaneously enrolled (enrolled in two schools at once). That being the case, Tech Cyber
has distinguished between the enrollment date and the student’s start date (first day of school). For that reason, all Tech Cyber students start school on the Monday after enrollment.

The welcome letter also informs the parent about their assigned family support representative (FSR) and provides the FSR’s email address (no telephone number is included). It provides information regarding voluntary, new parent orientation and details regarding access to the online school (OLS). Lastly, the welcome letter contains information regarding principal and guidance counselor email addresses. Here again, no telephone numbers are provided.

Concurrent with the release of the welcome email, and all its attachments, the EPT is also responsible for assigning online courses for elementary and middle school students. Those courses are assigned in time for students to begin online lessons on the first day of school. The process of course assignments are a bit different for enrolled high schoolers. The responsibility for high school online course assignments lies with the school’s counselors. That’s because, high school students have to meet certain credit criteria in order to graduate. As such, school counselors are tasked with the responsibility of completing a credit check prior to course assignment. Because high school counselors are not assigned to the EPT, they do not necessarily interact with parents or students during the enrollment process. As a result, they have to wait until students have been officially enrolled to begin assigning courses. Typically, this happens on the first day of school. Just as typical, this sometimes spells a delay in academic course assignments to high school students.
As I have described above, the enrollment process at the cyber charter school is a relatively straightforward, albeit, time-consuming process. However, there are some areas for which improvement can be implemented. Suggestions will be made in the discussion and recommendations section of this study.

**Learning Platforms**

After a student application is converted to a student enrollment, parents (and students) are welcomed to the school by way of an email welcome. Included within the body of this email are several attachments with important information for navigating the virtual school environment. One of the attached documents, contained in the email welcome, is an official welcome letter. The welcome letter, in addition to serving as greeting to the virtual school, contains quite a bit of other important operational information. It also introduces parents to two of the school’s learning platforms; Blackboard and the Online School.

The Blackboard platform, officially known as Blackboard Learn, is a third party product developed by Blackboard Inc. It is a web-based, “virtual learning environment and course management system…which features course management, customizable open architecture, and scalable design that allows integration with student information systems and authentication protocols” (Blackboard Learn, 2016, p. 1). As far as Technology Cyber is concerned, Blackboard is considered the virtual schoolhouse. It is the application students log into to have their daily school attendance recorded. Logging in to Blackboard signifies that a student has entered the virtual school. It is the bricks and mortar equivalent of walking through the front door of a schoolhouse. Once logged in, students navigate to
their specific “classroom” page. The student’s classroom page is where students would find weekly work plans. It is also where teachers post lesson assignments, lesson plans and periodic course assessments. Embedded within a student’s “classroom” is a link to the Online School (OLS), one of the schools other learning platforms.

K12 Inc is the company that developed the online curriculum utilized by Technology Cyber Charter School students. It is an education company specializing in sales of online schooling curriculum (K12 Inc, 2016). Additionally, it is also considered the largest educational management organization (EMO) in the United States (K12 Inc, 2016). The OLS allows students asynchronous access to course materials and is mastery-based in design. This means that students are assessed as they progress through the online curriculum. In order to continue through learning objectives, students must score 80% or better on end of lesson assessments (K12 Inc, 2016). The parent is primarily responsible for ensuring student progress through the online school. Teachers monitor progress and facilitate or assist as needed.

A third platform, not discussed in the welcome letter is Sapphire. Developed by K12 Systems Inc. and headquartered in Allentown, PA, the Sapphire SIS is specifically designed to meet the student reporting mandates of PDE (K12 Systems, 2016). As a result, Tech Cyber utilizes three feature sets provided by Sapphire; online registration, SIS and community portal.

The online registration feature is the web-based platform, accessible through the school’s website, where interested parents apply to enroll their child in the cyber charter school. It is the online system used by the EPT to manage prospective students and convert
them to enrolled students. Once a student is officially enrolled, it is in the Sapphire system that the student record is created.

The enrolled student record resides in Sapphire’s SIS. The SIS also houses the gradebook, tracks academic credits and a myriad other activities related to student management. In order to provide data to parents, the Sapphire system also features a community portal. The community portal, which is web-based in nature, serves to keep parents informed regarding their student’s academic progress in the form of a gradebook.

Thus far, it is evident that Tech Cyber has a number of tools for provision of academic services to students. However, they are not completely integrated. As a result, and as evidenced by parent feedback (both in interviews and as a result of survey responses) parents sometimes struggle to understand which system is designed for what purpose.

**Synchronous Versus Asynchronous Education**

As Act 88 stipulates, cyber charter schools must leverage technology in an effort to deliver instruction (PA Cyber Charter Law, 2002). Specifically, the Internet is the “technology” that enables cyber schools to exist and meet the laws’ mandate. Tech Cyber is no exception to this. It uses K12 Inc’s (K12) online curriculum to meet the requirements of Act 88.

Technology Cyber uses K12’s online curriculum, because K12 was instrumental in founding the cyber charter school. Back in the early 2000’s, K12 and a group of citizens from the Commonwealth of Pennsylvania came together to create Technology Cyber. Central to the school’s function was the utilization of K12’s online curriculum.
K12’s online curriculum was developed to be facilitated by parents to students in their own homes (K12 Inc, 2016). K12 did not contemplate teacher interaction in the delivery of its online curriculum. As a result, and at its inception, instruction at Technology Cyber was conducted in a strictly asynchronous fashion. That is, parents and students logged in to the online school when convenient and followed a predetermined path provided by the online curriculum. This allowed parents and students maximum flexibility in how they completed academic learning throughout the day. Teachers served mostly as instructional “directors”, ensuring that students kept pace in the online school and provided assistance and resources to struggling parents and students as needed.

As time went on, the need arose for teachers of the school to provide more direct instructional support for parents and students. As a result, several resources were developed and teachers began to offer instructional support at scheduled and predetermined times during the day. That became known as synchronous instruction. Up until that time, the instructional model was mostly asynchronous teacher directed and parent facilitated, preserving scheduling flexibility for parents and families.

In 2012 school policy mandated synchronous instruction schoolwide. This policy was enacted in reaction to poor Pennsylvania System of School Assessments (PSSA) test results in the years leading up to 2012. This policy meant that gone were the days of maximum schedule flexibility many parents enjoyed. A schoolwide schedule was implemented where specific classes were held, at regularly scheduled times.

Early in the 2012 school year, scheduled synchronous classes were held mainly for mathematics and English language arts. As time went on, science and history classes were
also added to the synchronous class schedule. And the schedule of synchronous classes was rigidly adhered to by elementary school grades. Middle school and high school grades had a less rigid approach. However, what was clear was that there was no specific and concise school policy for which students were required to attend synchronous classes and which students could work at their own pace asynchronously. This caused confusion for parents who were used to working with their children at their own pace. More importantly, the wholesale move to a synchronous class schedule caused some unintended consequences. Because the K12 online curriculum was intended for students working independently, it could not be easily adapted for synchronous instruction. This meant that teachers had to develop curriculum specific to the classes they would teach synchronously. However, parents and students were still held to completing the K12 online curriculum. Because the online curriculum is mastery based, students in synchronous classes had to also complete online coursework, even if the material had been presented in the synchronous class. This meant parents and students would have to spend more time doing school work. It became a burden for some.
Chapter 2:
Literature Review

As stated in the introduction to this research study, there appears to be no consensus as to what causes parents and students to withdraw from K-12 online programs. Therefore, in the conceptual framing of this research, I hypothesize six broad categories for the reasons why parents and students leave online K-12 programs. These categories are based on my review of the literature regarding online learning in multiple contexts.

I begin this exposition with a brief background in distance education. First, adult distance education is explored and the discussion continues with a segue to K-12 distance education. Then, prominent adult distance education theory is examined and used as proxy for understanding distance education as it relates to students in virtual K-12 educational programs. I then turn attention to the studies’ conceptual framework and begin to structure possible reasons for the withdrawal of parents and students from an online K-12 program. Together, the learning theories examined and conceptual framework promulgated begin to frame a theoretical construct that may help explain why students fail to persist in K-12 online courses and cyber educational programs.

Brief Background of Distance Learning

Introduction of distance education is credited to the Industrial Revolution. In his opinion paper, Desmond Keegan ties distance education with industrialization of Europe and the United States. He asserts that “it was no accident that teaching at a distance began with the development of industrial technologies, especially in postal communications and transport” (Keegan, 2002, p. 10). According to Mr. Keegan, as a result of the Industrial
Revolution people began moving from rural areas into cities looking for work. Concurrently, immigrants began arriving in the U.S. This meant that adults needed to be trained and educated for the workforce. While migration to the big cities was occurring, exploration of the Western U.S. was also taking place. Here too, adults needed a way to continue their education. That demand was fulfilled, by an “educational system…based on nontraditional methods” (Morabito, 1997, p. 8). Initially, distance education was primarily an adult activity, with religious schools at the forefront of educating students at a distance (Morabito, 1997). That all changed with the advent of compulsory education in the United States. As a result, correspondence schools got into the distance education arena and began providing instruction to high school students. One of the earliest examples, of distance at the K-12 level, is that of the Calvert School in Baltimore (MD) in 1906 (Barbour M. K., 2011). In the public school arena, the School District of Benton Harbor, Michigan, began offering students enrolled in vocational courses the ability to enroll in correspondence courses in 1923 (Simonson, 1993).

Distance education continued to spread via the technology of the time – postal service. In the 1960’s as technology evolved, so did distance education, with radio and television being co-opted by educators to continue to provide distance education. By 1962 the University of South Africa became a “distance teaching university.” This ushered a worldwide change in the way distance education was applied (Schllosser & Anderson, 1994). In the 1970’s Open University began a tailored program for adults using radio and television (Morabito, 1997). As technology continued to advance, higher education continued to add to its delivery arsenal. In addition to radio and television, video cassette,
facsimile machines, telephone and tele-conferencing all became tools of the distance educational trade. The evolution of distance learning took another leap with the advent of the personal computer. Being at the forefront, by 1988, Open University “required the use of a computer and students communicated with each other with the early Internet using the CoSy conferencing system” (Open University, 2016, p. 2).

As it relates to K-12 education, Barbour informs us that the first foray, into K-12 online education began in California around 1991 (Barbour M. K., 2011). Initially, virtual K-12 schools “provided students with opportunities not offered at their brick and mortar school” (p. 3). However, explosive growth was realized, beginning in 2001, as the technology was married to charter school law (p. 3).

**Transactional distance**

As has been previously demonstrated, distance education for school age children has been around for some time. That said, most distance education was designed for adult learners. Therefore, theories attempting to explain the machination of adult distance learning have been almost as long (Giossos, Koutsouba, & Lionarakis, 2009). These theories present ways to think about how distance learning is mediated, based on particular circumstances and procedures. The set of adult distance learning theories have been organized into four distinct categories (Giossos, Koutsouba, & Lionarakis, 2009). First is the theory of independence and autonomy. This theory proposes that the learner is independent of the learning institution and learning is the result of the student action. As a result, the learner takes responsibility for his learning and progresses at an autonomous pace (Schllosser & Anderson, 1994). Second is industrialization of teaching. This theory
posits that distance education was borne out of the industrial revolution and could not exist before the industrial era because many of the industrial capabilities (postal service, machinery, packaging, etc.) gave rise to distance education (Schllosser & Anderson, 1994).

Third, interaction and communication. Because the “core of teaching is interaction between the teaching and learning parties, a simulated interaction through pre-produced courses” can effect the same result (Schllosser & Anderson, 1994, p. 11). Fourth, distance learning mediated through communication theory and philosophy of education (Giossos, Koutsouba, & Lionarakis, 2009).

Of these theories, Michael G. Moore’s theory of Transactional Distance lays the groundwork and is a seminal theory of adult distance learning. Moore borrows the idea of “transaction” from noted education philosopher John Dewey. In short, Moore defines the interaction between teacher and learner and the result of geographic distance, as “transactional distance” and theorizes that the distance creates psychological and communication space (Kang & Gyorke, 2008; Giossos, Koutsouba, & Lionarakis, 2009). Moore’s “transaction” contains three features. Dialogue between teacher and student, structural flexibility of the program of study and learner autonomy over learning procedures (Giossos, Koutsouba, & Lionarakis, 2009). Giossos, et al. (2009), discuss transactional distance as having a linear relationship with dialogue. Increases in course structure (lack of learner flexibility) lead to a decrease dialogue (quality and nature), which ultimately increases transactional distance (Giossos, Koutsouba, & Lionarakis, 2009). Decreases in course structure, lead to more learner autonomy and increases transactional distance (more psychological and communication space between teacher and student, i.e.
less relationship). Moore & Kearsley (2005) posit that learner development occurs as the transactional distance is bridged via “distinctive procedures in instructional design and facilitation of interaction” (Moore & Kearsley, 2005, p. 223).

The “transaction” in Moore’s Transactional Distance theory was borrowed from noted American philosopher John Dewey (Kang & Gyorke, 2008; Giossos, Koutsouba, & Lionarakis, 2009). John Dewey believed that experience is the result of interaction of an individual with his environment (Kang & Gyorke, 2008). In other words, experience cannot exist outside of the interaction between person and environment. Interaction, is defined as simple mechanism of action and reaction, cause and effect. From his point of view, learning was experiential but occurred at a level deeper than simple interaction. Transaction, however, expressed the deeper process through which knowledge was acquired (Giossos, Koutsouba, & Lionarakis, 2009).

Similar processes occur in K-12 online learning, at Technology Cyber. One notable variable is the age of the student. The younger the student, the more reliant he is on adult support. As such, both the learning interaction and transactions are mediated through the student’s learning coach. As the child matures, and his autonomy increases, Moore’s theory becomes more directly applicable to the student as the learning experience transitions from parent mediated to student experienced.

**Zone of proximal development**

Thus far, the theory of transactional distance lays a foundation for adult distance education. However, research has uncovered differences between how adults learn as compared to children (Barbour & Reeves, 2009). Barbour & Reeves cite Vygotsky’s
theory of zone of proximal development which says that learning for children is a social process within a zone, defined as “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Barbour & Reeves, 2009, p. 411). As a result, and based on Vygotsky’s theory, children are not autonomous learners and need the guidance and steady hand of teaching professionals to guide their learning activities and interactions (Barbour & Reeves, 2009). Eventually, children mature as students and may develop into autonomous learning adults. In the interim adult guidance and supervision in necessary. As it relates to cyber education, at Technology Cyber, the student receives guidance from his learning coach during asynchronous instruction, with the teacher facilitating instruction, as necessary, synchronously. In addition, the social process described by Vygotsky is encapsulated in interaction between student and learning coach, in the asynchronous modality, and between student, Technology Cyber teacher and, via webcam, other students in the synchronous modality.

Because distance education, for children and adults, appears to have evolved along similar tracks, adult online learning theories have been consulted in an attempt to explicate possible theories of online learning at the K-12 level. The next section begins explanation of the study’s conceptual framework.

**Learner Characteristics and Skills**

Learner characteristics and skills are those characteristics and skills displayed by the student prior to participation in an online course (Rovai, 2002). Included are many
qualities inherent in the student. For example, the student’s learning style and instructional preference would be considered components of learner characteristics. A mismatch between the students’ learning style and instructional preference may lead to lack of proper fit between online learning model and student. Concurrent with these categories, student computer skills or lack thereof may also contribute to difficulties in an online learning environment.

The learning style and instructional preference of the student are composed of various dimensions. Learning styles are the preferences by a learner in processing and synthesizing information, while the instructional preference model speaks to stimulus need and tenacity of learning by students (Maushak, Chen, Martin, Shaw, & Unfred, 2000). Maushak et al. (2000) state that virtual education seems to be better suited to independent students and found that students with independent learning styles self-selected distance education, while students with dependent learning styles would usually self-select face-to-face instruction. Students with independent learning styles self-select distance education because virtual education courses allow students the ability to “self-pace through course materials” and also offer access and availability anytime and virtually anywhere (Oliver, Osborne, & Kleiman, 2009, p. 41). Teachers of virtual education support this premise and indicate that the self-paced nature of virtual education “allows students to be more responsible and more independent about their learning” (Oliver et al., 2009, p. 41).

Research also suggests that there are particular types of students that are most likely to succeed in virtual education environments (Reid, Aqui, & Putney, 2009). Researchers Karen M. Reid, Yvette Aqui and LeAnn Putney conducted a qualitative study to examine
program implementation of a virtual high school (VHS) established by the fifth largest school district in the United States: Clark County School District, NV. They conducted a series of seven interviews with various members of the VHS. Among other things, Reid, Aqui and Putney concluded that the type of students best suited for the virtual education model are self-directed and independent learners, who are highly motivated and are strong with regard to time management (Reid et al., 2009). Additionally, these students are unafraid to ask questions, they have strong support at home, and they are “not dependent upon face-to-face interaction” (Reid et al., 2009, p. 292).

Students who participate in cyber-education need to be proficient with technology tools as well. This is true of parents and learning coaches of Technology Cyber, too. Students involved in online courses need experience with Internet navigation, communication and messaging and other technology applications and tools to be productive (Reid et al., 2009). A survey, conducted of online students at a midsize regional commuter college campus in the Midwestern United States, indicated that possessing the aforementioned skills is of utmost importance for success (Osika & Sharp, 2003). Additionally, as Lee & Figueroa (2012) assert, lack of experience in an online environment may cause students to feel overwhelmed and learning can be delayed as a result. Because Technology Cyber’s instructional model relies heavily on the student’s ability with the computer and Internet, limited computer and technology skills certainly affects a student’s ability to be academically successful.

A different study using narrative analysis to investigate students’ experiences in a virtual K-12 model found that students enjoyed the virtual learning experience, particularly
synchronous learning aspects, but struggled in other areas (Barbour, Siko, Sumara, & Simuel-Everage, 2012). Barbour et al.’s (2012) study is consistent with conclusions found by Reid et al. (2009), as his narrative study paints a picture of students that struggled mightily with online learning. They indicate that students in the study “were disappointed with the perceived increase in workload and numerous technical difficulties” (Barbour et al., 2012, p. 3). While not confirmed, the researchers hypothesized that student struggles stemmed from lack of academic fit. In addition, the researchers also concluded that lack of proper educational and technology support, coupled with poor design of course content, prove to make learning in a virtual environment difficult. Lastly, distance learning may be difficult for young children as a result of Moore’s Transactional Distance Theory and Vygotsky’s Zone of Proximal Development theory.

In summary, learner characteristics and skills are important factors and contribute to the success or failure of student learning in an online environment. This study attempts to uncover links between student persistence and specific learner characteristics. Doing so will enable Technology Cyber to better counsel prospective students and develop programs to better integrate new students in the online learning environment.

**Learning Coach (Parent) Characteristics and Skills**

Parent involvement is crucial in most educational endeavors students face. It is just as important in a cyber-educational model as students are more apt to benefit from an online course if parents are required to be active in the process (Lee & Figueroa, 2012). This is especially true in lower grades where students are less independent and rely heavily on parental and learning coach support.
As it relates to cyber education, parent involvement is important because it is by parental choice that students enroll in K-12 cyber education programs. As such, the literature regarding parent involvement in a child’s education is instructive in understanding how parents impact student learning and the variety of considerations parents think about as they face and make educational choices.

The role of parent is multi-faceted and all encompassing. It certainly extends to the learning and education of a child. In fact, parents are a child’s de facto first teacher. Whether it is teaching kids how to tie their shoes, riding a bicycle, or brushing their teeth, parents typically take interest in teaching their children how to navigate and live in the communities they exist and partake in. As children develop, parents typically take an active role in their learning and education by helping with homework and complying with numerous tasks directed by schools.

There exists a long line of research into student achievement and its connection to parent involvement. Some research suggests that parental involvement in education benefits children on a number of different levels (Chen & Chang, 2011; LaRocque, Kleiman, & Darling, 2011). Some of the benefits suggested are better cognitive, social and emotional development, better parent-child relationship and increased community connection (Chen & Chang, 2011). Still, other benefits, to active, ongoing, and increased parental involvement in education include, reliable class attendance, good character and attitude towards the educational process (Chen & Chang, 2011; LaRocque et al., 2011).

