# DEVELOPMENT AND EVALUATION OF AN E-LEARNING GUIDE FOR THE RELUCTANT HOMESCHOOLING PARENT

By

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To Brandy, whose support never waivers

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## LIST OF ABBREVIATIONS

| | |
|---|---|
| ACTE | Association for Career and Technical Education |
| CITA | Commission on International and Transregional Accreditation |
| DBR | Design Based Research |
| FLVS | Florida Virtual School |
| GED | General Education Development |
| HSLDA | Home School Legal Defense Association |
| ISD | Independent School District |
| NASA | National Aeronautical and Space Administration |
| NCAA | National Collegiate Athletic Association |
| NCES | National Center for Education Statistics |
| NCLB | No Child Left Behind |
| NCREL | North Central Regional Education Laboratory |
| NGSSS | Next Generation Sunshine State Standards |
| NHES | National Household Education Surveys |
| PC | Personal Computer |
| PHD | Doctor of Philosophy |
| RTF | Rich Text Format |
| SEVIS | Student and Exchange Visitor Information System |
| SLD | Specific Learning Disability |
| STATA | Statistical Analysis and Data Software |
| TAKS | Texas Assessment of Knowledge and Skills |
| TPSA | Technology Proficiency Self-Assessment |
| US | United States |

Abstract of Dissertation Presented to the Graduate School
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# DEVELOPMENT AND EVALUATION OF AN E-LEARNING GUIDE FOR THE RELUCTANT HOMESCHOOLING PARENT

By

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This research attempts to answer the question: How does the use of an e-learning guide that emphasizes the use of relevant web-based technology resources affect the reluctant homeschooling parent's perceived effectiveness and use of technology in a $6^{th}$-$8^{th}$ grade virtual homeschool environment? The reluctant homeschooling parent is one who is uncomfortable with the responsibility of teaching his/her child at home and may not be skilled in instructional strategies. Appropriate technology skills are required of students who move out of the homeschool environment to public or private institutions or the workplace where today's real-world applications, synthesis, and transfer rarely exclude technology. Therefore, parents may need additional guidance on utilizing computer technology when teaching their child in a homeschool environment. In this study, e-learning guidelines and resources that emphasize knowledge of the Internet and relevant technology issues were provided to parents of $6^{th}$-$8^{th}$ grade students enrolled in the Ogburn School, a private distance education school. The technology skills pre- and post- survey was taken by parents, and these scores showed an increase in the mean response for eight of the nine skills, with a significant difference in five of the nine skills surveyed. Participants' interview responses indicated

participants learned more about using computer applications and collaborating with other homeschool families. Eighty-three percent of the participants stated they would recommend the e-learning guide to other homeschooling parents. The e-learning guide will be improved by analyzing the survey and interview data to incorporate participant suggestions, such as including students in grades K-8 in the e-learning guide activities, reviewing the current skills for relevancy and identifying and adding new skills designed to add to parents' and students' technology proficiency.

# CHAPTER 1
# INTRODUCTION

Homeschooling, homeschool, home-based learning, school-at-home, and home education are synonymous terms referring to the practice of educating children outside of any formal public or private education system (Lines, 1999; Ray, 2006). Parents provide various reasons for their decision to homeschool their children, including higher academic test scores, an often perceived dangerous public school environment, religious beliefs, character and moral development, the expense of private education tuition and objections to local curriculum (Collom, 2005; Isenberg, 2007; NCES, 2003). Homeschooling is also an alternative for families living in isolated rural locations or living abroad who wish to maintain an American connection to school (Bielick, Chandler & Brougham, 2001). Often the parents serve as the teacher/facilitator; however, tutors are introduced when needs arise. Some school districts allow students to enroll in public school on a part-time basis or participate in part-time public school enrollment or in extra-curricular activities (Waggoner, 2005). This chapter provides an introduction to the reluctant homeschooling parent, a brief history of homeschooling in the United States, background on the Ogburn School, and a description of the research and its expected benefits.