While the research clearly suggests that parent involvement is linked to student achievement (LaRocque et al., 2011), in some instances, there exist problems that cause
decreased and almost non-existent parental involvement, particularly for parents from diverse ethnic and low socio-economic backgrounds (LaRocque et al., 2011). Sometimes, for these parents, the issue is that they are tentative in their involvement because they are unsure about how to proceed. This is particularly true for students of African American and Hispanic descent, as well as students from low-income families (Barton, Drake, Perez, St. Louis, & George, 2004). That said, at present there are several non-traditional modes of education that also provide opportunities for increased parent involvement and interaction with their child’s education. Chen and Chang (2011) indicate that new “e-learning environments have further diversified the effect of parental involvement” (Chen & Chang, 2011, p. 160). With email, for instance, parents can communicate more effectively and quickly than by just using the telephone or making appointments to meet with teachers. With new technologies in use, parents are now able to be even more involved in their children’s education. In addition, new computer technologies allow for interaction that is more learning-oriented.

As it relates to parents, new educational technologies have a “double-edged” quality (Chen & Chang, 2011). On the one hand, and as mentioned previously, they enable unprecedented connection and access to their children’s learning environment. On the other hand, parents, just like students need to demonstrate proficiency with technology tools, particularly in the online learning environment. Technology Cyber’s unique approach to education involves heavy parent and/or learning coach involvement. Therefore, parents and/or learning coaches need experience with the same tools (i.e., Internet navigation, communication and messaging and other technology applications and
tools) students are expected to use, particularly because parents are required to assist and support students in this environment. It stands to reason that parents and/or learning coach’s experience, or lack thereof, with the technology tools in the online environment impact a student’s ability to be academically successful, especially as it relates to students of lower grade levels. Therefore, parental skill with technology, in general, and school related technological applications, specifically, may factor into how well students are able to navigate in an online learning environment.

In sum, parent involvement in their child’s education, is an important component of successful student learning. It is even more important to online learning at Technology Cyber. While parental involvement could take many forms, as it relates to cyber-learning, technology skill is critically important. Whether it is communicating with a teacher electronically, assisting a student with an online lesson/assignment, or conveying computer problems to helpdesk personnel, a learning coach’s level of comfort with technology is extremely important in the K-12 cyber model of education.

External Factors
Home and other external factors often times combine to the detriment of a cyber-learner. At Technology Cyber, it is known anecdotally, that family financial considerations impact whether some students continue with the school. Oftentimes, financial necessities dictate that both parents join the workforce. Many of these parents do not have the support of extended family or friends that would enable their children continued enrollment at the school. As a result, they end up having to put their children back into the local school district.
For other families, including minority and those of low-income, logistical barriers deter involvement in educational matters (LaRocque et al., 2011). Logistical barriers are defined as barriers outside of the educational or learning process. For example, for some families, issues of employment and health care impact the time and energy some parents have to devote to their children’s educational success (LaRocque et al., 2011). For others, lack of parental involvement stems from the fact that parents themselves lack educational experience, either because they did not complete formal schooling (Chen & Chang, 2011) or because they are unaware of how to approach the educational system (Barton et al., 2004). Still other parents view teachers as the educational experts and, as a result, are unwilling, unable or embarrassed to engage with them (LaRocque et al., 2011). In contrast, other studies have shown that increased levels of parental education and economic status are correlated with higher levels of traditional notions of “parental involvement” (Chen & Chang, 2011), and by extension student achievement.

In summation, external factors are defined as factors that influence student learning but are outside of the control of educators. This study attempts to uncover links between student persistence and external factors to the extent that links identified will assist school personnel in developing programs to better integrate new students in the online learning environment.

**Internal Factors**

Oftentimes the very technology that enables distance education acts as a logistical barrier to the education it purports to deliver. This is because there are many variables in action that have to coalesce and culminate in what the student sees, hears and experiences
at his/her end of the computer. Things like the online school, electronic courses and material, instant messaging, email, the electronic learning environment, computer processing speed, internet connection speed, and a host of other technology and online tools must work in concert to deliver instruction and ultimately student learning. Most of the technology variables enlisted to deliver online education, work in a manner that is transparent to both student and parent. However, success in online courses requires a range of technical skills that, if not present in students and parents, may hinder their ability to properly engage in the online experience.

Oliver et al. (2009) proposed three critical factors that may impact student success in online environments. In addition to having the requisite academic and technology skills, they indicated that access to appropriate technology is also critical as proper access to the necessary hardware and software enables full participation in an online learning environment. They proceeded to make suggestions for how schools could address student inequities in technology access. Research also specifies two other areas of potential conflict for students in online learning environments: feelings of disconnectedness by students (Barbour, Siko, Sumara, & Simuel-Everage, 2012) and inconsistent teaching methods employed in K-12 virtual courses (DiPietro, Ferdig, E., & Preston, 2008; Roblyer, Davis, Mills, & Marshall, 2008).

One of the problems with the virtual learning model is the lack of a learning community. Because the online environment requires students to be able to work mostly independently, “community” is difficult to create. While not impossible, creating a learning community requires careful consideration by teaching professionals. It requires
ensuring that students have the opportunity to participate in rich exchanges. Rich exchanges occur when there is collaboration and discussion around the educational topic or lesson; it requires student participation. Teachers in an online environment need to ensure that the lessons prepared for the online venue engage students so that participation in the online environment is no different to the traditional face-to-face learning experience. Such participation needs to include opportunities for online students to collaborate with peers. This would include mixing asynchronous content with synchronous meetings and support for multiple learning modalities such as text, video, and threaded discussions (Oliver et al., 2009). Roblyer (2006) stressed that good virtual education programs “emphasize hands-on, project-based assignments” (Roblyer, 2006, p. 35) that force students to interact with both teachers and students. This teacher-to-student and peer-to-peer connection makes virtual educational models feel more like traditional learning communities. It is such interaction that allows students to actively construct their own knowledge (Roblyer M., 2006). Clearly, building learning communities requires teachers, adept at putting the pieces together (Roblyer et. al., 2008). Unfortunately, there “is a relative dearth of research related to teaching and learning in virtual schools” (DiPietro et al., 2008, p. 10). Typically, what exists is an adaptation of face-to-face learning to the virtual model and not much is known about what constitutes best teaching practices in the K-12 learning arena (DiPietro et al., 2008). Just like in a traditional classroom, in the online environment the teacher serves to motivate or discourage learning and more research is needed to help the teaching community create engaging online learning environments for students.
To recap, internal factors are those factors that influence student persistence and are under the control of school personnel. As such, this research study will attempt to uncover the internal factors that lead parents to withdraw their students from Technology Cyber in an effort to create learning interventions and programs that will enable students and parents to continue enrollment at the school.
Chapter 3:
Methodology & Research Design

Case Study Research

Creswell (2007) defines case study as a research approach “in which the investigator explores a bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information (e.g., observations, interviews, audiovisual material, and document and reports), and reports a case description and case-based themes (Creswell, 2007, p. 73). Yin (2014) agrees with Creswell’s (2007) bounded system definition and adds that a case study “investigates a contemporary phenomenon in-depth and within its real world context” (Yin, 2014, p. 16). As a result, and as described by Creswell (2007) multiple sources of information need to be collected to properly report case study research. It is precisely why this research study is being conducted as a case study. To begin with, Technology Cyber Charter school represents the bounded system being investigated. The cyber charter school, encompasses the real-world context of complex social processes of recruitment, enrollment and ultimate withdrawal of students. Within these processes, many complex factors, internal and external, interact to ultimately lead a parent to decide that it is in the best interest of their student to continue education somewhere else.

Yin (2014) advises “case study research is preferred when examining contemporary events…as opposed to entirely historical events.” (Yin, 2014, p. 12). The student withdrawal phenomenon, being proposed as study subject, is a very contemporary phenomenon for the cyber school. While enrollment began to decline in 2009, to this day
students continue to leave the school and school personnel continue to struggle to understand the phenomenon. Moreover, students enroll and withdraw every day in cyber schools and online courses throughout this country and scholarship has yet to completely understand the issues underlying the phenomenon (Heiney et al., 2012; Office of the Legislative Auditor State of Minnesota, 2011).

The cyber school collects and has an abundance of information regarding student enrollment, including data on student withdrawal. As defined by Creswell (2007), the school’s multiple sources of existing data fit in well within a case study approach. Moreover, Yin (2014) elucidates, “case study’s unique strength is its ability to deal with a full variety of evidence” (Yin, 2014, p. 12). Therefore, the full variety of evidence incorporated into this research study will include: archival demographic data for withdrawn students, parent satisfaction survey data, student “not registering” survey data, staff interviews, and interviews with parents who have withdrawn students. This was done in an effort to better understand the complexity involved in determining why parents decide to withdraw their students from the cyber school.

As previously mentioned, case study will be the preferred research approach for this study. However, Stake (2003) contends that case study is not a methodological choice (Stake, 2003). As such, the methods used to conduct this case study will be mixed. Mixed methodology incorporates elements of qualitative and quantitative research (Teddllie & Tashakkori, 2003). Specifically, variables uncovered during collection of demographic data for withdrawn students were subjected to quantitative descriptive analysis and logistic regression. Qualitative research methods, on the other hand, were employed while
analyzing parent satisfaction survey data, student “not registering” survey data, staff interviews, and interviews with parents who have withdrawn students.

**Research Design**

Returning to the study’s conceptual framework, the working hypothesis for this research denotes that Park’s (2007) theory, which has been adapted to include learning coach characteristics and learning coach skills, may provide a guiding framework to understanding the cyber school’s attrition problem. In order to test this theory, data was collected at two levels. First, and because the virtual school has amassed quite a bit of archival data (student demographic data, parent satisfaction survey data, and student “not registering” survey data), analysis of this data was employed. Both descriptive and statistical analytics were used to analyze archival demographic student data. From a descriptive level, withdrawal data from 2007 through December 2014 was analyzed to gain a better understanding of the demographic characteristics (i.e. gender, race/ethnicity, special education status, free and reduced meal status, number of siblings enrolled, county of residence and reasons for enrolling) of students who withdrew during that time period. In addition, a similar analysis was conducted, using discrete school year increments that included both enrolled and withdrawn student demographic data. This was done in an effort to understand similarities and differences in the archival data between enrolled and withdrawn students. From these two analyses, a model to explicate student withdrawal was derived and subjected to logistic regression.

This first level of analysis sheds quantitative “light” on factors that may influence student withdrawal at the school. To bolster the quantitative analysis, and get a better
contextualized rationale for why students withdraw, archival survey data and research participant interview data was also incorporated into the analysis. In all, twenty research participant interviews were conducted. This included four parent interviews, conducted as part of a previous pilot-study by this researcher in April 2014, one staff interview conducted November 2015 and fifteen parent interviews conducted December 2015.

Archival Demographic Data Collection

Demographic data for students who withdrew from Technology Cyber was collected and analyzed for this research study. This data consisted of the following information; gender, race/ethnicity, special education status, free and reduced meal status, number of siblings enrolled, county of residence and reasons for enrolling, and included the time period from July 2007 through December 2014. Data for students who withdrew from 2007 through December 2014 was incorporated for two purposes. First, it provided a descriptive measure of students who have withdrawn. Secondly, it served as indicator data for reasons underlying student withdrawal. Additionally, this data could also prove to be of benefit in “generating an interpretation” of the study results down the road (Maxwell, 2013, p. 102).

As previously indicated, demographic data would be subjected to quantitative analysis; specifically, logistic regression. Because the demographic data collected previously related solely to withdrawn students, it did not prove especially useful. That is because logistic regression is a type of statistical analysis aimed at predicting a dichotomous outcome (stay or withdraw). Therefore, analysis has to be conducted for students that are enrolled and compared to students that have withdrawn. In order to
accommodate such dichotomy, demographic data was also collected for students, segregated by school year, beginning with the 2011-12 school year. This particular data set included demographic data for both students that remained enrolled as well as students that withdrew. It was separated by school year as this serves as a natural demarcation point; the goal being to compare student data characteristics in an effort to answer why students either remain enrolled or decided to withdraw (dichotomous outcome). Doing so enabled the capacity to perform logistic binary regression. The time frame (data from school years 2011 through 2015) was elected because of time constraints related to collection, analysis and recency of data.

Archival Parent Satisfaction Survey Data Collection

The cyber school also had available data from anonymous parent satisfaction surveys. These surveys, conducted bi-annually by school management, attempt to gauge the level of parent satisfaction with the overall operation of the school, including academic, technological, and teacher performance. The information in these surveys was important to this research study because they provided first hand parent perspectives about different operational areas of the cyber school. Such information was essential in corroborating results of student withdrawal analysis, which serves as an opportunity to triangulate my findings. According to Maxwell (2013), multiple methods of data collection serve just such a purpose.

Archival “Not Registering” Data Collection

One of the protocols established by school management is student registration follow-up. The school’s marketing and enrollment team, in collaboration with the school’s
information technology team, prepare a registration survey that is provided to parents several months prior to the end of the current school year. Parents are informed of the survey, via email, and directed to the survey by email link. By clicking on the email link and completing the survey, parents register their intention regarding their child’s return the following school year. Parents who inform the cyber school via this survey, that their child will not be returning the following school year, comprise the Not Registering survey list.

During February 2014, school management decided to incorporate an open-ended prompt in the registration survey for that year. The prompt, using “if, then” logic, was revealed to parents who indicted they were not registering their child for the following school year. It simply asked the parent to provide the school the reason(s) why they decided not to register their child for the next school year. Two-hundred and ninety-two parents responded. Their responses were analyzed using qualitative analytics and served as a “linkage” to parent perception (Miles, Huberman, & Saldana, 2014).

**Research Participant Interviews**

Research participant interviews were conducted in an effort to provide a contextualized answer to the research study question. Semi-structured interviews were conducted with both staff and parents of the cyber school. As such, research participant interview data was an integral part in bringing clarity to the quantitative analysis.

**Staff Interviews**

School staff was represented by the school’s Parent Ambassador (PA) program. The PA program was created to engender enhanced parental engagement. It is a parent
volunteer organization whose mission is to help new parents navigate the challenges of the online learning environment. They provide support, help and guidance in an effort to acclimate new parents to the online environment and help make the transition into Technology Cyber a smooth and beneficial experience. Because the Parent Ambassadors are one prong to the school’s “welcome wagon,” they attempt to contact as many new parent to the school as possible. In this fashion, they develop relationships with many parents, some who eventually withdraw students. Therefore, they have information and perspective that is relevant to why some parents opt to leave the school.

Currently, the school has nine Parent Ambassador volunteers, who are managed by a full-time, school employed Director of Parent Ambassadors. Because the PAs are part-time volunteers, the Director of Parent Ambassadors was deemed to have the best perspective with regard to parent and student struggles. This perspective, regarding why parents withdraw their children from the school, only served to enhance the research study. Because the parent ambassador program is managed by volunteers, the director of the program, who happens to be a school employee, was selected for interview. This in person interview, which was recorded and professionally transcribed, was held during the month of November 2015. Appendix 1 presents the interview protocol used in this portion of the research study.

*Parent Interview Data Collection*

The “interview as method” is an especially relevant and valuable way of gaining description of events that have happened in the past (Maxwell, 2013). As such, parents of withdrawn students were invited to participate in this research study.
Anecdotally, it is understood that most parents that leave the school “check out” psychologically. That is, once they have made up their mind to leave, the emotional connection to the school is severed. There is nothing tying the parent to Technology Cyber, especially since the school is a virtual school and not a physical neighborhood school. Because there is no physical connection, as in a traditional bricks and mortar setting, parents tend to disconnect rather quickly. This portended difficulty for the recruitment of large numbers of parents.

While combing archival student data, for the quantitative portion of the research, I noticed that some students had school entry dates that were more recent than withdrawal dates. In the normal course of a student’s lifespan at the school, the school entry date represents the date the student started at the school and the withdrawal date represents the date that the student was no longer enrolled. To have the dates reversed appeared odd. After consulting with the Director of Data and Systems, I was informed that when such an occurrence happens it is more than likely a situation in which a student withdrew from the cyber school and subsequently re-enrolled. A quirk of the system, the school entry date gets updated whenever a student re-enrolls with the school, but the students’ withdrawal date gets “frozen” in time until the student withdraws, again, at some point in the future. This “quirk” in recording student enrollment dates provided a unique opportunity to recruit parents with a unique perspective. They enrolled with the school for various reasons, withdrew for various reasons, and decided to re-enroll again, perhaps for altogether different reasons. These parents offered a unique perspective on the process and decision-making that goes into both scenarios (enrollment and WD). More importantly, unlike
parents that have come and gone, many of these parents still had their children enrolled during the time of this research. Unlike parents that have come and gone, never to be heard from again, these re-enrolling parents were more inclined to participate in this research study. After combing through student data, 187 parents that fit that category (reenrolling) were identified; 15 being purposefully selected to participate in this research study (Maxwell, 2013, p. 97). Because parents of the school are dispersed throughout the state, I elected to conduct the interviews via telephone. These interviews occurred during the month of December 2015 and all but one interview were recorded and professionally transcribed. One parent declined to have her interview recorded. Instead, notes of the interview, recorded by the researcher, were used for data collection purposes. These interviews varied in length and averaged approximately 25 minutes; the shortest interview lasting 12 minutes and the longest lasting 46 minutes.

In addition, four parent interviews, conducted as part of a previous pilot study, were included for data collection purposes. These four parent interviews were conducted during the month of April 2014. As with the parent interviews described above, pilot study interviews were conducted via telephone, recorded and transcribed professionally. This set of interviews also varied in length, with an average interview time of 27 minutes; the shortest interview lasting 23 minutes and the longest interview lasting 30 minutes. Because the aforementioned pilot study interviews were relevant to this research study, IRB approval was obtained to include these interviews, in the current research, as well. Appendix 2 presents the interview protocol used for all parent interviews.
Sequencing of Methods

Data collected for this research study encompasses two distinct groups of data. At one level, and early on in the process, archival student data was collected. Because the researcher is also an employee at the research site, archival student data represented data accessible as part of the researchers normally occurring practice. As such, data collection for this portion of the research study began in June 2015.

Human subject interviews, excepting pilot study interviews grandfathered into this study by IRB authorization, began after the University of Pennsylvania’s Institutional Review Board (IRB) approval was granted on December 9, 2015.

Data Analysis

Various data analysis techniques were used to examine the variety of data sources gathered for this case study research. Archival data was subjected to both quantitative and qualitative analysis. Student withdrawal data was analyzed primarily for descriptive purposes. Aggregate counts and distributions by percentage were the quantitative techniques mainly used to analyze student demographic, parent satisfaction survey and Not Registering survey data. As a second quantitative analytic step, binary regression analysis was employed in an effort to correlate several independent factors to student withdrawal. The independent factors identified were, gender, race/ethnicity, grade span, newly enrolled status, whether students had siblings enrolled in the cyber charter school.

Qualitative analytic techniques were used to examine Not Registering survey data and research participant interviews. This process began with memoing by the researcher after each interview was conducted. Memoing served to synthesize and reflect on the narratives that were collected from parent and parent ambassador interviews (Miles,
Huberman, & Saldana, 2014). These also served as reference points for additional reflection as the qualitative analysis process unfolded.

Experts in qualitative research have noted that semi-structured interviews allow researchers to have a plan in place for the interview, but they provide the flexibility needed to explore alternate topics as they arise (Miles et al., 2014). Appendix 2 presents the semi-structured interview protocol used for parent interviewing. Once participation and informed consent were confirmed, an interview was scheduled. Appendix 3 presents the informed consent disclosure utilized prior to commencing parent interviews. After each interview concluded, data from the interview were transcribed using a professional transcription service. After each interview, analytic memos were drafted as a way to record researcher observations and musings from the then concluded interview (Miles et al., 2014).

The next stage of analysis involved inductive coding, of both parent interview and Not Registering survey data, using pattern coding. Coding inductively allowed subsequent analysis to emerge progressively as data collection unfolded (Miles et al., 2014). After all coding had been completed, several matrices were employed to aid in the development of over-arching themes and to reduce the amount of data under consideration. At this stage, additional analytic memoing was produced as a way to achieve synthesis of the data. From these analytic memos, narrative descriptions began to emerge and ultimately served as the basis of findings and recommendations. As a final step, convergence of the coded data with the study’s conceptual framework was completed.
Researcher Positionality

In addition to being the researcher on this study, I am also an employee of Technology Cyber Charter school. I have been employed at the school since the early 2000’s. Initially, I was hired by the school’s curriculum company. At the time I was hired, the school’s curriculum company also provided management services to newly created cyber charter schools. Technology Cyber was one such school. In 2006, the school’s board of trustees voted to bring the school’s administrative functions in-house, and I was asked by the board of trustees to join the administrative team being formed and report to the school’s CEO.

This research study is important to me on a number of levels. First, as the senior staff member, it is important that I convey issues that may affect the school’s ability to maintain its fiscal solvency. Not being able to maintain steady levels of student enrollment is one such issue. Second, there is a lack of scholarship about the causes of student attrition in virtual K-12 education. This research study is one small step in that direction. Lastly, online education is another tool available for the education of citizens in this country. I believe all those of us who hold “caretaker” roles need to do all we can to ensure that education is available as widely as possible, in as many formats as possible.

Research Validity

Validity, as defined by Maxwell (2013), refers to the “correctness or credibility of description, conclusion, explanation or interpretation of a particular account” (Maxwell, 2013). In other words, research study validity is about the quality of conclusions derived; the steps and processes taken by the researcher to ensure that the results of a research study are objective, confirmable and dependable (Miles et al., 2014). Limitations that may
impinge on the accuracy and credibility of the research study results are known as validity threats.

Like all studies, this study contains several limitations (validity threats). First and foremost is the selection of case study research as the research method. According to Yin (2014) “as a research endeavor, the case study has been viewed as a less desirable form of inquiry” (Yin, 2014, p. 19) because, case study research has a reputation among some scholars as lacking rigor. Additionally, another concern with case study research is the inability to generalize findings (Yin, 2014).

Another limitation of this study was the number of research participant interviews. This study ultimately contains interview data from twenty parents out of a student population of just under 2,700 actively students. While the insights provided by the parents interviewed were instructive, they cannot be construed as representative of the at-large parent and student population of the school.

Another limitation was the parent satisfaction survey participation rate. Approximately, 600 to 800 parents participated in the Parent Satisfaction surveys (of an estimated, 1,890 actively enrolled families). That results in a 30% to 40% response rate; much too low to enable generalization.

Maxwell (2013) provides the researcher guidance in how to counteract threats to validity. His eight item checklist (pp. 126-129) is designed to aid in “the process of ruling out validity threats and increasing the credibility of conclusions (p. 125). However, he cautions that “not every strategy will work in a given study” (p. 125). Therefore, and following Maxwell’s (2013) guidance, the following strategies were adhered to in an effort
to ensure validity of this research study (rich data, triangulation, numbers, and comparison).

Rich data is defined as data that provides an “in-depth picture and is particularly useful for exploring how and why things have happened” (Skills You Need, 2016). Data collected for this research included archival demographic data for withdrawn students, parent satisfaction survey data, student “not registering” survey data, staff interviews, and interviews with parents who have withdrawn students. Not only was the data collected varied, it included data collected over several years, as follows:

1. Withdrawal data, including 9,249 student records, spanning seven years (2007 – 2014).
2. Results of four parent satisfaction surveys (2012 – 2015), which included participation of approximately 600 to 800 parents over the four years.
3. 214 Open ended responses derived from the student “not registering” survey.
4. 20 Research participant interviews, including 4 from a 2014 pilot study.

In addition, and as Maxwell (2013) counsels, interview data included verbatim transcripts of interviews of all but one research participant interview (p. 126). The aforementioned threats to validity were minimized, in part, by the large amount of data analyzed. Because of the large quantity of archival data relied on for the creation of this research project, it is less likely that the results of the research will not stand up analytic rigor.

Creswell (2014) advises that “themes established based on converging several sources of data can be claimed as adding validity to the study” (Creswell J. W., 2014, p.
This convergence is known as triangulation. Three specific sources in this research study triangulated to highlight common themes throughout. These were parent satisfaction survey data, student “not registering” survey data, and parent interview data. In addition, at least one independent variable (siblings), used in logistic regression, converged with analysis of the three sources above. Therefore, triangulation using available historical data was an important feature of minimizing validity threats. In addition, many parent interview perceptions were corroborated by the parent satisfaction and student “not registering” survey data.

Maxwell (2013) contends that many conclusions of qualitative studies have an implicit quantitative component (p. 128). According to him, the inclusion of quantification makes the resulting study “explicit and more precise.” All of the data, used and presented in this research study, follow this tenet.

Lastly, Maxwell (2013) recommends the use of comparison as a counter-balance to validity threats. Comparison could be effectuated by way of matrices. Such matrices enable the researcher to draw conclusions, confirm results and locate discrepant information (Miles, Huberman, & Saldana, 2014). Several matrices were used in the service of analyzing data for this research study. Particularly, matrices created for student “not registering” survey and parent interview data were instrumental in cross-checking these two data sets. The resulting comparisons coalesced into several recurring themes and provided confidence in the eventual research study results.

In summation, this research study, like many other research projects includes threats to the validity of conclusions to be presented. Three specific validity threats were
identified; case study as approach, limitation with respect to the number of participant interviews, and limitation with respect to parent satisfaction survey participation. These validity threats have been mitigated by several tactics espoused by scholarship. In particular, the case study approach enabled the introduction of multiple sources of data. The ability to subsume multiple data sources counters the validity threat imposed by the research approach. More importantly, the data collected meets the definition of rich data, which in and of itself, bolsters credibility of the research results. Now that research validity has been established, data analysis begins in earnest.
Chapter 4 – Part 1:
The Characteristics of Technology Cyber Charter School

Descriptive Data Analysis
Data collection at the school has evolved over time. There used to be a time when very little information was collected from enrolling students. Presently, the enrollment application contains some 100 questions and, among other data points, includes demographic, academic, special needs, and truancy data. Since FY 2007-08, 9,249 students, have enrolled and withdrawn from the cyber charter school. To gain some insight into that population of withdrawn students, quantitative analysis, using descriptive measures, was employed.

This chapter begins by exploring demographic characteristics (race/ethnicity, special education status, gender, county of residence, etc.) of the aforementioned withdrawn student population. This was done in an effort to provide context to the phenomenon being studied. It is also the beginning of an exploration into identifying common qualities and traits among the student population presented. To continue to provide perspective, a frequency count, of the reasons parents enrolled at the school, was completed. This is important because it begins to frame parent thinking about the cyber model of education and may prove fruitful later on as reasons for withdrawing are contextualized. That was followed by an analysis of the length of time students remained enrolled. Lastly, this section ends with a tally of where this population of students indicated they would attend school next, a continuation of parent thinking as they navigate educational choice for their children.
Descriptive Analysis of Withdrawn Students

Historically, Caucasian students have always been the largest racial/ethnic demographic group at Technology Cyber. This is demonstrated by the large number of White students that have withdrawn from the school between July 1 of the 2007-08 school year and December 31, 2014. Unsurprisingly, statewide statistics indicate that students identifying as White make up the majority of school-age children. Data reported by Pennsylvania’s Information Management System (PIMS) demonstrates that Caucasian school-age children accounted for 68.7% of the statewide student population. Table 2 provides a breakdown of racial and ethnic composition of Pennsylvania’s student population for the 2014-15 school year. It indicates that over 90% of school-age children in the Commonwealth of Pennsylvania identify as belonging to one of three racial groups; Caucasian, African American or Hispanic.

Table 2
Statewide Racial & Ethnic Composition as Reported in the 2014-15 School Year

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>0.69</td>
</tr>
<tr>
<td>Black or African American</td>
<td>0.15</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.10</td>
</tr>
<tr>
<td>Asian</td>
<td>0.03</td>
</tr>
<tr>
<td>Other a</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Note. from Pennsylvania Information Management System, 05/15/2015; n = 1,774,734;

a Other includes students categorized as American Indian/Alaskan Native, Multi-Racial, Native Hawaiian or Pacific Islander
Similarly, Figure 4 demonstrates that students of Caucasian origin make up the overwhelming majority of withdrawn students from the school. This is not surprising because student enrollment at Technology Cyber Charter School closely follows statewide racial demographics. Between July 1st of the 2007-08 school year and December 31, 2014, 7,297 Caucasian students have left Technology Cyber. That represents 79% of the withdrawn student population during that time frame. The next largest racial/ethnic group of withdrawn students is represented by students of African-American origin. African-American (AA) students accounted for 977, or 10%, of the withdrawn student population. Rounding out the top three racial/ethnic groups were Hispanic students who accounted for

![Figure 4](image_url)

**Figure 4**
Technology Cyber Withdrawn Students Categorized by Race and/or Ethnicity.

Note. Population of 9,249 withdrawn student records from July 1, 2007 through December 31, 2014
407 (4%) of total student withdrawal. Together, these three racial/ethnic groups accounted for 8,681 or 93% of students withdrawn between July 1, 2007 and December 31, 2014.

Table 3 depicts withdrawn student demographic data based on several characteristics. Considering race/ethnicity, gender and special education demographic data, Table 3 demonstrates that female students (4,824 or 52%) are better represented than male students (4,425 or 48%) in the withdrawal data.

Table 3
Technology Cyber Student Withdrawal Categorized by Race/Ethnicity, Gender and Special Education Status

<table>
<thead>
<tr>
<th></th>
<th>Female Special Education</th>
<th>Male Special Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>White / Caucasian (not Hispanic)</td>
<td>0.37</td>
<td>0.04</td>
</tr>
<tr>
<td>Black / African American (not Hispanic)</td>
<td>0.05</td>
<td>0.00</td>
</tr>
<tr>
<td>Hispanic (any race)</td>
<td>0.02</td>
<td>0.00</td>
</tr>
<tr>
<td>Other</td>
<td>0.03</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td>0.52</td>
<td>0.48</td>
</tr>
</tbody>
</table>

Note. Between July 1, 2007 and December 31, 2014 a total of 9,249 students withdrew from the school. Of that total, 4,824 (52%) were female and 4,425 (48%) male, with 12% of the student population identified as needing special education services. Of 1,096 students needing special education services, 335 (9%) were female and 665 (15%) were male.

Historically, the student population has included slightly more females than males and Table 3 confirms this historical trend. Interestingly, as it relates to students identified as needing special education services, male students outpace female students 1.5 to 1. Another detail of interest is comparison of special education students who have withdrawn, to the number of special education students who have remained enrolled. During the
analysis time frame, approximately 12% of the withdrawn student population was identified as needing special education. For the 2014-15 school year, 13.5% of the actively enrolled student population was identified as needing special education services. This might suggest one of three things: either students needing special education services see cyber education as a viable alternative to the traditional school district and enroll at a higher rate than regular instruction students; students needing special education services tend to withdraw at a lower rate than the student population at large; or a combination thereof. Nonetheless, students needing special education services are clearly active participants in cyber education.

Anecdotally, parents of students needing special education services, in PA, tend to seek cyber charter schools as an alternative to school district schools, especially because

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>White / Caucasian (not Hispanic)</td>
<td>0.52</td>
</tr>
<tr>
<td>Black / African American (not Hispanic)</td>
<td>0.04</td>
</tr>
<tr>
<td>Multi-Racial</td>
<td>0.02</td>
</tr>
<tr>
<td>Hispanic (any race)</td>
<td>0.02</td>
</tr>
<tr>
<td>Other a</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Table 4
Technology Cyber Student Withdrawal Categorized by Race/Ethnicity and Socio-economic Status

<table>
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</tr>
</thead>
<tbody>
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<td></td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>White / Caucasian (not Hispanic)</td>
<td>0.52</td>
</tr>
<tr>
<td>Black / African American (not Hispanic)</td>
<td>0.04</td>
</tr>
<tr>
<td>Multi-Racial</td>
<td>0.02</td>
</tr>
<tr>
<td>Hispanic (any race)</td>
<td>0.02</td>
</tr>
<tr>
<td>Other a</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Note. Population of withdrawn students (n = 9,249) aggregated by racial composition and socio-economic status.

a Other category includes Asian/Pacific Islander, American Indian/Alaskan Native, and students who declined to state their racial/ethnic background or socio-economic status.
they know cyber charters are held to Chapter 12 mandates. Among other things, Chapter 12 requires school personnel to identify issue that prevent student learning and mobilize resources to remove those barriers (Students and Student Services, 1974). Considering race/ethnicity and economic factors, Table 4 indicates a higher percentage of African American and Hispanic students who withdrew qualified for free and reduced meals; the measure used by the school to identify students of low socio-economic status (SES). While AA students comprise 10% of the population of withdrawn students, 56% of withdrawn AA students qualified for free and reduced meals. Similarly, Hispanic students comprised 6% of the withdrawn student population, but 53% of that group qualified for free and reduced meals. Those statistics seem to indicate that parents of economically disadvantaged students participate robustly in the cyber model of education. Perhaps that is because, parents of low income students see Technology Cyber as an opportunity to acquire a higher quality of education for their children amongst their local options. As such, parents of students with low SES may be looking to improve their children’s chances at receiving a better education by trying the virtual model, especially since many parents who participate in the cyber model cite school safety as a major reason. In his research, which explored factors that influenced parent’s choice to use cyber schooling as opposed to traditional schooling, Kello (2014) concluded that “78% of parents indicated that safety, as related to their child’s physical and emotional condition, was very important or important in their decision to cyber charter or homeschool” (Kello, 2012, p. 92). Anecdotally, parents who come to the cyber school from economically depressed areas of the state inform school personnel that school safety is one reason for enrolling in the cyber
school. As will be demonstrated, later in this analysis, a safer school environment continues to be one of the top reasons parents have given for enrolling at Technology Cyber.

When comparing racial/ethnic indicators and county of residence another interesting pattern emerges. Caucasian students comprise the majority of the school’s student population and that trend follows through to withdrawn students. That racial/ethnic makeup is also evident as race/ethnicity is compared to county of residence, except where the counties of Allegheny, Berks, Delaware, Lancaster and Philadelphia are concerned.

Table 5
Technology Cyber Student Withdrawal by County of Residence

<table>
<thead>
<tr>
<th>Category (any race)</th>
<th>County</th>
<th>Allegheny</th>
<th>Berks</th>
<th>Delaware</th>
<th>Lancaster</th>
<th>Montgomery</th>
<th>Philadelphia</th>
<th>All Other Counties</th>
<th>Total</th>
<th>Per.</th>
</tr>
</thead>
<tbody>
<tr>
<td>White / Caucasian</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>445</td>
<td>344</td>
<td>142</td>
<td>492</td>
<td>372</td>
<td>383</td>
<td>5,119</td>
<td>7,297</td>
<td>0.30</td>
</tr>
<tr>
<td>African American</td>
<td></td>
<td>45</td>
<td>21</td>
<td>90</td>
<td>11</td>
<td>64</td>
<td>546</td>
<td>200</td>
<td>977</td>
<td>0.80</td>
</tr>
<tr>
<td>Hispanic (any race)</td>
<td></td>
<td>4</td>
<td>41</td>
<td>7</td>
<td>50</td>
<td>19</td>
<td>101</td>
<td>185</td>
<td>407</td>
<td>0.55</td>
</tr>
<tr>
<td>All Others a</td>
<td></td>
<td>37</td>
<td>25</td>
<td>18</td>
<td>26</td>
<td>42</td>
<td>101</td>
<td>319</td>
<td>568</td>
<td>0.44</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>531</td>
<td>431</td>
<td>257</td>
<td>579</td>
<td>497</td>
<td>1,131</td>
<td>5,823</td>
<td>9,249</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Note. Counties listed are in the top 10 most populous, as reported by Localistica.com; (n = 9,249)

* All Others represents American Indian/Alaskan Native, Asian/Pacific Islander, Multi-racial, and students who declined to state race and/or ethnicity.

* All Other Counties represents the other 58 counties in the Commonwealth of Pennsylvania.

* Per. Represents the percentage of student withdrawal for the respective racial/ethnic group, i.e., 30% of Caucasian students who withdrew in this time period resided in the Allegheny, Berks, Delaware, Lancaster, Montgomery and Philadelphia counties.
Table 5 lists six of the top ten most populous counties (Localistica.com, 2016) in the Commonwealth of Pennsylvania. It demonstrates that a higher proportion of withdrawn students from these counties are African-American and Hispanic. Data from Table 4 suggests that students of low socio-economic status also participate in the cyber-model of education. Proportionally speaking, however, Table 5 indicates that more AA and Hispanic students reside in the previously named counties. That is noteworthy given that African American and Hispanic students are a very small proportion of the overall withdrawn student population. As it relates to Philadelphia County, one reason for the higher proportion of students might be the overwhelming negative perception of the public school system held by the public (Pew Charitable Trusts, 2015). Another contributory factor might be the higher proportion of Philadelphia residents that live at or below the poverty level. The City of Philadelphia has been labeled as the poorest of the largest of American cities (Philadelphia Inquirer, 2014). Be that as it may, the data appears to indicate that AA and Hispanic parents, including those of low SES, are looking for improved educational opportunities for their children. And, the cyber model appears to be a viable alternative. Unfortunately, they seem to exit just as quickly as they enter.

**Reasons for Enrolling**

Beginning in fiscal year 2012, parents of enrolling students have been asked to provide the Technology Cyber Charter school with reasons why they elected to enroll their child or children at the cyber school. To make that process easy for them, parents are given a list of 17 predetermined reasons for enrolling their child at the school. They are then directed to select any, and as many, as apply for selecting to enroll in the cyber school.
Since this research study is trying to identify why parents decide to leave the school, it seems relevant that the study is informed by why parents choose to enroll their child(ren) in the first place. Table 6, provides some insight into why parents choose Technology Cyber to begin with. Since this data has only been available since FY 2012, only 1,645 parents have had a chance to inform why the cyber charter school was selected. Because a parent could select more than one reason from the list, there were a total of 7,505 selections made. On average, parents chose 4.56 reasons why Technology Cyber was their choice. Table 6 lists the top ten choices made by parents. Interestingly, having their

| Table 6 |
| Reasons Parents Selected for Enrolling Their Child(ren) in Technology Cyber |
| Category | Percent |
| Safer School Environment | 0.11 |
| K12 Inc Curriculum | 0.11 |
| Personalized Instruction | 0.11 |
| Adaptable Schedule | 0.11 |
| Participate in Child's Curriculum | 0.10 |
| Highly Qualified PA Certified Teachers | 0.06 |
| Family & Student Support Services | 0.05 |
| High Academic Standards | 0.05 |
| Additional Academic Support | 0.05 |
| Increased Academic Opportunities | 0.05 |
| All others<sup>a</sup> | 0.19 |

Note. Respondents were able to select multiple reasons for enrolling in the cyber charter school; (n = 7,505)

<sup>a</sup> Other reasons include struggling learner, innovative technology, advanced learner, synchronous learning, health issues, and school closed.
child(ren) in a safe environment was the top vote-getter. As previously mentioned, Kello (2012) supports this assertion (p. 92). Perhaps, this provides evidence to support the idea that parents, particularly those of low SES are looking for safe educational alternatives for their children. In his study, Kello also concluded that parents who cyber and homeschool consider quality and rigor of curriculum to be important (p. 91). Not surprisingly, the second highest reason that parents cite for enrolling their children in Technology Cyber is the mastery-based curriculum offered by the cyber school. Anecdotally, school staff has known for a long time that a large number of parents who come to Technology Cyber, come because of the perceived high quality of its curricular offerings. Parents who have experienced the curriculum mostly always speak about it in superlative terms. The data in Table 6 lends credence to this assertion. Personalized instruction, adaptable schedule and ability to participate in their child’s education are the three next highest reasons parents elect to enroll their children in Technology Cyber. These are all highly personal reasons that seem to have flexibility at their core. Perhaps, the intrinsic motivation for parents who decide on the cyber model could be summarized as follows: Parents who participate in this model of education are looking for a safe educational and flexible alternative for their students, that is also academically rigorous.