## The Reluctant Homeschooling Parent

Parents or grandparents may choose to homeschool their children due to personal choice; however, there are also those who make the decision to homeschool due to extenuating circumstances. The latter parent is known as a reluctant homeschooler, which is an informal term for those who homeschool against their personal preferences (Bell, 2001; Yallop, 2012). A term synonymous with reluctant homeschooler is

accidental homeschoolers (Dobson, 2009). Edelson and Arnold (2009) define reluctant or accidental homeschoolers as those parents who, for one reason or another, are dissatisfied with the local or traditional school options and decide to homeschool. Using this definition it is reasonable to assume that for some parents, homeschooling began as a solution to a problem rather than a philosophical or lifestyle choice.

Examples of extenuating circumstances might be multiple discipline referrals or suspensions for a student, a student being over age for his/her grade placement with no options for acceleration, or a student having health issues that prevent school attendance (Isenberg, 2007). Given a choice, some parents may prefer a traditional private school option but the school tuition may not be within the parent's means (Basham, 2001). Families who are frequent travelers or live in remote areas or internationally may find that access to a public or American school is limited (Burns, 2012; Colfax & Colfax, 2009; Swartz, 2013). Parents may opt out of public education due to the condition of the local public schools, or a public school may not be able to make accommodations for a student's learning differences (Connelly, 2012; Dyer, 2013; Geise, 2012; Swett, 2013). A reluctant homeschooler may soon learn that homeschooling is harder than originally conceived (Barnes, 2012; Castro, 2009; Knope, 2009; Mills, 2013; St. John, 2012).

This research examines the design, implementation, and evaluation of an e-learning guide for reluctant homeschooling parents that is intended to increase their perceived effectiveness and use of technology in a home school environment.

**Homeschooling in the United States**

Prior to compulsory attendance laws in the United States, most of a child's education took place within the family or community setting (Baines & Foster, 2006).

Massachusetts passed the first school compulsory attendance law in 1852; by 1916 all but two states had such laws in place (Duckworth, 1992). In the United States, homeschooling is now a legal option in all 50 states, but each state designs its own restrictions (McKeon, 2007). Data from the 1999 National Home Education Survey (NHES) showed an estimated 850,000 homeschooled students in the United States—about 1.7 percent of the school-age population (Bielick, Chandler & Broughman, 2001). By 2000, the estimated number of homeschool children in the United States reached nearly two million (Lines, 2000). Data from the National Center for Education Statistics (NCES) estimates the percentage of the school-age population that was homeschooled increased from 2.2 percent in 2003 to 2.9 percent in 2007 (NCES, 2008). Data from the 2007 NHES shows an estimated 1.5 million students (1,508,000) were homeschooled in the United States in the spring of 2007. This represents an increase from the estimated 1.1 million students who were homeschooled in the spring of 2003 (Princiotta, Bielick & Chapman 2004). Data collection for 2012 is now underway (NHES, 2012). Information on homeschoolers is difficult to collect because of the challenges of identifying homeschoolers, reporting procedures and data collection (Mayberry, Knowles, & Marlow, 1995; Sockza, 2007). For the purposes of this research, the term homeschooling refers to homeschooling in America for grades Kindergarten through 12.

**Approaches to Homeschooling – A Brief Overview**

Homeschool parents decide on what methods they will use to teach their children. Their approach may be formal, informal, or a combination of both. This section reviews some of the methods most recognized by homeschoolers.

'Unschooling' is a phrase attributed to American educator John Holt, who was disenchanted with formal education America (Holt, 1983). Holt did not achieve extensive

reform in American education, so he championed an approach without a specific curriculum (Taylor-Hough, 2010). Using this strategy allows parents to develop their teaching curriculum around the outcomes they want their child to achieve. For example, if a child is interested in environmental issues, parents could teach academic content through readings and environmental activities.

A combination of academic study, manual work, and either home or community service (Lyman, 2000) is attributed to Raymond and Dorothy Moore, a husband and wife team of educators and homeschooling parents. The Moores developed what is recognized as the Moore Formula, which is a combination of academic study, manual work, and either home or community service (Lyman, 2000). The Moore Formula is based on the premise that students are not generally ready for structured academic instruction until eight to ten years of age. The Moores proved a child's maturity directly relates to the amount of daily academic study that a child can absorb (DeGrow, 2008).This approach may be useful for the homeschooling parent who bridges academic study with a work life and community or volunteer service.