**Length of Enrollment**

Also important to this study is length of student enrollment. Table 7 delineates length of enrollment for withdrawn students and informs the reader that almost three quarters of withdrawn students withdrew from Tech Cyber within three years of enrollment. It speaks to the highly transient nature of students in an online educational
model. Some scholarship indicates students attending K-12 online schools have a higher incidence of mobility as compared to students in traditional bricks and mortar schools (Heiney et al., 2012). It could also indicate, as research suggests, that online learning is better suited to independent learners (Oliver et al., 2009) and students that have withdrawn are participating in a natural self-selection process; parents and students experimented with

<table>
<thead>
<tr>
<th>Months Enrolled</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 12</td>
<td>0.45</td>
</tr>
<tr>
<td>13 to 24</td>
<td>0.18</td>
</tr>
<tr>
<td>24 to 36</td>
<td>0.10</td>
</tr>
<tr>
<td>&gt; 36</td>
<td>0.27</td>
</tr>
</tbody>
</table>

Note. Between July 1, 2007 and December 31, 2014, 6,736 students, representing 72.8% of students withdrawn within three years of enrolling at the cyber school. (n = 9,249)

a Months enrolled represent number of months of continuous enrollment.

the cyber model, because the choice was viable (safe, flexible, and academically rigorous) and available (public school of choice) to them; for various reasons, it was not what they expected and they decided to withdraw; withdrawal coming very quickly (within 1 year) for many.

It could also be that parents are coming to the school with particular, time limited, educational goals in mind. For some parents, the cyber option might be the best educational option that fits in to their current family situation. Just as likely, it could also portend problems in how school staff acclimate students to the environment and operationalize
virtual learning. What is clear is that, over the years, many parents have come and gone through Technology Cyber’s educational model.

**Next Educational Choice**

In addition to collecting data on enrollment, the school also attempts to collect data as students leave. The school’s success in this area has been mixed. On the one hand, parents disclose where their students will be attending school next, primarily because the information is required by the Pennsylvania Department of Education. On the other hand, many parents are reticent to reveal much more than that. Table 8, discloses the next educational choice for students who have withdrawn. The data is clear about where most students end up. Almost 50% of students go back, perhaps to where they started…the local school district. Any additional information, regarding reasons why parents decide to withdraw, other than what is requested of parents by school staff, is difficult to come by.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer - Bricks &amp; mortar a</td>
<td>0.49</td>
</tr>
<tr>
<td>Transfer - Other school choice</td>
<td>0.26</td>
</tr>
<tr>
<td>Did not indicate</td>
<td>0.13</td>
</tr>
<tr>
<td>Other</td>
<td>0.07</td>
</tr>
<tr>
<td>Moved out of state</td>
<td>0.05</td>
</tr>
</tbody>
</table>

*Note.* Population of withdrawn students = 9,249.

a Transfer to bricks and mortar includes both traditional school district and charter schools and 1,080 students who were administratively withdrawn and remanded to their resident district.
Two main reasons exist for this situation. First, and foremost, when parents decide to leave the cyber school they “check out” psychologically. As such, it is difficult to get cooperation from many parents for anything from that point forward. Secondly, collecting reasons for withdrawal from parents is oftentimes a sensitive proposition. Anecdotally, it is known by school personnel that many parents are not interested in explaining why they have decided to leave the cyber school. Having school personnel ask, seems to be a bit of an “invasion” of their personal decision-making, especially if they have felt that they contributed to their lack of success in the cyber model. Parents who think this way are usually not forthcoming. If that were not enough, some parents could care less about the cyber school’s intentions for data collection. Here the worry is that the information provided by a parent, for why they left the cyber school, may not accurately reflect the reason(s) why the parent decided to take their child(ren) elsewhere.

Now that a description of students of the cyber school has been established, we turn our attention to discoveries that will be surfaced by quantitative analysis of the data collected.
Chapter 4 – Part 2:  
Predicting The Probability of Withdrawal  
at Technology Cyber Charter School

Inferential Statistics and Analysis

One of the intriguing points of analysis in the previous section, relates to length of enrollment of withdrawn students. In the previous chapter, and as demonstrated by Table 7, it appears a large percentage of students withdraw early on in their cyber-educational journey. This suggests what scholarship also indicates; students enrolled in cyber educational programs have a higher incidence of mobility than that of traditional bricks and mortar students (Heiney et al., 2012; Office of the Legislative Auditor State of Minnesota, 2011).

Up to this point in the research study, analysis has focused only on students that have withdrawn. This research is intended to explore the factors that lead parents to withdraw their children from cyber education, and particularly the Technology Cyber Charter School. Specifically, this research proposes to answer, “what are the reasons that cause parents to withdraw their children from a full-time cyber charter school?” In order to do so one has to compare students that have withdrawn against those who have remained enrolled. This next analytical segment will focus on a comparison between enrolled and withdrawn students. Such juxtaposition will better elucidate the phenomenon at hand. As such, the analysis in this section begins with a comparison of enrollment versus withdrawal by length of enrollment. At this level, the analysis is focused on drawing a distinction based on how long students have been enrolled at the school. The analysis then continues by focusing on enrollment versus withdrawal by grade span. Here the distinction to be
emphasized will be differences between the two groups of students (enrolled versus withdrawn) based on grade span. Lastly, logistic regression will be employed to spotlight relationships amongst these and other variables identified in the previous chapter; that statistical test will help identify variables that may be associated with student withdrawal in the cyber model.

**Withdrawals as Compared to Enrollments**

While the descriptive statistics provided thus far help the reader understand student withdrawal data, it does not assist in understanding what is happening “on the ground,” as the school year unfolds. To gain such an insight, student enrollment and withdrawal data for the 2011-12, 2012-13, 2013-14 and 2014-15 school years were analyzed. The first step in the analysis was to compare length of enrollment for students who withdrew (in-year) from the cyber school against the length of enrollment (in-year) for students continuing enrollment at the school. For ease of understanding, the analysis was then presented pictorially. In order to properly present this idea graphically, continuously enrolled students (who did not withdraw) were given an end date that coincided with the last day of school in the respective school year. This enabled the researcher to calculate the length of enrollment, at a particular point in time, for a particular school year, for all students then enrolled.

Figure 5 compares the number of students who withdrew (represented by the light grey line), during the 2014-15 school year, versus students who remained enrolled (represented by the dark grey line). The y-axis represents the number of students, both enrolled and withdrawn, with the x-axis representing the length of student enrollment in
number of years. Figure 5 clearly shows that students, in their first year of enrollment, withdrew at an alarming rate. Of the 3,062 students enrolled in the 2014-2015 school year, 1,191 students were new to the school (enrolled less than one year) and 48% withdrew by the time the school year had concluded. Student enrollment for the 2012, 2013 & 2014 school years all demonstrated to some degree, the same phenomenon; a large percentage of newly enrolled students who withdrew within a year of enrollment. Those results could be found in Appendices 4 through 6.

Figure 5
FY 2015 Student Enrollment Compared to Student Withdrawal by Number of Years Enrolled

Note. Graphical representation of the number of students who have withdrawn as compared to students continuing enrollment. Total enrollment = 3,062. Spike in 8-9 segment due to data misreported as a result of system conversion.
As suggested by Figure 5, students in their first year of enrollment do not persist well. That factor is highlighted by the large gap between the enrollment and withdrawal points for students enrolled 0-1 years. It also suggests that student persistence does not improve until the second year of enrollment. As evidenced by Figure 5, students who continue into a second year of enrollment tend to persist longer term; their withdrawal rate decreases significantly. It appears, the longer a student stays enrolled at the cyber school, their chances of remaining enrolled long term improve.

A comparable analysis was completed for the three prior school years (2012, 2013 and 2014). Of interest is the similarity portrayed in the graphics. In reviewing Appendices 4 through 6, it is evident that student withdrawal, of first year students, is very pronounced. Just as interesting is that, as students continue into their second year of enrollment, the withdrawal rate tends to drop-off. This suggests that in all years analyzed, the withdrawal rate of students improves the longer students remain enrolled in the cyber school.

While Figure 5 informs us that student persistence might be problematic for first time students (students enrolled less than one year), its explanatory powers end there. Adding additional context, Figure 6 depicts student enrollments as compared to withdrawals by grade.

Figure 6 demonstrates that not all grades are created equal, at least with respect to how student enrollment compares to student withdrawal. This graphic makes it abundantly clear that in the 2014-15 school year, students in Kindergarten, First and Eighth grades withdrew at a much higher rate than students in other grades. Similarly, Appendices 4 through 6 show varying levels of the same phenomenon. Perhaps, this surfaces the stresses
The cyber school believes that a strong partnership between parent, student and school creates the perfect environment for student achievement. Technology Cyber’s educational model is predicated on the idea that parent involvement in their child’s education serves to produce more engaged students, and Tech Cyber takes this notion to the next level. That is because, at the cyber school, the parent is also the student’s learning coach. As learning coach, the parent facilitates learning for their child. Intuitively, it makes sense that educational facilitation of younger children is more challenging than that of older children. If nothing else, the focus displayed by younger children is not as developed as that of older counterparts. In part, Figure 6 may be evincing this occurrence. It could also be that these grades, in particular Kindergarten
and 8th grade, serve as natural demarcation grades for parents. That is, if a parent is going to make a change of school, they typically do so at grades that begin the elementary (K-1), middle (5-6) and high school (9) endeavor.

The remaining question is, “does the analysis, presented thus far, represent happenstance?” That is, “does student withdrawal happen by chance (unrelated variables), or, is there some relationship amongst the many variables impacting and interacting with students, that could help explain the withdrawal phenomenon?” It appears that first time students and students in early grades might be more susceptible than other students, to withdrawing from Technology Cyber. Scholarship in this area has been inconclusive, mostly because there is no standard by which to measure the myriad variables that come into play (Roblyer et. al., 2008). To test the hypothesis, that first time students and grade span are related to student withdrawal, logistic regression was employed.

**Logistic Regression**

Logistic regression is one of a family of statistical tests used to predict group membership (Statistical Test Selector, 2016). This test predicts group membership based on relationships between two or more variables (Statistical Test Selector, 2016). It is a type of statistical test especially suited to predicting the outcome of an event based on one or more predictor variables (Peng & So, 2002). Specifically, binomial logistic regression is regularly used when there are only two categories of the dependent variable (Boslaugh, 2013). As it relates to this research, logistic regression was employed to determine if selected variables, discussed throughout this research, can be used to predict whether students remain enrolled (category 1) or withdraw (category 2) from the cyber school.
At this point, several factors (predictor variables) have been introduced that may possibly help address the question of what causes parents to withdraw their students from the cyber school. In Chapter 4, Part 1, some demographic data was discussed as potentially related to the withdrawal phenomenon being studied. Specifically, Table 3 introduces the possibility that student gender may be a factor influencing student withdrawal. Table 4 draws attention to the fact that race/ethnicity, at least in some segment of the student population, might sway parents to withdraw their student(s). In this chapter, data presented in Figure 5 suggests that newly enrolled students do not persist as well as students who have been enrolled more than one year. Figure 6 argues that student grade span, specifically early grades, might also be a determining factor in student withdrawal. Lastly, factors in the home environment appear to contribute to student withdrawal and are factors of interest. Anecdotally, it is evident to school personnel that families with multiple siblings tend to have more difficulty acclimating to the cyber model. Therefore, students who have siblings, also enrolled in the cyber school, will be another factor of interest as it relates to this research.

Peng & So (2002) provides guidelines for the appropriate modeling and reporting of logistic regression results. They articulate six steps as necessary in this endeavor. The first step involves descriptive analysis of each predictor variable (factor). For this research study, description of predictor variables has been provided both in this chapter and the one preceding it. Table 9 identifies the variables to be tested via logistic regression and includes student counts within category. The first category (Siblings?) distinguishes between students with siblings, also enrolled in the cyber school, and those without. As students
enroll in the school they are assigned a unique student identification number. Additionally, if that student also has a sibling enrolled, that connection is signified by a household identifier. Table 9 denotes that of 3,062 student records analyzed, 1,629 were identified as siblings, while the other 1,433 students did not have any siblings enrolled in the cyber

<table>
<thead>
<tr>
<th>Variable</th>
<th>Enrolled</th>
<th>Withdrawn</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
</tr>
<tr>
<td>Siblings?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0.59</td>
<td>840</td>
<td>0.41</td>
</tr>
<tr>
<td>Yes</td>
<td>0.68</td>
<td>1,100</td>
<td>0.32</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0.63</td>
<td>1,006</td>
<td>0.37</td>
</tr>
<tr>
<td>Male</td>
<td>0.64</td>
<td>934</td>
<td>0.36</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-White</td>
<td>0.64</td>
<td>548</td>
<td>0.36</td>
</tr>
<tr>
<td>White</td>
<td>0.63</td>
<td>1,392</td>
<td>0.37</td>
</tr>
<tr>
<td>Non-Af.Am.</td>
<td>0.63</td>
<td>1,626</td>
<td>0.37</td>
</tr>
<tr>
<td>Af.Am.</td>
<td>0.67</td>
<td>314</td>
<td>0.33</td>
</tr>
<tr>
<td>Grade Span</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K - 4</td>
<td>0.61</td>
<td>519</td>
<td>0.39</td>
</tr>
<tr>
<td>5 - 8</td>
<td>0.59</td>
<td>630</td>
<td>0.41</td>
</tr>
<tr>
<td>9 - 12</td>
<td>0.70</td>
<td>791</td>
<td>0.30</td>
</tr>
<tr>
<td>Newly Enrolled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>0.45</td>
<td>533</td>
<td>0.55</td>
</tr>
<tr>
<td>No</td>
<td>0.75</td>
<td>1,407</td>
<td>0.25</td>
</tr>
</tbody>
</table>

n = 3,062
school. With regard to gender, 1,601 students were female, while 1,433 were male. Additionally, the table also presents the number and percentage of students within category. Of interest are the high percentages of withdrawn students without siblings (41%), in middle school grades (41%) and the number who were newly enrolled (55%) for the 2014-15 school year.

The second step articulated by Peng & So (2002) is the transformation of categorical data. Table 9 also denotes transformation categories. Basically, the categorical variables were transformed, or better stated, included in one group or another. As an example, there were seven different race and ethnicity groups, with White being the predominant class. For this analysis, two different groups were created. First, and because the cyber school student population is predominantly White, the first race transformation included identifying students as either White or non-White. The second largest student population, by race, is the African American population. The second transformation was to identify students as either African American or non-African American. The remaining racial groups accounted for 8.7% of the student population; as such, there was little interest in them from a logistic regression perspective. Because they accounted for such a small percentage of the total student population, no other racial groupings were transformed.

Similarly, while the student population included students enrolled in all twelve grades, preliminary analysis appeared to indicate that grade span may be a factor in student withdrawal. As a result, three grade span groups were created for analytical purposes. The first was for comparison of elementary grade students (K-4) versus the rest of the student population. The second included middle grade students (5-8) versus the rest of the student
population. The third grade span was comprised of high school students (9-12) versus the rest of the student population.

The third step, proposed by Peng & So (2002), is a series of univariate analyses. To accommodate this step, each variable presented in Table 9 was used in a single-variable logistic regression. Appendix 7, presents excerpted results of the various univariate analyses. The objective, in performing a series of univariate analyses, is to “correctly identify the event of an outcome and model its probability” (Peng & So, 2002, p. 53). This is accomplished by monitoring the significance levels of the variables in the individual (univariate) logistic regression analyses. Ultimately, such methodical approach is taken in an effort to identify variables to include (or exclude) in the eventual predictive model. By analyzing individual predictor variables independently, the researcher is able to discriminate between variables that add significance to the model and those that do not.

Univariate testing was performed using IBM’s Statistical Package for the Social Sciences (SPSS). Based on the resulting statistical p-value (Sig. < .05) of each univariate test, five variables (Has Sibling, Elementary School, Middle School, High School, New This Year) appeared to be good candidates for inclusion in a full scale logistic regression model. That said, an acceptable p-value is the first hurdle of interpretation. A secondary interpretive test provides better support for the inclusion, or exclusion, of variables to be modeled in a logistic regression. Known as the Bayesian information criterion (BIC), this test of significance enables the ranking of variables to be included in the model. Developed by Adrian E. Raftery in 1995, the BIC is the value derived from $z^2 – \ln,n$ (Pampel, 2000). He suggests that BIC values between 0 and 2 provide weak evidence for inclusion of a
variable. Values between 2 and 6 provide positive evidence, between 6 and 10 provide strong evidence and above 10 very strong evidence (Pampel, 2000). Based on the BIC criterion, five variables appear suited for logistic regression modeling, although one of the five has a weak BIC rating (elementary grade span). Based on analysis concluded to this point, it appears variables worthy of additional analysis are students with siblings also enrolled in the school, students in elementary school grades, students in middle school grades, students in high school grades, and students new to the school (first year enrollees).

After univariate analysis, Peng & So (2002) proposes the next step to be fitting “a preliminary multivariate logistic model,” based on the results of the univariate testing (Peng & So, 2002, p. 54). This entails fitting variables to a variety of models and comparing results. Table 10 presents three models tested and selected analytic results. Based on p-values and BIC rankings, of the variables presented in Appendix 7, the first model tested is as follows:

\[ P(WD) = \alpha + \beta_1(Nty) + \beta_2(Hsib) + \beta_3(ESc) \]

This first logistic regression model, also known as Model 1, denotes student withdrawal as a function of students new to the school, with siblings and attending elementary grades, where WD signifies withdrawal, Nty signifies “new this year,” Hsib signifies “has sibling” and ESc signifies elementary school grades. Based on results, presented in Table 10, particularly those in the (Sig) column, where the p-value is < .05, it appears ES as a variable is not statistically significant. As such, Model 1 appears not to be a good model for explaining the phenomenon.
The remaining steps, recommended by Peng and So (2002), are related. They recommend fitting “alternative models to data” as a fifth step and comparing “the performance of alternative models against that of the preliminary multi-variate model” as a sixth step (Peng & So, 2002, p. 54). The goal of fitting alternative logistic regression models is to arrive at the best predictive model. This is accomplished by comparing performance of the various models tested and by process of elimination arriving at the model that best represents and explains the phenomena being tested. As such, logistic regression Model 2, as detailed by the mathematical equation below, represents an alternative logistic regression model:

\[ P(WD) = \alpha + \beta_1(Nty) + \beta_2(Hsib) + \beta_3(MSc) \]

where WD signifies withdrawal, Nty signifies “new this year,” Hsib signifies “has sibling” and MSc signifies middle school grades. Based on results, found in the significance (Sig)
column (Table 10), where the p-value is < .05, all variables in Model 2 are statistically significant. Thus far, Model 2 appears to be a front running model for explaining variables associated with cyber student withdrawal.

Lastly, another alternative, Model 3, was also tested. In mathematical equation, Model 3 is presented as follows:

\[ P(WD) = \alpha + \beta_1(Nty) + \beta_2(Hsib) + \beta_3(HSc) \]

where WD signifies withdrawal, Nty signifies “new this year,” Hsib signifies “has sibling” and HSc signifies high school grades. Based on results, found in the significance (Sig) column (Table 10), where the p-value is < .05, all variables in Model 3 are also statistically significant. Based on fitting alternative models, as suggested by Peng & So (2002), Models 2 and 3 both appear to be models that explain the relationship between the variables tested and student withdrawal. At this point, and in order to determine if Model 2 is better suited for explaining the phenomenon than Model 3 (or vice versa), what is needed is another benchmark by which to determine which of the models presented thus far are best at predicting cyber student withdrawal.

In comparing the efficacy of the models tested thus far, other statistical information is necessary to determine which of the three models is superior. That is accomplished by examining the resulting inferential statistics provided by logistic regression analysis as part of its analysis of all the factors under inspection. Specifically, the SPSS statistics to interpret are: the Omnibus Tests of Model Coefficients, the Model Summary, the Classification Table, and the Hosmer and Lemeshow Test. Appendix 8 presents results of
the Omnibus Tests, Model Summary, Classification Table and the Hosmer and Lemeshow Test of all three models under consideration.

The Omnibus Tests of Model Coefficients indicate whether the model tested is statistically significant (indicated by the Sig column). Based on those results, all models tested are statistically significant ($p < .0005$). This denotes that the variables tested effectively predict student withdrawal at the cyber school. Another way of assessing the adequacy of the model(s) is by interpretation of the Classification Table which informs whether the variables in the model improve the predictive capacity versus the intercept only model. In each case, the Classification Table results were higher than the intercept only model. In other words, the predictive capacity of the logistic regression was improved by the variables tested in all three models. Next, the Model Summary, informs the reader how much of the variability in the model is accounted for in the variables tested. In this respect, all three models are similar in that the variability explained by the various models (1, 2, & 3) hover between 11.4% and 16.4%. Said differently, the variables in the models tested contribute 11% to 16% of the variance in the outcome of student withdrawal. Lastly, the Hosmer and Lemeshow (H&L) test provides confidence in the variables tested by comparing them to the intercept only model. A statistically significant score ($p < .05$) means the derived model is poorly fitting (Aldrich & Cunningham, 2016). The H&L Test results, as provided in Table 13, indicate that of the three models presented, Models 1 and 3 are not good at predicting student withdrawal. Given all of the analytic tests, only Model 2 meets all the diagnostic criteria of logistic regression. As such, and by process of
elimination, the variables tested in Model 2 best represents the factors that can be used to predict student withdrawal at Technology Cyber Charter school.

In the final analysis, three variables emerged as associated with student withdrawal. Students new to the school, students with siblings and students in middle school were the three variables that best fit a predictive statistical model (Model 2). The results of the logistic regression analysis, found in Appendices 8 and 9, indicate that the variables used in Model 2 distinguished between students that withdrew from the school and those that continued their enrollment (chi square = 386.988, p < .000 with df = 3). Prediction success overall was 69% (74.4% did not withdraw, 60.3% did). The Wald criterion demonstrated that all three variables (new this year, p=.0005; has sibling, p=.018; middle school student, p=.0005) made significant contributions to prediction. Exp(B) values indicate students new to the school are 4.336 times more likely to withdraw than students who are not; middle school students are 1.396 times more likely to withdraw than students in other grades, and having a sibling is negatively correlated with withdrawal. This means that the probability of a middle school student withdrawing is 31.5%; the probability that a middle school student, new to the school withdraws is 66.5%; and because having a sibling is negatively correlated with withdrawal, the odds that a middle school student, new to the school with a sibling enrolled withdraws drops to 62.2%.

Thus far in this research project, historical quantitative data has been collected and analyzed in an effort to help answer why parents and student elect to withdraw from Technology Cyber Charter school. In this process, several variables were uncovered as having the potential to answer just such question. This analytical process culminated in
identification of variables that aided in explanation of student withdrawal. At this stage, more is understood about the variables associated with student withdrawal from the cyber charter school. Lacking is contextual understanding of the phenomena. In the next phase of this research, parent voice is included in an effort to add better contextual understanding of why the variables uncovered in this section cause parents to withdraw their children from the cyber school.
Chapter 5:
Parent Perception at Technology Cyber Charter School

Analysis of historical data has opened the door to improved understanding of why parents withdraw their students from the cyber charter school. Three variables derived from binomial logistic regression have revealed themselves as associated with student withdrawal. While the quantitative analysis conducted helps explicate some variables associated with student withdrawal, thus far, no real contextual understanding has been presented. The goal of the next chapter in this research study, is to do just that; provide the contextual understanding lacking in the previous quantitative analysis.

In this chapter the research focuses on analysis of qualitative data. Specifically, this portion of the research focuses on parent perception of why they withdrew their children from the cyber school. The analysis will begin with parent satisfaction survey data. It will then proceed with student not registering survey data and conclude with parent and staff interviews. Along the way, open-ended survey and research participant vignettes will be presented. Additionally, the study’s research framework will be interwoven with the data presented to provide contextual understanding of the phenomenon under study.

Parent Satisfaction Survey

School management conducts a bi-annual parent satisfaction survey in an effort to gauge parent satisfaction with various components of the school’s operation. Amongst other things, the parent satisfaction survey enables school management to ascertain whether or not Technology Cyber has met parent academic expectations, and if so to what degree. There are several reasons why the parent satisfaction survey is conducted twice a
year. First, school management tries to identify if there is a seasonal component to the (non)satisfaction of parents, i.e., “do parent responses differ from semester to semester?” Second, and as a result of state law, because the school employs an open enrollment process, parents enroll and withdraw students throughout the year. Having the survey conducted twice during the school year enables school management to capture data from parents who withdraw students prior to the end of the first semester. Conversely, it also allows for the collection of data from parents who have enrolled students after the semester has commenced (in-year enrollment).

While the goal of school administrators is to conduct the parent satisfaction survey twice a year, in practice the results are different from year to year. During the data collection phase of this research study, it became clear that school management’s intent, regarding parent satisfaction data collection, did not match its practice. For school years 2012-13 and 2013-14, parent satisfaction surveys were conducted twice during the school year as previously mentioned. However, for school years 2011-12 and 2014-15, only the end of year survey was conducted. Additionally, and as of the writing of this report, the parent satisfaction survey results for the 2010-11 school year were unavailable; that data, therefore, was excluded.

In addition to the limitation caused by the haphazard distribution of the parent satisfaction survey, the number of parent respondents also imposes some limits on this section of analysis. For the surveys analyzed, the number of parents who responded ranged from approximately 800 (2011-12) to approximately 600 (2014-15), while student enrollment ranged from over 4,600 (2011-12) to just over 3,000 (2014-15). Because the
ratio of survey respondents to students enrolled is low, parent satisfaction survey results cannot be generalized to the student population at large. What the parent satisfaction survey data does afford this research study, is a window into parent perception of school operation. Specifically, responses from the parent satisfaction survey indicate that new parents experience difficulty as they begin or “onboard” in the online environment. This study will demonstrate that many of those early perceptions directly influence reasons parents decide to withdraw their children from Technology Cyber.

The parent satisfaction survey is an instrument designed and managed in-house by Technology Cyber school administrators. Parent participation in the survey is both voluntary and anonymous. The survey instrument is comprised of a mix of Likert scale and open ended questions. Many of the Likert scale questions are followed by an open-ended follow-up question. Sometimes, open-ended questions are stand-alone; there is no Likert scale question preceding it. These questions are formulated to elicit direct parent feedback. If they opt to participate, parent responses are recorded anonymously. This is done to encourage maximum participation and obtain genuine and “unvarnished” parental feedback.

Since the 2011-12 school year, Technology Cyber has employed the Qualtrics platform to both design and conduct the parent satisfaction survey. Qualtrics bills itself as “the premier online survey platform” (Qualtrics.com, 2015). One of the benefits of using this platform is ease of use. Qualtrics employs a feature called “display logic.” Display logic allows for the customization of the survey presented to individual parents. It enables customization of the survey so that parents answer relevant questions. As an example, if
during the course of completing the survey, a parent responds that they have a student enrolled with special needs, based on that response, that parent will be presented with some additional survey questions that will not be presented to a parent who did not respond appropriately. While display logic is a helpful feature, it has caused survey question “bloat.” Over time the, the number of questions that comprise the entire survey has grown. In the 2011-12 school year the entire parent satisfaction survey comprised 43 questions. By the time the 2014-15 survey was presented to parents, the number of questions in the survey increased to 272. Perhaps, this has contributed to decreased survey participation over time.

Some of the questions employed in the survey change from year to year because, depending on the school year, school management is more or less interested in certain school issues or parent perspective. That said, there are several questions that consistently appear from survey to survey and year to year that are relevant to this research study. Those relevant to this portion of the research study are:

1. The overall grade I would give Technology Cyber is (A, B, C, D, F)?

2. Please rate your level of satisfaction with…
   a. Your child’s overall academic experience
   b. Your child’s overall social experience
   c. The level of support provided to you as a learning coach

3. How could the school have improved your “first days” of school?

The data gathered from the aforementioned questions are important to this research study because more than any other survey question, how those questions have been answered
begin to offer some important clues about why the student persistence rate is what it is. Moreover, these questions begin to frame why the parents that persist, stay and others withdraw.

Figure 7 aggregates parent responses regarding the question, “the overall grade I would give Technology Cyber is (A, B, C, D, F)?” This question is relevant because it provides a broad basis for parent perception of the school. If this is the only question analyzed, one comes away feeling that Technology Cyber is doing remarkably well. As will be demonstrated, by the data presented, as survey questions become more specific,
parent perception becomes more focused and appears to change somewhat. Therefore, the overall grade may not be a true reflection of parent perception of the school. Figure 7 makes two things clear. First, a preponderance of parents who answered the overall grade survey question rated the school an A or B and this holds true for all years analyzed. Over the four years, 89.9% of the respondents to this question indicated that the school as a whole merited an A or B grade. In other words, a majority of the parents surveyed equate

![Figure 8](image-url)

**Figure 8**

**Satisfaction with Overall Academic Experience.**
Level of satisfaction, from very satisfied to very dissatisfied with child's academic experience.

Number of respondents by year:
- SY 2011-12 (n = 720); SY 2012-13 (n = 664);
- SY 2013-14 (n = 489); SY 2014-15 (n = 474);

Four year average = 95.5% of respondents indicate they are satisfied or very satisfied with their child's overall academic experience while enrolled at Technology Cyber.
the overall operation of the school worthy of an A or B grade. Consistently, many more parents responded with an A grade than with a grade of a B. The remaining 10.1% of responding parents thought the overall operation of the school merited no better than a grade of C or worse. Based on this question alone, it appears that a majority of respondents rate the overall operation of the school as being good to excellent. Yet, student enrollment has been steadily declining over the last several years. Secondly, and just like the number of enrolled students has been gradually decreasing year after year, the number of parent respondents has also been decreasing year after year. When the question becomes about their child’s overall social and academic experience, or the level of support provided to them by the school, again a majority of parents responded with favorable ratings. As evidence, Figure 8 demonstrates that a majority of parents who responded to this question were satisfied with their child’s overall academic experience. Over the four years, 96% of responding parents indicated that they were satisfied or very satisfied with the academic experience of their child, with the remaining 4% being dissatisfied or very dissatisfied with their child’s academic experience. Of interest, however, is the fact that unlike the overall grade, where more parents rated the school an A versus a B, satisfaction with the academic experience appears to be split; as many parents who answered this question identified being satisfied as those who identified as being very satisfied. Similarly, and as demonstrated by Figure 9, when the question relates to their child’s overall social experience, a majority of parents are either satisfied or highly satisfied with the overall social experiences of their children while enrolled at the school. While 84.5% of parents were either satisfied or highly satisfied with the social experiences of their children, only two-thirds of them
identified as being simply satisfied with their child’s overall social experience. Figure 9 demonstrates that as it relates to the school’s social experience, a majority of the respondents think the school simply does an adequate job regarding student socialization activities, as opposed to those who think the school does an excellent job in that area.

Unlike the overall grade response, it is apparent that as survey questions become more specific, parent satisfaction is increasingly mixed. The lower favorable rating,
regarding the child’s social experience, matches some of the evidence collected during parent interviews.

One of Technology Cyber’s defining characteristics is its partnership with learning coaches. As a matter of fact, and as highlighted previously, the school’s learning model is predicated on the partnership created by the learning coach, the curriculum employed and the school’s teaching and learning staff. This collaboration is significant because it is an educational model that attempts to forge a true partnership between the school and parent. In this educational model, the learning coach is the adult who is responsible for facilitating student instruction. In most instances, a child’s parent is also the learning coach. However, in some cases, the learning coach is a friend or relative of the student’s family, who has been charged by the parent with mediating academic instruction.

In an effort to better support learning coaches, the school has developed a number of programs and support systems specifically designed to assist learning coaches with their daily task of enabling student instruction. In the parent satisfaction survey, parents were asked to rate their level of satisfaction with school supports provided to them. Figure 10 demonstrates that while 92.3% of parents who answered this question signaled their satisfaction with the school support provided to learning coaches, 53% of those parents were merely satisfied with the school provided support. In other words, more parents thought that the school does an adequate job, as opposed to those who thought the school does an excellent job in supporting parents in the model. Here again, data from the parent satisfaction is mixed and appears to indicate that a preponderance of parent responses is different than that of the overall school grade. In this category just over half of responding
parents think the school does an adequate job of supporting learning coaches. This lower favorable rating, regarding learning coach support, matches some of the evidence collected during parent interviews.

![Figure 10](image)

**Figure 10**

**Satisfaction with School Support Provided to Learning Coaches.**

Level of satisfaction, from very satisfied to very dissatisfied with learning coach support provided by the school.

Number of respondents by year:
- SY 2011-12 (n = 716); SY 2012-13 (n = 659);
- SY 2013-14 (n = 482); SY 2014-15 (n = 468);

Four year average = 92.3% of respondents indicate they are satisfied or very satisfied with the level of support learning coaches are provided while enrolled at Technology Cyber.

As previously indicated, the parent satisfaction survey instrument is comprised of a mix of Likert scale and open ended questions. Some open-ended questions are stand-alone survey questions. One such question is “how could the school have improved your “first days” of school?” How the school supports new parents as they enter the online environment is very important. This becomes the “first impression” parents create of the
online learning environment. As evidenced by quantitative analysis, preceding this section, first year students appear vulnerable to withdrawing from the school. How parents and students experience the online environment for the first time appears to set the stage for the rest of their online experience. For that reason, how parents responded to this question is of utmost importance to this research study. Analysis presented in Figure 11 indicates that approximately 25% of the respondents who answered this question were okay with the level of support provided by the school as they on-boarded. Conversely, 75% of respondents indicated that some aspect of the first days of school could be improved.

![Figure 11](image-url)

**Figure 11**
**How Could PA Virtual Have Improved Your First Days of School?**

Table 11 provides a different view of the same data. First, it is important to note that the number of respondents to this question, has been decreasing from year to year. This follows the general trend, previously reported, where the numbers of parent...
satisfaction survey respondents appear to be declining from year to year. This trend also happens to mirror enrollment levels at the school. The most significant issue, as underscored by Figure 11 and Table 11 appears to have its origins in school communication. Whether it was lack of communication, too much information, or information not conducive to helping parents organize as they entered the online environment, the general impression is that proper care is not taken to communicate with parents as they come onboard the online environment.

### Table 11
How Could Technology Cyber Charter School Have Improved Your First Days of School?

<table>
<thead>
<tr>
<th></th>
<th>Communication Related Issue</th>
<th>Delayed Entry Issue</th>
<th>IT Issue</th>
<th>Scheduling Issue</th>
<th>Other</th>
<th>Materials</th>
<th>No Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-12</td>
<td>54.6%</td>
<td>7.2%</td>
<td>2.1%</td>
<td>2.1%</td>
<td>4.1%</td>
<td>1.0%</td>
<td>28.9%</td>
</tr>
<tr>
<td>2012-13</td>
<td>54.0%</td>
<td>4.0%</td>
<td>6.0%</td>
<td>2.0%</td>
<td>6.0%</td>
<td>0.0%</td>
<td>28.0%</td>
</tr>
<tr>
<td>2013-14</td>
<td>63.0%</td>
<td>8.7%</td>
<td>4.3%</td>
<td>4.3%</td>
<td>0.0%</td>
<td>2.2%</td>
<td>17.4%</td>
</tr>
<tr>
<td>2014-15</td>
<td>63.6%</td>
<td>3.0%</td>
<td>6.1%</td>
<td>6.1%</td>
<td>0.0%</td>
<td>6.1%</td>
<td>15.2%</td>
</tr>
</tbody>
</table>

(n = 226)

**First Days of School Vignettes**
As explained previously, one of the pillars of Technology Cyber is the partnership it creates with learning coaches. A second pillar of this model is the online curriculum. The online curriculum is supplied by a vendor of the school via a platform known as the online school (OLS). This platform is in addition to the school’s learning management system (LMS). The LMS is supposed to be the platform that organizes all of the
educational components of the school. It is where students log-in to get assignments, submit assignments, and receive school announcements. The LMS is known by its commercial name Blackboard. In addition, each parent/learning coach and student has their own school supplied email address. The OLS, LMS and email systems are three separate systems that parent/learning coaches and students interact with as they go about their educational business. None of those systems are integrated. In other words, each one of those systems is an independent one, necessitating unique password and login information. To use each system, the user has to log-in with their own username and password. Sometimes student assignments could be found in Blackboard. Other times they are found in the OLS. The vignette below makes clear the difficulties that ensue.

Don't have so many log ins. Make it clear that Blackboard and the OLS do not work together. Coordinate the unit and lesson numbers between the OLS, the student book and the coach's manual...Differentiate between what is core and what is enhancing. There is too much work if you have the student do all of it. It was intimidating and overwhelming at first. (Parent Satisfaction Survey, 2011-12).

The parent above delineates some of the difficulties learning coaches and students have to contend with in the Technology Cyber learning environment. First, as a result of the multiple learning environments and the fact that they operate independent of one another, parents have to track multiple log-in credentials. While not a major issue, anyone who has to use multiple log-in information knows organization of multiple log-in credentials is a must if you are to be successful using multiple systems. By not being integrated, parents have the added responsibility of tracking log-in information, instead of being free from that worry to concentrate on the educational needs of their children. Second, is the confusion caused by the multiple platforms and the ensuing lack of curricular alignment. This
particular parent seems to have had some problems aligning tasks in the online school with offline material for both student and learning coach. Third, and as is typical of most schools, scope and sequencing of academic coursework is very important. Lacking adequate direction, regarding scope and sequence, the parent/learning coach in question begins to feel overwhelmed by the task at hand. While not explicitly stated, the parent seems to suggest that communication and direction from the school is an important component that helps parents navigate as they go about the business of mediating their child’s education. Because that is missing, at least from this parent’s perspective, it is difficult to “coordinate the unit and lesson numbers between the OLS, the student book and the coach’s manual.” Presumably direction from the school would eliminate, or at a minimum alleviate, this problem.

Within the realm of communication issues, one of the more common complaints, by parent satisfaction survey respondents, was lack of school-provided information that enabled parents to organize themselves and their students so that they could “hit the ground running.” As an example, the following quote indicates a lack of school provided support for getting organized into a functional routine.

The directions on how to set up the email accounts, obtaining info on blackboard and even the steps to account for daily attendance were definitely NOT user friendly and we struggled with it…What should have been a two-day process became a two-week process until we finally felt comfortable with our daily routines. (Parent Satisfaction Survey, 2012-13).

This parent also implicitly verbalizes the difficulty in managing multiple learning platforms. Explicitly, the parent is not complaining about lack of school provided information. Similar to the prior parent vignette, who asks for differentiation between what
is core and what is enhancing, the criticism regards clarity; school provided information is not friendly to parents who are trying to use the various school platforms. Because the information is not parent “friendly,” a struggle to navigate the online school ensued. And, the struggle became an extended (two-week) exercise. According to the vignette, only by perseverance of the parent over a two-week timeframe was a workable solution discovered.

Even when instructions were provided to parents, as the quote below indicates, the sheer volume of information made it difficult for parents to navigate the online environment.

There were too many sources of information or what to do and how to do it (when some was in direct conflict). You need one master plan given to each parent outlining step by step everything that needed to be done. Without such a centralized single step by step outline it comes across to a new parent as the school’s left hand not knowing what its right hand is doing. Too many hours were lost in what could have been an easy transition into the school. (Parent Satisfaction Survey, 2012-13).

Continuing with the theme of core (critical) versus enhancing (good to know), the criticism, by the parent above, is, that in addition to the volume of information provided, following along became problematic because the information given was contradictory. Certainly, it is reasonable to conclude that confusion must have set in for this parent. In an effort to inform, the school provides parents lots of information. Conversely, however, the effect of all the school provided information is to bog down the acclimation process. As the survey respondent points out, a roadmap identifying a sequential process would be better for parents. Presumably, such a map would help new parents assimilate into the online environment more effectively and save valuable time in the process. Another parent/learning coach expressed a similar concern and was specific about a functional
solution “…Develop a "quick start" list of the top things that coaches need to know to get started” (Parent Satisfaction Survey, 2014-15).

Much like the prior vignette, the quote above seems to suggest that rather than provide parents/learning coaches mountains of information all at once, a better approach may be to provide the information “just in time.” In other words, give parents and learning coaches only the information they need, as the informational need arises. The idea of a “quick start” guide serves the “just in time” informational needs of parents/learning coaches new to the online environment. Several other parents responded in similar fashion, with a similar refrain amongst parents throughout the years analyzed. They appeared to be clamoring for help in wading through all the school information provided. The learning coach below described the information overload using combat terminology “…Don’t know - there was so much information being bombarded at us that it was hard to organize and retain it all” (Parent Satisfaction Survey, 2012-13).

The previous quote conjures an image of a parent dressed in battle fatigues and helmet, dodging information as it is lobbed over by school administrators. Quite aptly, the aforementioned parent/learning coach was so “shell-shocked,” by all the information received, that they could not offer any suggestions for how the school could help. Perhaps, as a result of a similar “bombardment,” the parent whose quote appears below, requested mercy and consistency.

I believe the teachers could be a little more sensitive to first timers. I was a little unaware of the process. Additionally, it would help if each teacher had the same process for submitting work. (Parent Satisfaction Survey, 2014-15).
Parents and learning coach comments seem to indicate that teachers do not distinguish between novice and veteran learning coaches. More importantly, this parent seems to reveal teachers are not consistent in how they expect students and learning coaches to submit assignments. It appears this parent either has multiple students whose teachers have different procedures for a similar process (assignment submission) or the parent is making a comparison between experiences with teachers of different academic years. What is evident is that the academic experience for this parent appears to be disjointed. Perhaps, some of that disjointedness might be attributed to the fact that this parent is new. It certainly does not help that teachers are not consistent with procedural tasks. Based on the various vignettes provided thus far, it appears the learning curve for new learning coaches is steep. Thus far, the qualitative data corresponds to results of logistic regression, which indicated that first year students are more susceptible to withdrawing from Technology Cyber. Teaching and learning staff ought to recognize this and help make the transition smoother by empathizing with the challenge new parents and learning coaches face. As the quote above suggests, different processes only serve to confuse parents as they begin the process of assimilating to the online environment.

Survey respondents have discussed difficulties encountered by parents from a process perspective. Another complicating factor, outside the control of school administrators, is multiple students in the household. As the parent below informs, the more students a learning coach has to deal with, the more complicated and time-intensive the process becomes.
Less conferences. With both children enrolled there were days where between the children and myself we were in conferences for over 8 hours (total not individual) and keeping up with the schedule for the day was a major headache. (Parent Satisfaction Survey, 2012-13).

Clearly, and as the previous quote makes obvious, when a parent/learning coach has to facilitate learning for multiple students any difficulty encountered appears to be magnified. While logistic regression analysis appears to indicate that having multiple students is inversely associated with withdrawal, the quantitative results may be surfacing the magnitude of the decision as it relates to withdrawing multiple students. In other words, anecdotally, parents have complained that having multiple students enrolled simultaneously is a difficult proposition. Statistically speaking, having multiple students enrolled makes parents less likely to withdraw their students. Perhaps, that is because the magnitude of change, for a family with multiple students enrolled, is much bigger; a lot more change having two or more students change schools. That said, it does not make navigating the cyber school any easier.

Teachers also have to be organized with the work they do and how they present themselves to parents because, parents and learning coaches are experiencing the learning environment right along with their children. They are constantly evaluating the online environment and their experience in it. “The first days of school are always hard. Some teachers are more organized than others, the more organized they are the easier it is” (Parent Satisfaction Survey, 2014-15). The quote above underscores the difficulty new learning coaches encounter, presumably when they have to deal with teaching staff that is less organized than others. Based on the quote, the more organized teachers are the easier it is
for parents to follow along and mediate their children’s education and less time is wasted on the triviality of organization, while the parent and student standby.

The culmination of information overload and disorganization only serves to frustrate learning coaches. The quote below underscores the level of frustration some are driven to,

You throw a lot at us to know in the beginning days, on top of trying to acclimate ourselves and kids to the curriculum. It makes the first 2 months horrible for families. If you could break down the information into increments –

1) What you HAVE to know just to get started and navigate your way around
2) A month in, the things that make it easier and things you need to know but aren't crucial to accomplishing the day's work
3) About 1.5 months in, the rest of it.

**At month one and two I would have quit** if I didn't have SEVERAL families who I know personally encouraging me that it would get easier. Even at that it was a miserable learning curve for all of us that made our home life pretty horrible for 2 months. (Parent Satisfaction Survey, 2011-12).

Perhaps, this learning coach captures several issues that not every new learning coach verbalizes, but every new learning coach can identify with. First and as already has been made very clear, new parents are provided voluminous portions of information. The school, in its attempt to help new learning coaches understand all of the complexities involved in the online learning environment provides them much needed information. The unintended consequence of this action, however, appears to be parent and learning coach frustration. Not knowing how to filter through the information provided causes parent frustration levels to rise and coping mechanisms to be created. Second, the level of difficulty is magnified the more students the parents have to contend with. As the level of difficulty increases for parents, so does the level of frustration. Third, as a result of the
frustration parents begin to feel as they navigate the mountain of information provided to them, some level of support is needed to help decrease their level of frustration and put them back on track. Fourth, absent some intervention, pent up frustration causes learning coaches to doubt their ability to succeed in the online educational model. Because this endeavor is such an important one (the education of their children) and because parents have several options at their disposal, leaving Technology Cyber becomes an attractive solution; the lesser of all evils. As the quote above informs, thinking about leaving Technology Cyber happens relatively quickly in the academic journey of a novice learning coach, a fact corroborated by statistical analysis.

The Parent Satisfaction Survey data begins to frame the difficulties parents and learning coaches encounter as they begin their journey into the online environment. Evidence reviewed thus far suggests that persistence for new parents and learning coaches is a matter of shortening the learning curve. Vignettes provided above indicate the learning curve can be shortened in a number of ways. First, parents should be provided information that is helpful, consistent and just in time. Second, simplification of access to learning platforms would save valuable learning coach time. Such access simplification would improve communication and interact between teaching staff, parents, learning coaches and students. Third, provision of parent support early, often and in multiple formats would engender learning coach goodwill and alleviate frustration. Lastly, pay special attention to parents with multiple students enrolled in the model and provide support accordingly.

It is clear that parents new to the school encounter some challenges that serve to frustrate neophyte learning coaches to the point where an exit strategy from Technology
Cyber becomes a viable alternative. The next set of data analyzed was provided by parents and learning coaches who exercised that coping mechanism, and withdrew their children from the cyber school.

**Students “Not Registering” Survey**

As the school year begins to draw to a close, school administrators busy themselves with registering students for the following school year. This is done by sending communication and instructions regarding registration for the following school year to parents and learning coaches of currently enrolled students. Parents and learning coaches are directed to a school-provisioned web address where they can record their intent to register for the following school year. School administrators monitor registration activity and use the information gathered for budgeting, operational planning and new student marketing purposes. Amongst other things, knowing which parents are not returning helps school staff plan enrollment targets for the upcoming school year.

Monitoring registration activity has been an activity undertaken by school administrators almost from the inception of the school in the early 2000’s. In the 2014-15 school year, and for the first time in school history, school management decided to use the registration process to gather additional information from parents who decided not to matriculate their child for the following school year. As had been done in years past, parents were directed to a web portal where they would record their intention to return for the 2015-16 school year. Unlike previous registration periods, parents who informed the school that they were not registering were then asked to also provide voluntary and open-ended feedback about their decision not to return for the following school year.
It is important to note that parents who responded to the “not registering” survey were parents who were enrolled at the time when registration efforts for the 2015-16 school year began. Because the school employs an open enrollment format, parents could enroll and withdraw a student at any time. The parents who responded to the “not registering” survey all happened to be enrolled in the 2014-15 school year and were still actively enrolled when registration efforts for the 2015-16 school year began in March 2015. In total, 291 parents completed the “not registering” survey. Those responses have been included and analyzed because parent decisions regarding not returning to the school are part and parcel of this research study.

Of the 291 parents who responded to the “not registering” survey, 75 did not provide any specific comments about their decision to withdraw their child. In essence, they submitted an empty response box and as a result were excluded from this analysis. Also excluded were 2 respondents who indicated that their child was graduating and as a result were not returning the following school year. The remaining 214 respondents provided 305 distinct reasons (some respondents provided more than one reason) for why they would not return the following school year. The responses provided were analyzed and coded using qualitative analytic methods previously discussed. Of 305 reasons for withdrawal, 36 related to moving out of state. Those 36 responses are not relevant to the research study, as the assumption is that a parent would remain enrolled had they continued to maintain a residence in-state.

After coding, the data was further summarized using the research study’s conceptual framework as guide. Table 12 demonstrates the results of that analysis. In
addition to categorizing not registering reasons by conceptual framework factor, the data was also stratified by length of enrollment. This stratification was completed to determine if reasons why parent decided not to register were different based on the length of student enrollment. Table 13, shows the results of that analysis.

The analysis, of why parents did not register for the 2015-16 school year, makes some things clear. First, the most prevalent reason for parents not registering their students appears to be related to specific student characteristics. Second, early on in the tenure of a student’s enrollment (< or = 6 months), student characteristics and internal factors seem to be equally cited as reasons for not returning. Some of the responses provided appeared to echo those provided by parents in the parent satisfaction survey. Interestingly, students who continue to be enrolled beyond six months appear not to register also as a result of student characteristics followed by internal cyber school factors.

Table 12
Non-Registering Students by Categorized by Conceptual Framework Factors

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Characteristics</td>
<td>0.38</td>
</tr>
<tr>
<td>Internal Factors</td>
<td>0.33</td>
</tr>
<tr>
<td>External Factors a</td>
<td>0.15</td>
</tr>
<tr>
<td>Parent Characteristics</td>
<td>0.14</td>
</tr>
</tbody>
</table>

Note. Population includes 269 distinct responses.

a Does not include 36 students who indicated their withdrawal from the cyber charter school was as a result of a move out of state.
As mentioned earlier in this research study, student characteristics are defined as characteristics exhibited by students prior to online class attendance. Things like demographics, learning style and instructional preferences define this category. Student skills are defined as skills necessary for the learner to be successful in an online learning environment. Study skills, ability to interact virtually and prior online experience define this category.

Excepting students who moved out of state, of the 269 responses analyzed, 102 were categorized as germane to student characteristic factors. Table 14 suggests, the main reason why parents did not register their child(ren) for the 2015-16 school year had to do with lack of socialization. Many times that was the only reason cited for not continuing with the school. As an example, the following quote typifies the need for socialization. “My daughter…will be leaving Technology Cyber simply because she wants...
the ‘high school experience’. Also she realized that cyber school just isn't for her, she loves to be around people” (Parent_Response_802026, 2015). Just as many times, lack of socialization was accompanied by comments that seemed to indicate that the student in question was either also not an independent learner or one that lacked motivation to continue in the online school. The following quote provides such an example,

Due to her learning style and as she enjoys interacting with other classmates is the reason why. She is a very social person and her learning style is very hands on with a live teacher one on one. (Parent_Response_802141, 2015).

The aforementioned quotes confirm what academic research in this area has documented. Virtual education is better suited for independent and motivated learners (Maushak et al., 2000; Reid et al., 2009).

**Internal Factors**

Table 12 indicates that internal factors also affect whether parents return to the school. As stated earlier, internal factors are those factors connected to online delivery of course(s) and controlled by educator(s) of the school. In other words, internal factors are elements of Technology Cyber that are under the control of teachers and administrators. Excepting

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs Socialization</td>
<td>0.54</td>
</tr>
<tr>
<td>Not an Independent Learner</td>
<td>0.27</td>
</tr>
<tr>
<td>Student Lacks Motivation</td>
<td>0.19</td>
</tr>
</tbody>
</table>

(n = 102)
students who moved out of state, of the 269 responses analyzed, 90 were categorized as internal factors. Table 15 groups internal factors based on comments made by parents who indicated they were not registering for the 2015-16 school year.

Table 15
Non-Registering Students Categorized by Internal Factors

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of Flexibility</td>
<td>0.22</td>
</tr>
<tr>
<td>Alternative School Choice</td>
<td>0.21</td>
</tr>
<tr>
<td>Academic Consistency</td>
<td>0.19</td>
</tr>
<tr>
<td>Learning Platforms</td>
<td>0.18</td>
</tr>
<tr>
<td>State Assessments</td>
<td>0.04</td>
</tr>
<tr>
<td>Other</td>
<td>0.16</td>
</tr>
</tbody>
</table>

(n = 90)

The groupings were created inductively and are defined as follows:

1. Lack of flexibility – any comment where the word flexibility was used, or where a parent indicated the school’s unwillingness to change a student’s schedule or adapt.

2. Desire for alternative school choice – any indication by a parent that they are not registering and going to a different school because Technology Cyber does not offer a particular course or academic program.

3. Academic consistency – any comment where communication was a source of frustration for a parent, or where communication with school staff was less than desirable and ineffectual, or where the teacher appeared disorganized when presenting to students.
4. Learning platforms – any comment where a parent expresses frustration navigating the school’s various learning platforms or where the parent indicated some confusion about not knowing how to navigate those platforms.

5. Other – any indication by a parent where curriculum (in general) is an issue

6. State assessments – any indication where a parent is disappointed because the school’s online curriculum is common core or state assessment aligned, or where student assessment is a point of contention.

Many of the pain points identified in the parent satisfaction data are also elaborated in the not registering survey. Specifically, parents who participated in the parent satisfaction survey lamented the difficulty navigating the multiple learning platforms the school uses (Reid et al., 2009), lack of teacher access and communication (DiPietro et al., 2008), and lack of flexibility regarding adjusting learning schedules (Barbour et al., 2012).

For example, the following respondent had this to say,

She (student) had a lot of trouble keeping up with the different requirements each teacher had on Blackboard…and each teacher has his/her blackboard class arranged in different ways. She found this to be very, very stressful…We're switching to a cyber that uses Moodle…We're also looking for more flexibility, and the cyber we're switching to offers that. The online classes are completely optional…Since the teachers aren't spending most of their day in live classes, (just 1 hour a week) they're immediately available all day for any questions, without having to wait for office hours to come around and then wait in line for your turn. The combination of an easier online platform, more flexibility, and immediate teacher help for any questions is what is prompting the switch. (Parent_Response_800932, 2015).

Scholarly literature advises that inconsistent teaching methods employed in K-12 virtual courses has the potential to cause disconnectedness and stress for students (DiPietro et al., 2008; Roblyer et al., 2008). The aforementioned quote underscores that point. The virtual
school needs to be engaging and engender participation in the online environment. It should not create artificial barriers to learning.

**External Factors**

External factors are those outside the control of school personnel that, nonetheless, cause parents to leave the school. Of the 305 responses analyzed, 76 were relevant as external factors. Table 12 denotes that group of reasons as the third most cited by parents who did not register for the 2015-16 school year.

Table 16 demonstrates that moving, generally out of state, was the external factor that was cited most often in this group of reasons for not registering. In addition to moving, parents also indicated that needing to find employment or medical issues as reasons why they could not register their student(s) for the upcoming school year (LaRocque et al., 2011). Many times parents that cited these issues also noted, that were it not for the circumstances they faced (moving, finances, or medical), continuing with the school would be a foregone conclusion.

The category of multiple students is an external factor that is important to this research because it is an issue raised by parents. As an example, the following parent

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moving</td>
<td>0.47</td>
</tr>
<tr>
<td>Multiple Students</td>
<td>0.21</td>
</tr>
<tr>
<td>Financial</td>
<td>0.20</td>
</tr>
<tr>
<td>Medical</td>
<td>0.12</td>
</tr>
</tbody>
</table>

(n = 76)
discussed the difficulty meeting multiple family demands, one of which was being the learning coach for three students in the household. “I also felt that the demands of first grade assignment submissions was unrealistic when trying to teach 3 children in the home and work to provide for family to meet basic needs” (Parent_Response_800885, 2016). One also gets a hint of an internal factor (assignment submission) adding to the frustration level experienced. Perhaps, the workload for learning coach gets amplified the more students the learning coach has to mediate instruction for. This next parent is more succinct in the explanation given for not registering:

I did not care for the school-at-home model of Technology Cyber. I found it very time consuming to juggle class and assignment schedules for two children, often going "async" with classes so we could work at our own pace, which is a major reason I school my children at home. (Parent_Response_801947, 2016).

The salient point this parent makes is that in its current incarnation, more children means more time consuming work at Technology Cyber.

**Parent Characteristic**

Because Technology Cyber’s educational model incorporates parents who facilitate for their students (learning coaches), how these parents experience the school also tends to affect their decision to continue at the school or withdraw. Many times their ability to facilitate for their students is limited by their own educational background and characteristics. Other times, issues unique to the parent or family also impact the ability of a student to remain enrolled. Excepting moving out of state, of the 269 responses analyzed, 37 were categorized as parent characteristic. Based on the number of responses, an issue relating to some parent characteristic was the lowest of the categories of factors
cited for not registering for the 2015-16 school year. As an example, the following parent discusses her dislike of mediating learning. “…I don't like the fact that I am teaching her grammar” (Parent_Response_802794, 2015). This next parent tells of the difficulty with facilitating instruction for her own son. “Technology Cyber is a great school and I have no quandary with the school itself. I'm not a teacher and teaching my son was quite difficult at times just because I'm his mom” (Parent_Response_802794, Not Registering Survey, 2015). It appears this parent is having trouble identifying boundaries for her son and does not have the support or skill to correct the situation.

The data analyzed in the not registering survey continues to add to the frame presented by the parent satisfaction survey data. It is evident that some of the issues presented by the parent satisfaction survey are also present in the Not Registering data. However, the Not Registering data informs us that as students persist in the online model, the reasons for why they make the decision to leave the school begin to change. For a big portion of students, the online model is not a good fit. It appears that as students and parents get more comfortable, because they begin to learn to navigate the online environment, reality sets in. For many students, that reality is that socialization is an important component of schooling. Without it, their academic journey suffers. Others discover, much like scholarship has informed, that online education requires motivated and independent learners (Lee & Figueroa, 2012; Oliver et al., 2009; Reid et al., 2009). Because the social component in a virtual environment is limited, students who can excel in this model need to be ready to do so on their own. The next set of data, to be analyzed and presented, will be information provided by parent interviews.
Parent Interviews

The third qualitative data set for this research study is comprised of parents who have enrolled and subsequently withdrawn one or more students. This data set includes interviews with eighteen parents and two Parent Ambassadors. In order to minimize lack of understanding and ensure parent interviewees were clear with how data collected was to be used (Maxwell, 2013), at the beginning of each interview, an informed consent form was read and the parent asked to confirm verbally that they consented to be a willing interview participant. All, but one interview, were recorded and subsequently coded using inductive methods, as described in Chapter 3, using the research study’s conceptual framework as a guide. In all, 31 reasons were provided for why these participants decided to withdraw their students from Technology Cyber Charter School. Those reasons were categorized and coded utilizing the conceptual framework factors and Table 17 presents a summary of those results.

### Table 17

<table>
<thead>
<tr>
<th>Category</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Characteristic</td>
<td>32%</td>
</tr>
<tr>
<td>Internal Factors</td>
<td>29%</td>
</tr>
<tr>
<td>External Factors</td>
<td>29%</td>
</tr>
<tr>
<td>Parent Characteristic</td>
<td>10%</td>
</tr>
</tbody>
</table>

(n = 31)

Interview Participant Attributes

The interviewee sample for this study consisted of telephone interviews with nineteen (19) parents of former students. Interviews included four conducted as part of a
prior and related pilot study. Those four interviews were conducted in April 2014. The parent ambassador interview was conducted in November of 2015 and the remaining fifteen (15) were recorded in December 2015. Interviews ranged in duration between twenty-three (23) and fifty-four (54) minutes. Each interviewee participated in a semi-structured interview where a series of eight (8) “guiding” questions were asked. The interview instrument used could be found in Appendix 2, which is provided as an appendix to this report.

In all there were twenty-eight (28) students represented from grades Kindergarten through 10th. Demographic data available to the school indicated fourteen (14) parents identified as Caucasian, four as African American and two as Hispanic. Only one student, represented in the interviews, had an Individualized Educational Plan (IEP) and eleven (11) reported as eligible for free and reduced meals. Unfortunately, the PSSA record for the students in question was incomplete. However, data was available for eleven of the students represented. For the mathematics PSSA, 2 students were reported as Below Basic, 5 as Basic, 2 Proficient and 1 Advanced. For the Language Arts portion, of the PSSA, 3 reported as Basic, 5 Proficient and 1 Advanced.

In terms of enrollment duration, some students withdrew never to return and others have withdrawn and returned. Data available for this study (as of December 2015) indicates that 8 students withdrew and never returned, 7 withdrew and returned within a year, 7 withdrew and returned after 1 year, 5 withdrew and returned after 2 years and 1 withdrew and returned after 3 years. After interviews were conducted and recorded, they were sent to an outsource transcription service. Once transcripts were received, inductive
and pattern coding methods were deployed using the conceptual framework as an underlying paradigm.

**Student Characteristics**

The lack of socialization, in online education, is an issue well known in scholarship. Moreover, it is an issue that has been emphasized at every turn in this research study. The Parent Satisfaction Survey and the Not Registering Survey all hint at the inherent difficulty of adequate socialization for students in online educational venues. Better said, the data indicates that some students need social interaction of peers in order to thrive in an educational environment. This theme was also surfaced during parent interviews. Interviewees #4, 5, 9, 11, 14, and 15 all discuss, in some way or another, how the lack of peer interaction affected their students in the Technology Cyber environment. Interviewee #4 recounts the socialization issue for her student as follows,

…he wanted to go to school, uh to the brick and mortar. I think if he, if he didn’t have the desire, it probably wouldn’t have been much on our radar. Um, but he’s also involved in sports and he’s played youth football all growing up and he was going to be part of the middle-school team. Um, he could be part of that team and still be cyber schooled, but he really wanted to go to school with the boys that he’d be playing football with. Um, he didn’t want to feel different, if that makes any sense. (Interviewee_#4, 2014).

This parent discusses the importance of sports to the social development of her child. From her perspective, the online educational environment was working well. However, her son appeared to need the “esprit de corps” that being together in the classroom with his teammates provided. Even though, as a cyber student he could participate in school district sports activities, being away from his teammates, during the school day, would make him “feel different” and not a “true” member of the team.
Interviewee #5 provides a different view of the socialization prism. From her perspective,

My second child has a completely different personality from my first. He's very bright, but he's a middle child. He does not like to take instruction. He is not an independent learner. Despite being bright, he would so much rather be playing or playing video games. It's always been a struggle. The willingness to work, to get the work done, to be independent is something that we're always working on. (Interviewee_#5, 2015).

This parent discusses the struggle she has had with focusing her child on cyber learning. Scholarship informs us that online and cyber learning is better suited to independent learners (Maushak et al., 2000; Reid et al., 2009). Interviewee #5 admits that is not the personality of her middle child, and his lack of focus and willingness to work in the online school is evidence that he needs a different and perhaps traditional school environment to engage with.

Interviewee #12 goes a step further. From her experience, “...I wouldn't recommend an online school for people that don't have their kids in outside social activities” (Interviewee_#12, 2015). This parent is blunt in her assessment, and recognizes the importance of social interaction in the development of children. Implicit in her quote is the recognition that the virtual school cannot reasonably accommodate all the social needs of students, primarily because it would be cost prohibitive to do so. With an expansive geography, it becomes very expensive for the virtual school to host and pay for socialization activities for its students throughout the Commonwealth of Pennsylvania. While it does organize activities intended to promote face to face interaction of its students, the expansive geography of the state makes it difficult for some parents to travel and participate in school managed socialization activities.
This next parent describes the toll of isolation for her student. As she tells it,

...It was just a little hard for her being home and not interacting with people. She was just like not wanting to do it anymore and fussing with me about wanting to do it. I was like okay, and I took her out and put her back into the school. (Interviewee_#14, 2016).

Ultimately, students who need to be in a socially vibrant learning environment push back against the isolation of the virtual school, with parents as backstop. As has been demonstrated, parents pay attention to their children and act accordingly.

**Internal Factors**

Both the Parent Satisfaction Survey and the Not Registering Survey have demonstrated that some of the reasons parents withdraw from Technology Cyber are connected to factors tied to the school’s operation. Data from parent interviews appear to confirm that pattern. As an example, interviewee #6 had the following to say regarding follow-up by the school,

Last school year, we got her materials in time, everything. The first day of school I contacted…her homeroom teacher…maybe her guidance counselor…to say my daughter doesn't have enough classes. No response. I think it was like two weeks later I finally said you know what something has to be done. You don't have enough classes. So I contacted Mr. K and he told me to contact I think it was the principal of the school at that time. I contacted…her high school principal. She never contacted me back. After waiting for like two weeks again, I said you know what, we're going somewhere else. (Interviewee_#6, 2015).

As consumers, who exist and participate in an environment replete with educational options, parents are constantly making value judgements in terms of efficiency and efficacy. Often, those value judgements are juxtaposed against the school calendar. In a climate of increasing educational accountability and high stakes assessments, every minute of the school day counts. This is especially true of parents who opt to participate in
educational choice. That’s because, anytime a student leaves one school for another, they have to acclimatize to the new learning environment. As such, time is of the essence. As the vignette above demonstrates, when school personnel do not pay proper care and attention, parents exercise their ability to have their children educated elsewhere.

Interviewee #8 did not wish to be recorded. Based on field notes of that interview, this parent could be considered an early adopter. She had enrolled several students as far back as 2004 and decided to withdraw them by 2006 when the school’s Board of Trustees (BoT) decided to terminate its school management contract with K12 Inc. At that juncture, the school’s BoT decided it needed to exert tighter control of administrative aspects of the school’s operation and decided to manage the school’s various administrative functions in-house. To some parents, particularly those who had previously home-schooled, this move by the school’s BoT meant less flexibility and a move towards more bureaucratization. Interviewee #8 was one such parent. This parent concluded that some of the policies by the BoT did not match her conception of virtual education. As such she decided to exercise her option of school choice and decided to enroll her children elsewhere. What Interviewee #8 underscores is the tenuous nature between enrollment and parent perception. As public institutions, public schools, both traditional and charters, always walk a fine line between implementing educational policies and catering to parent perspectives. Sometimes, policy positions serve to alienate parents. In the case of schools of choice (private, charter, cyber charter), this translates to loss of enrollment and the resulting revenue.

Interviewee #10 is the parent of five children, who were all at one time or another enrolled at Technology Cyber. The parent relates,
That first year, because of the struggle with the attendance, that was the main thing that really made me decide to make a decision to withdraw at that time, because you had two portals you had to work through to capture the attendance, and that was a bit much, to avoid truancy and so forth, that was quite a bit to do on every day. (Interviewee #10, 2015).

Interviewee #10 describes her struggle to navigate the various learning platforms used for teaching and learning by Technology Cyber. In an effort to ensure that Technology Cyber is on the right side of compulsory attendance laws in the Commonwealth of Pennsylvania, students are required to log in to the school’s learning platform at least once per day. The school’s learning platform is known by its commercial name, Blackboard (Bb). By logging in to Bb every day, the school ensures that students are in compliance with the school’s compulsory attendance policy. In addition to recording daily attendance, Bb also serves as the platform where students find their weekly classroom assignments. Most assignments include work in the online curriculum. In order to access the online curriculum, students have to login to a different platform, known as the online school (OLS). Being a separate system from Bb, students need different credentials to login to the OLS. When Interviewee #10 references struggling with attendance because she had to work through two portals, she is bemoaning the administrative burden caused by the multiplicity of learning systems (Bb, OLS) employed by the school. As Interviewee #10 relates, that burden was enough to cause her to withdraw from the school.

**External Factors**

As has been demonstrated thus far, many of the reasons documented as causing parents to withdraw their children from Technology Cyber relate to operational issues within the school (internal factors) or are related to the socialization needs of students. However,
issues beyond the control of school administrators also exist and cause parents to withdraw their children. Results of the Not Registering Survey indicate that a significant number of parents did not register their students for the following school year for reasons unrelated to school operation. Prominent among those reasons are students moving out of state and parents whose financial situation forced them back into the work force (either part-time or full-time). Of the twenty parent interviews, one parent indicated that her pregnancy made it difficult for her to perform effectively as a learning coach. A second parent noted that her divorce made it impossible for her to maintain her student enrolled.

**Multiple Students**

Quantitative analysis, previously presented, confirms the statistical significance of multiple (siblings) students as it relates to withdrawal. The burden, caused by the multiplicity of learning platforms learning coaches have to manage, gets magnified if multiple students are involved. Interviewees # 3, 8, 10, and 18 all lamented, in some way, shape or form, the difficulties imposed by the school learning platforms on learning coaches with multiple students enrolled in the school. Interviewee #3 had the following to say,

...with the synchronous classes, it added, um, more time to our day…both my boys, maybe it was me and my misunderstanding but I still had to get through the curriculum and if that synchronous class didn't cover a lesson in the curriculum (OLS), I needed to cover it…it was just causing such stress (laughs) that, um…it wasn't working and I was having some, there's the personal relationship between my son and I and it was causing some tension there. (Interviewee #3, 205).

The parent above informs the reader that managing the various platforms, plus facilitating learning caused the relationship with one of her sons to suffer. Her comments above also
speak to the uncertainty she had about whether she fully understood what her task responsibilities were with respect to the multiple platforms involved. Interviewee #8 was also explicit in her description of the difficulties parents of multiple students have in the online model. According to her, the work is hard on the learning coach early on (Interviewee #8, 2015). Interviewee #10 also discusses the difficulty managing multiple students, as follows:

...because of multiple children, it was a bit too much for me to manage at the time...but with my one student who attended around 2012 and who's still presently a student...it was a little bit (more) easier with one child than with multiple students. (Interviewee #10, 2015).

What’s interesting about Interviewee #10 is her assessment of the difference between managing one student versus multiple students in the online model. In her words, it is a little bit easier when one child in involved. She is acknowledging two issues at the same time. First, the multiplicity of platforms makes facilitating difficult for the learning coach. While difficult, it is bearable...even doable. Managing multiple students in the cyber educational model, on the other hand, is much more intense. For her, it became “a bit too much” to handle. Likewise, Interviewee #18 recounts how she was also overwhelmed having three students to manage. She said,

...after I had enrolled my girls...it became a little overwhelming to have all three of them, and I didn't know what I was doing...I just feel like it was really, really overwhelming just because there were so many different methods (learning platforms) that I had to make sure that I understood... These are three different things that I have to make sure are all in sync with each other, my child, the online school, and the teachers. I got to make sure everybody is getting what they needed from me done...It ended up falling a lot on the parents, the amount of students that I have in the school, it just becomes difficult. I feel like...having to do something and follow up on one child, but three children, it is a little more difficult of course. (Interviewee #18, 2016).
This parent also discusses the difficulty of having three students enrolled simultaneously and informs the reader that she is serving three masters: her students, the curriculum and the teachers. Invariably, each of these entities (students, curriculum, teachers) needed something a little different from the other and it was up to her to coordinate it all. The very predictable end result for the learning coach is summarized in one phrase, “difficult of course.”

**Parent Characteristic**
Because parents are integral to the educational model at Technology Cyber Charter School, issues that affect them sometimes lead them to make the decision to withdraw. Whether it is lack of technological savvy or lack of organizational skills, how well a learning coach adapts to the virtual environment may affect whether their child remains enrolled. Oftentimes, leaving the school comes down to the parent’s value system, as the next vignette demonstrates. This next parent was of the opinion that the virtual school creates a “bubble” and gives students a false sense of security. From her perspective,

…competition is not always bad although sometimes people do use the word as though it's negative. Having to be in a classroom setting and to have fixed deadlines. To see other kids and how they need to study…now being in a brick and mortar school where your things like handwriting counts and deadlines count and having the open dialog and discussion…time management…getting up in the morning. Not being in your pajamas per se…It's a level of accountability as well as exposure to how you're going to deal with others, your peers, adults, authority. They need that… I've been saying this for years, our kids do not know how to study. I think the K-12 curriculum is phenomenal however, they never have to really pick up a book outside of just doing their curriculum… (Interviewee_#17, 2015).

This parent's concern that students in the virtual school do not have to be overly concerned with bell schedules, penmanship, or peer competition. In order to ensure her children are
ready for the “competition” present in the “real world,” Interviewee #17 is of the opinion that a traditional school fits the bill. By this parent’s own admission, the curriculum employed by Technology Cyber is phenomenal. However, from her viewpoint, children need to also be prepared for the pressures of life. And, there is no better place to begin this training than in a traditional bricks and mortar school.
Chapter 6: Discussion & Recommendations

Results of Quantitative Analysis

The conceptual framework, aided by work done in higher education by Tinto (1975), Bean & Metzner (1985), Rovai (2003) and Park (2007), suggests the reasons why parents withdraw their children from the cyber charter school could be summarized into six major categories. Those categories, also known as factors, are, internal factors, external factors, student skills and characteristics, and parent skills and characteristics. This research study demonstrates that those six “containers” capably aggregate the myriad reasons uncovered as a result of quantitative and qualitative methods utilized in completing this research study.

Why do parents decide to leave the cyber educational model provided by Technology Cyber? The research has uncovered a number of different reasons that cause parents to leave the school. However, upon closer inspection, there seems to be an alignment amongst the various sources of data analyzed regarding an answer to the research question. The results of logistic regression and parent satisfaction survey appear to match. Likewise, the results of the non-registering survey and parent interviews also seem to be complementary.

The logistic regression variable with the most impact, based on the Wald statistic, related to students new to the school. The parent satisfaction survey results analyzed for this research study had to do with parent perception of the first days of school. While binomial logistic regression results are symptomatic, data from the parent satisfaction
survey results leads one to conclude that new student onboarding might be an area that needs to be improved in order to decrease student withdrawal at the cyber school. What follows is a broader exposition of the reason(s) parents withdraw their student(s) from Technology Cyber Charter school.

**Logistic Regression**

The results of the logistic regression, performed as part of this research, indicated three variables, in the 2014-15 school year, were associated with student withdrawal. Those were: newly enrolled students, middle school grade span, and having multiple siblings enrolled in the virtual program. Of those three variables, being new to the school provided the biggest driver towards withdrawal. The quantitative analysis indicated that newly enrolled students were particularly vulnerable to withdrawal. That claim was first bolstered by the Wald statistic provided during logistic regression. The Wald statistic, “tests the unique contribution of each predictor, in the context of the other predictor” variables (Wuensch, 2016). The bigger the Wald statistic of a variable, the more that particular variable contributes to the significance of the logistic regression equation. Secondly, Figure 5, which depicts a stark contrast between first year enrolled and withdrawn students, in the 2014-15 school year, offers graphic evidence that something occurred with first year enrollees. The statistical analysis provides confirmation that the withdrawal phenomenon experienced by the school is statistically significant. That is, the analysis confirmed that students new to the school, in the middle grades withdraw at a higher rate than other students and their withdrawal was not happenstance. That said, the variables tested cannot be construed as “reasons for leaving.” They are relevant to student
withdrawal; perhaps, manifestation of some other root cause(s). From that perspective, results of the statistical analysis simply focus the researcher in the right direction. The logistic regression informs us that it is not by chance that parents and students new to the school struggle mightily in their first year of enrollment. Unfortunately, many times the result is student withdrawal. However, knowing that first year students struggle quite a bit in the virtual model gets us no closer to understanding why. For that, I now turn to the results of the qualitative analysis.

**Results of Qualitative Analysis**

“You throw a lot at us to know in the beginning days, on top of trying to acclimate ourselves and kids to the curriculum” (Parent Satisfaction Survey, 2011-12).

Thus far, the statistical analysis confirms that students new to the school have been more susceptible to withdrawing than their more experienced counterparts. The parent satisfaction survey begins to offer concrete and contextual reasons why. Parents who answered, “how could the school have improved your ‘first days’ of school?” were near unanimous in their refrain: entering the school is a tough proposition. What has made entry to the cyber school tough has been the organizational communication strategies employed. Evidence presented, from the parent satisfaction survey, indicated that parents new to the school were not communicated to effectively. Whether it is too much communication, too many sources of communication, or communication that is not consistent, not timely, or both, learning coaches struggled to process the organizational communication they received as they entered the cyber school. As a result, parents oftentimes got confused, overwhelmed or both and doubt began to creep in about how they ought to proceed with
their child’s education. Like the proverbial ripple in a pond, a domino effect begins to unwind.

**Newly Enrolled Students**

Technology Cyber Charter School has had a new student onboarding process for quite some time. And it seems every year an attempt is made to improve the process. That is one of the reasons underlying the bi-annual parent satisfaction survey. Currently, however, aside from being inundated with all of the information included in the welcome packet, new parent orientation is voluntary. That is, new parents decide to opt in or out of attending orientation sessions. The old adage, “you don’t know what you don’t know,” rings true here. New parents may think they understand Tech Cyber’s virtual education system. After all,” how hard could it be to stay at home and work with a child on learning to read and write?” It turns out, it is very difficult to manage the myriad interconnected processes and platforms that have to come together to enable just such a thing (working on learning to read and write at home). And, the scholarly literature appears to be in agreement. Lee & Figueroa (2012) assert that due to lack of experience, new students feel overwhelmed in the online environment. Research for this study indicates the same is true for learning coaches.

Because onboarding sessions are voluntary, many parents do not get the benefit of the information and knowledge disseminated in these sessions. This fact is not lost on the school’s teachers and administrators. To compensate, learning coaches are provided lots of information. So much so, that in the course of this research study, it was evident that learning coaches were being overwhelmed with information. By not attending onboarding
sessions, learning coaches were left to their own devices; reading their welcome packet and relying on teachers and family support representatives, or another cyber school parent they may be lucky enough to know, to fill in the gaps. The school also has an ambassador program that attempts to pair new learning coaches with more experienced ones, in an effort to ensure that new learning coaches get acclimated and have a support system to help them enter the virtual learning environment. Here again, this effort has been strictly voluntary. If a learning coach is not keen on accepting the support provided, and cannot assimilate to the learning environment quickly, their entry becomes overwhelming. In turn, other areas of the new student experience begin to suffer. Many times, the only alternative a new parent has had is to withdraw their child(ren) because they do not know where to turn for help. Oftentimes, it is that they are reticent to reach out for help from other parents, because aside from the school staff, they know no one else in the school.

Many parents, however, have on boarded successfully. Whether they attend new student orientations, effectively enlist their teacher or family support representative, successfully assimilate new student materials, or combine all of the above tactics, many parents make it through the entry phase of the cyber educational process. The parents who do seem to have to confront a whole new set of challenges on their way to becoming veteran learning coaches. Next, we explore some of the difficulties encountered by learning coaches as they transition fully into the cyber educational model.

Non-Registering and Parent Interviews
The results of the non-registering survey and parent interviews presented more variety with respect to reasons why students withdraw from the cyber charter school.
However, applying the conceptual framework as aggregator, these two sets of data coalesce mostly around student characteristics and internal factors as the big drivers to student withdrawal. As it relates to student characteristics, the results of this research are in agreement with the scholarly literature consulted, in that, first, many students withdraw from the cyber charter school because they lack the independent learning skills required of the virtual model (Maushak et. al., 2000, Reid et. al., 2009). Second, lack of socialization opportunities is too great a barrier to overcome (Barbour et. al., 2012). From an internal organizational perspective, lack of flexibility, organizational communication and multiple learning platforms are the big drivers of student withdrawal surfaced by the data analyzed. Even so, the issues relating to organizational communication and multiple learning platforms have their roots in the onboarding process; a process that does not appear to be properly preparing learning coaches and students for success in the virtual model.

**Student Characteristics**

My second child has a completely different personality from my first...he does not like to take instruction…to be independent is something that we're always working on (Interviewee_#5, 2015).

Previously, in this research study, it was mentioned that cyber learning is not the proper academic fit for some students. By fit, what is meant is how well the student’s learning style and instructional preferences match the cyber model of education. Maushak et. al. (2000) defines learning style as the preferences by a learner in processing and synthesizing information. Maushak et. al. (2000) and Reid et. al. (2009) declare that virtual education seems to be better suited for self-directed students with independent learning
styles (Maushak et al., 2000, Chen et al. 2000, Reid et al., 2009). This research study also presents evidence in agreement with the aforementioned.

Analysis of the non-registering survey data indicates that 38% of the responses for why parents withdrew their children from the cyber school were connected to student characteristics. Similarly, 32% of responses provided during parent interviews also tied student withdrawal to student characteristics. Invariably, in both of these data sets, parents often described three student attributes that factored heavily into withdrawal. The first attribute was the student’s need for socialization. The second attribute was the lack of learning independence by the student. Third, and perhaps related to learning independence, was lack of motivation displayed by the student. For students who have difficulty keeping their own academic pace or need the social aspects of bricks and mortar learning, the virtual model does not provide an adequate fit for their learning needs. Interviewee’s #5, #12 and #14 all discussed having children that needed the social ambiance and/or setting provided by the traditional school setting. Other parents discussed the differences of personality, amongst their various children, and the clear distinctions for those whom the cyber program works and others where it just was not a good fit socially, academically, or both.

Unfortunately, sometimes parents come to the realization that the cyber model is not a good academic fit for their student(s) after having experimented with the cyber model. Much resource is expended by both parent and school in this process. For the parent, the resource expenditure is in time and energy. Parents usually spend some time and effort researching the variety of school options available. This includes comparing the many public educational options as compared to private educational options. In the public realm,
the comparison is between options provided by the local school district in comparison to charter and cyber charter schools. As parents drill down, issues like safety, instructional model, and flexibility are all important factors that come into play in the eventual decision-making calculus.

Once the decision has been made to enroll in the cyber school, the parent(s) have to busy themselves with completing the cyber school’s application and gathering all of the requisite documentation, from the former school, to deliver to the cyber school. The bottom line is that the parent spends quite some time and energy in this endeavor. For the school, the resource expenditure comes in the form of time, energy and financial capital. Time and energy of staff greeting parents, helping through the application process, answering questions about the school and instructional model, and gathering academic and other relevant documentation. Financial resources are encumbered to purchase academic materials and manipulatives, in addition to the online school. Because the academic materials are purchased for every student, when a student withdraws from the school, a financial loss ensues if the student did not remain enrolled for the entire academic year.

It appears that academic fit is usually not a consideration in the calculus for families as they explore the cyber school option. From the school’s perspective, counseling parents against the cyber model of education is a dicey proposition, because as a public school, it is illegal to dissuade parents from attending a public school. Moreover, enrollment at public schools is open to all school age children and students to not have to qualify or take an entrance exam as condition of enrollment. As a result, ensuring academic fit will always be a challenge for Tech Cyber.
The evidence suggests that Technology Cyber’s model, in conjunction with the online curriculum employed, works well for independent learners. The model is especially well-suited for students who want to accelerate their learning. It is also just as well suited for students who need an academic pace that is slower than the norm, provided the student is motivated to learn. In both of these instances, the learn anywhere, anytime modality of virtual education enables flexible pacing. There are, however, internal factors that make continued attendance difficult as well.

**Internal Factor - Flexibility**

I did not care for the school-at-home model of Technology Cyber...I found it very time consuming to juggle class and assignment schedules for two children, often going "async" with classes so we could work at our own pace…I simply prefer a more traditional homeschool model (801947, Not Registering Survey, 2015).

Table 6 lists the top ten reasons provided by parents when they enrolled at Tech Cyber. Prominent on the list and fourth highest vote getter was adaptable schedule. Many parents who enrolled their child(ren) in the cyber school were looking for, amongst other things, flexibility of schedule. That rationale makes absolute sense. In the cyber educational model, instruction is not encumbered by buildings or physical location. Learning can and should be able to take place wherever there is a computer and an internet connection. Not only can the online school be accessed anywhere, it can be accessed at any time. Those two features are really sought after by parents coming into this educational model as identified by reason for enrolling as cited in Table 6.

Ideally, the educational model provided by Technology Cyber Charter School is well positioned to enable the flexibility that parents wish for. And, the school’s marketing
literature underscore this attribute. Unfortunately, as the vignette above indicates, some parents are not enamored with Tech Cyber’s idea of “school-at-home.” What this parent means is that she was unsatisfied with Tech Cyber’s implementation of class scheduling of instruction a la bricks and mortar style. The parent in the vignette decried having to “juggle class and assignment schedules.” The class and assignment schedules she discussed were schedules for teacher led synchronous instruction over webcam. Class and assignment schedules means having to be tied down to a specific time and place to attend synchronous class. This undoes the inherent flexibility of the cyber model. In turn, this frustrates some parents, especially those with busy work and time commitments.

Over time, and in an effort to address a variety of academic issues, Technology Cyber Charter school has adjusted from a fully asynchronous model to one where students increasingly attend teacher led classes via webcam. The issues that have brought this change are teacher effectiveness, student performance on statewide assessments, and “accountability.” In an effort to reform how school professionals are evaluated, the Commonwealth of Pennsylvania passed into law Act 82, in June 2012 (Pennsylvania Department of Education, 2016); also known as Educator Effectiveness. While a discussion of the effects of educator effectiveness is outside of the scope of this study, how educator effectiveness is implemented in a cyber environment is no different to its implementation in a bricks and mortar setting. One tenet of educator effectiveness is attribution of student achievement to teachers. In effect what educator effectiveness has done is force cyber schools to develop bell schedules similar to bricks and mortar schools. This means less and less asynchronous learning opportunities and more and more
scheduled, teacher led instruction via webcam. The net effect has been a decrease in transactional distance as described by Giossos et. al. (2009); an increase in course structure and loss of flexibility. Interestingly, this loss of flexibility comes to an educational model that at its outset was designed to be innovative and different. Parents have taken notice of the increased lack of flexibility and increasing assimilation to the traditional public school model. And, many parents could care less for it. Consequently, they let their displeasure be known by exercising their right to find a different educational model for their children.

**Internal Factor - Multiplicity of Learning Platforms**

...there were so many different methods (learning platforms) that I had to make sure that I understood... These are three different things that I have to make sure are all in sync with each other, my child, the online school, and the teachers...It ended up falling a lot on the parents, the amount of students that I have in the school, it just becomes difficult. I feel like...having to do something and follow up on one child, but three children, it is a little more difficult of course (Interviewee_#18, 2016).

It is a fact of life that schools all across the land have a variety of educational systems at their disposal to help young people get the most of their educational experience. Technology Cyber Charter school is no exception. The school employs multiple systems in an effort to ensure that students receive and participate in a proper academic experience. There is no one system that will accommodate the variety of needs that any school, much less a cyber school like Tech Cyber, has. All of that, however, should be imperceptible to parents and learning coaches.

As the school’s enrollment process has described, it is clear that the school employs a number of different learning platforms. Just the same, and as the preceding new parent interview demonstrates, it is also easy to determine that the various platforms are not
integrated, distracting parents from the important task of educational mediation for their children. In other words, parents have to navigate across platforms coordinating academic activities and tracking multiple login credentials. This on top of the information overload, and in some cases, lack of effective onboarding that would help parents navigate and manage those systems. This appears to be an area where the school could make quick gains.

The bottom line is that the school should be dismantling barriers to student learning and achievement, not erecting obstacles that cause parents to question the educational choice they have made.

**Internal Factor - Organizational Communication**

The preceding parent interview vignette also discloses that a parent or learning coach participating in this cyber model of education has “many balls in the air.” The juggling begins almost immediately. Let’s refresh. At enrollment, a new parent to the cyber school receives a lot of information. While voluminous, it is necessary in order for the parent to gain an understanding of how to navigate the virtual environment. At the same time, the parent needs to concern herself/himself with facilitating instruction. Amongst other things, that means understanding how to navigate various learning platforms, which are not integrated, and as such require multiple login credentials. Because these platforms are separate systems it requires keeping track of multiple login credentials. Imagine having to do all of that for two children? Maybe three?

Much parent and learning coach anxiety could be reduced simply by having school personnel communicate effectively with parents. By effectively, what is meant is
providing information to parents in a timely manner, with accurate and relevant information, giving consideration for why the parent needs to have the information to begin with. The data analyzed provided a number of tactics that school staff could use to do just that, with one particular tactic being to provide information “just in time.” This appears to be another area where school staff could invest some time and resource to achieve a quick win.
**Recommendations**

Like many organizations, Technology Cyber is party to the Pareto Principle. The Pareto Principle “specifies an unequal relationship between inputs and outputs” (Investopedia, 2016). Also known as the 80/20 rule, the assumption of the Pareto Principle is that the results of most situations are caused by a small number of things. The school’s enrollment has been stable over the last few years. Fiscal management is one of the school’s strong suits, and students, parents and staff are committed and do their best to ensure learning occurs. This research is focused on the figurative 20%; the small number of things school management needs to concentrate on and remedy so that Technology Cyber Charter school could stem the “high tide” of student withdrawal and continues in operation for many years to come.

Many of the student retention problems experienced by Technology Cyber are the result of a less than desirable new student onboarding process. Results of the statistical analysis performed confirm what the data from the parent satisfaction also implied; entering for a first time student is very difficult. As Chen & Chang (2011) elucidate, educational technologies have a double-edged quality to them. On the one hand, these technologies enable unprecedented access to the learning environment. On the other hand, students and learning coaches need experience with these technologies if they are to be successful in the cyber educational realm. Technology Cyber’s educational model asks a lot of its learning coaches.

For starters, the learning coach has to be a good time manager. The learning coach has to ensure their child stays on task in order to accomplish annual academic goals; this task is oftentimes complicated when more than one child is involved. The learning coach
has to be good with technology. Being good with technology is a loaded and generic understatement. What being good with technology means, in this environment, is:

1. The learning coach has to be adept at navigating the internet.
2. The learning coach has to be comfortable with working on multiple web enabled academic systems.
3. The learning coach has to have some skill trouble shooting when technology equipment is not working as intended.
4. The learning coach has to be proficient at mediating instruction to their student.
5. The learning coach has to be able to communicate effectively via email, or text message, or both.

Most importantly, the learning coach has to be able to accomplish all of these things virtually; without somebody at their side to hand hold through the process. That is why the current onboarding process needs to change. It needs to address a lot of different needs learning coaches have upon entering the cyber school. Addressing these needs early, prevent learning coach frustration and feelings of inadequacy downstream.

The question becomes “how should the current onboarding process at Tech Cyber change?” Just as with the research study’s conceptual framework, the cyber school should look toward higher education for answers. Cappella University may offer a model to emulate. It has developed a “First Course” for all of its matriculating students. The objective of the first course is to improve student retention of its at-risk students. It does this by having students complete an assessment that identifies potential barriers to success. Amongst other things, the student’s score on this assessment identifies the support and
resources the student will receive during their onboarding experience (Glazer & Murphy, 2015). Similarly, Technology Cyber Charter school needs to change its student onboarding process so that it begins addressing learning coach and student needs right away. The first goal of the cyber school’s new onboarding process should be the same as Cappella University’s; student retention.

A new and improved onboarding process should:

1. Give students and learning coaches a sense of the time commitment and mindset they will need to excel at online learning, early in the process, before financial resources are expended outfitting students with expensive academic materials and learning manipulatives.

2. Train learning coaches and students how to use and navigate the learning management system in use by the school, the process for turning in assignments and the communication platforms available to contact teachers, family support representatives and other students, before students are transitioned into the virtual classroom.

3. Put new students in a cohort model that serves as a ready-made network of parents. This then serves as an incentive for parents to help each other and not feel isolated. Participation becomes a given and the setup encourages parents to talk to each other and help one another when the need arises.

By revamping its new student onboarding process, the cyber school could simultaneously address another issue surfaced by this research study; information
overloading of parents new to the school. A new and improved onboarding process paves the way, to student retention, by ensuring that a new protocol is created to provision information to parents and students “just in time.” To understand why that suggestion was made, one needs to review the cyber school’s new student enrollment process. It is clear that parents are provided a lot of information at the beginning of their cyber educational journey. Frontloading, or as some parents described “overloading,” parents (and students) with information causes two problems. One, it unnecessarily confuses parents who are trying to make their way through the virtual environment. Two, because it takes time to read and assimilate the information, stress begins to set in as a result of the time-sensitive nature of facilitating instruction for their children, which in itself might be stress-inducing at the outset.

The Technology Cyber educational model is predicated on a symbiotic relationship between curriculum, parent, teacher and technology; all in the service of furthering student learning. When one of these areas begins to falter, the model gets unbalanced and goes askew. Other areas of improvement, based on the research study’s analysis follow:

1. Make it easy for parents and students to navigate the learning platforms by investing in an integrated system where a parent or student logs in once to all necessary technology tools. Doing so decreases much of the learning coach frustration surfaced in the study.

2. Reimagine socialization activities. While the cyber model is not for every student, creating socialization experiences that are engaging and fulfilling will have the added effect of retaining students in the virtual model.
3. Bring back learning flexibility, while ensuring active student engagement. Given Pennsylvania’s educator effectiveness laws, it is unclear how exactly this could occur. However, parents look at the virtual model as one that should provide maximum flexibility. Enabling such should naturally improve student retention.

4. Recognize that parents as consumers have a variety of educational options at their disposal. This means parents could have their children attend any number of educational models. Given this competitive environment, which gave rise to the charter school movement, the cyber charter school has to ensure that its brand promise matches the brand experience. This then ensures that parents become satisfied with the educational model offered, which in turn should improve student retention.

5. Ask parents, during the student application process, what learning style they think their child(ren) possesses. This then provides entry for school personnel to ensure parents understand how their child(ren)’s learning style fits the cyber model of education, with care to ensure the query does not get interpreted as “qualifying” of the student.
Future Research

One of the areas where not much data was collected was in the area of parent characteristics. Clearly, parents as learning coaches also experience the virtual education model. How well they are prepared academically and financially may or may not factor in whether they are more or less inclined to stay in the virtual model. This is an area where future research might be able to illuminate additional needs of incoming parents and learning coaches.
Appendix 1 – Parent Ambassador Interview Protocol

Question 1 Have you had occasion to speak to parents who have withdrawn?

Question 2 Has the conversation touched on reasons why parents decided to withdraw their students from the school?

Question 3 Could you describe, in your own words, what those parents expressed to you?

Question 4 To the best of your recollection, have parents cited a common reason for leaving the school?

If no, does there appear to be any commonality between parents and the reasons they cite for withdrawing their student from Tech Cyber?

Question 5 From your experience dealing with parents, are there any activities, processes or policies that the school should look to incorporate as a way to improve its retention of students?
Appendix 2 – Parent Interview Protocol

<table>
<thead>
<tr>
<th>Question</th>
<th>Intended Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tell me what led you to enroll your child in Tech Cyber Charter School?</td>
<td>Intended as a general purpose question and a warm up/ice breaker</td>
</tr>
<tr>
<td>2. What academic expectations did you have coming in?</td>
<td>To get a sense of the parent’s expectations at the outset</td>
</tr>
<tr>
<td>3. Were those expectations met?</td>
<td>To discover if initial expectations were met. If yes, great. If no, additional probing questions to follow.</td>
</tr>
<tr>
<td>4. What circumstances led you to withdraw your child from Tech Cyber?</td>
<td>To get parents reasons and perceptions about decision to withdraw.</td>
</tr>
<tr>
<td>5. Did interactions between you and your teacher, or between your teacher and child, influence your decision?</td>
<td>To determine if academic integration influenced withdrawal.</td>
</tr>
<tr>
<td>6. Did any school policy influence your decision to withdraw your child?</td>
<td></td>
</tr>
<tr>
<td>7. Did interactions with the technology applications used by the school influence your decision?</td>
<td>Direct evidence from the parents’ perspective</td>
</tr>
<tr>
<td>8. Could the school have done anything differently to keep your child enrolled?</td>
<td>To determine if the reasons for leaving were school related, home environmental factors, or a combination of both</td>
</tr>
</tbody>
</table>
Appendix 3 – Interview Disclosure Form

Greeting of the day,

I appreciate you taking time out of your busy schedule to speak with me today. I am conducting a study for PA Virtual about the reasons why students leave the school. Basically, the school is interested in ensuring that it does the best job it can with students while they are enrolled here and the information gathered during this interview will help the school in that endeavor. Additionally, I am a doctoral student and data from this interview will be included in dissertation I am currently completing.

Today’s interview should take approximately 20 minutes. With your permission I will be recording this session because I don’t want to miss any of your comments, and having this session recorded helps me capture our conversation much better. All your responses will be kept confidential. This means that your interview responses will not have your name attached to them whatsoever in any reports that get generated from this interview. I will assure that by using pseudonyms for all interview participants, if, and when necessary. Hopefully this will help you feel more comfortable about giving me candid feedback about your experiences. That said, you don’t have to talk about anything you don’t want to. Likewise, you may skip questions or end the interview at any time. Your participation is strictly voluntary. There is no compensation or other personal benefits to be gained from your participation. However, you do have my deepest gratitude and appreciation for assisting me with this project.

Are there any questions about what I have just explained?
Appendix 4 – Enrollment vs Withdrawal Data FY 2011-12

FY 2012 Student Enrollment Compared to Student Withdrawal by Number of Years

Note. Graphical representation of the number of students who have withdrawn as compared to students continuing enrollment. Total enrollment = 4,634. Spike in 4-5 segment due to data misreported as a result of system conversion.

FY 2012 Student Enrollment Compared to Student Withdrawal by Grade

Note. Graphical representation of the number of students who have withdrawn as compared to students continuing enrollment, by grade. Total enrollment = 4,634.
Appendix 5 – Enrollment vs Withdrawal Data FY 2012-13

FY 2013 Student Enrollment Compared to Student Withdrawal by Number of Years Enrolled

*Note.* Graphical representation of the number of students who have withdrawn as compared to students continuing enrollment. Total enrollment = 3,611. Spike in 5-6 segment due to data misreported as a result of system conversion.

FY 2013 Student Enrollment Compared to Student Withdrawal by Grade

*Note.* Graphical representation of the number of students who have withdrawn as compared to students continuing enrollment, by grade. Total enrollment = 3,611.
Appendix 6 – Enrollment vs Withdrawal Data FY 2013-14

**FY 2014 Student Enrollment Compared to Student Withdrawal by Number of Years Enrolled**

*Note.* Graphical representation of the number of students who have withdrawn as compared to students continuing enrollment. Total enrollment = 3,087. Spike in 6-7 segment due to data misreported as a result of system conversion.

**FY 2014 Student Enrollment Compared to Student Withdrawal by Grade**

*Note.* Graphical representation of the number of students who have withdrawn as compared to students continuing enrollment, by grade. Total enrollment = 3,087
Appendix 7 – Logistic Regression Results of Categorical Variables Testing

Univariate Analysis of Categorical Variables

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Variables in the Equation

Slope parameter (B), standard error (S.E.) and significance (Sig.) of each univariate analysis listed.
Significance less than or equal to .05 denotes variable to be included in logistic regression model.

\[ \text{BIC} = z^2 - \ln(n) \]
Appendix 8 – Results of Alternative Logistic Regression Models

SPSS Statistical Significance of Alternative Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Omnibus Tests of Model Coefficients</th>
<th>Model Summary</th>
<th>Hosmer &amp; Lemeshow Test</th>
<th>Classification Table</th>
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<tbody>
<tr>
<td></td>
<td>Chi-square</td>
<td>df</td>
<td>Sig</td>
<td>Cox &amp; Snell R2</td>
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<td>Model 3 (HSc)</td>
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Measures of statistical significance of Model 1 as compared to Model 2 and Model 3
Appendix 9 – Logistic Regression Results of Model 2

Model 2

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<th>Variables in the Equation</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
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</table>

Logistic regression results including variables with p-values < .05

a. Variable(s) entered on step 1: NewThisYear, HasSibling, MS.
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