The Classical Approach, or Classical Education, addresses three mental capacities: knowledge, understanding, and wisdom (Calhoun, 1999). Classical Education is based on the Trivium, which consists of grammar, dialectic, and rhetoric (Hart, 2004). Bauer (2012) explains Classical Education in three stages. The first stage is early years spent learning foundational skills such as grammar. Next is the increase of middle grade student's analytical skills by working through arguments. The third state, rhetoric, begins in high school as students begin expressing conclusions in well-

written language. Classical education is language based rather than based on pictures, videos or television.

The Charlotte Mason method is centered on the idea that education is three-pronged:  atmosphere, discipline, and life. Life itself is considered the academic component (Levison, 2000). This method is considered a more hands-on approach because students write, draw, narrate, and experiment with the concepts in the reading of the text (Berg, 2009).

School-at-Home, also known as The Traditional Homeschooling Method, follows the structured principles of traditional school with the parent as teacher using textbooks or other scholarly resources and creating a regimen for students. This method closely mirrors the traditional public school experience. Proponents theorize the benefit of this method is that if the student returns to public school the transition may be easier (Taylor, 1997; Taylor-Hough, 2010).

The Eclectic approach follows the premise that there is no one right approach and there is a mixture of all philosophies using a variety of resources and teaching tools (McKeon, 2007). This theory promotes individual instruction based on the unique needs and differences of each child. Parents may choose the Traditional approach for mathematics, the Charlotte Mason approach for literature and social studies, the Unschooling approach for science, all while embracing the Moore Formula of integrating study, work and service for their child's complete program.

Another option for homeschooling education is the use of an established umbrella school, which is a third party organization which keeps records for parents and may issue transcripts or diplomas. This is a form of alternative education which monitors the

homeschool student to make certain government requirements are met. The umbrella school may or may not provide the curriculum while the parents serve as the primary teacher. Requirements for umbrella schools vary from state to state, and the services range from meeting only minimal legal requirements to a broad offering of curriculum, field trips, sports and standardized tests (McKeon, 2007).

Parents have choices for their child's education: public school, private school, homeschool or umbrella school (Green & Hoover-Dempsey, 2007). If the choice is made to homeschool, they have may need additional guidance in designing their homeschool curriculum. Parents can independently create their own curriculum, they may purchase complete packages, or they may find compromise between the two (Holt & Farenga, 2003). The philosophical approaches described here are the most common approaches used in the homeschool communities (Holt & Farenga, 2003; Knowles, 1998).

**Professional Context: The Ogburn School**

The Ogburn School, Inc. is a private virtual school located in Fernandina Beach, Florida. Founded in 1997 as a correspondence school for students seeking an educational alternative, the school first achieved accreditation from the Commission on International and Transregional Association (CITA) and co-accreditation from the Southern Association of Colleges and Schools (SACS) in 2005. In 2009, Advanc-Ed acquired CITA and continues its work. In 2011 the school's accreditation was renewed under AdvancEd and SACS. The Ogburn School serves grades 6-12, with grades K-5 students admitted under special circumstances. Teachers' credentials include 80% with advanced degrees and 20% with 4-year degrees. Sixty percent also hold Florida Professional Educators Certificates. Core courses in the school have been approved by

the National Collegiate Athletic Association (NCAA). Since 1997 over 3000 students have been served by the school. The student demographics as of June 30th, 2012 are reported in Table 1-1.

Graduates of the Ogburn School may continue their education at the postsecondary level through public or private colleges or the military. Some graduates earn their diploma to increase their credentials in the workplace; others have earned their diploma for personal satisfaction. Students are able to earn credits for transfer to their base school to assist in placing students in the appropriate grade level.

Parents choosing the Ogburn School are enrolling their children in a program that provides a specific grade level curriculum aligned to the Florida Next Generation Sunshine State Standards (NGSSS) with specific outcome requirements. The Ogburn School teaching methods most closely align with the Eclectic Approach (McKeon, 2007). Because the parents are partners in facilitating the learning, they are called Learning Coaches. Parents (Learning Coaches) may set a schedule for a student that best optimizes the student's productivity. For example, a student who does not wake up early can study in the afternoon. Field trips may be taken on the weekend when all family members can engage with the student. Students have the opportunity to participate in asynchronous and synchronous discussions through discussion boards, Skype, teleconference, e-mail and social networking. A mix of strategies and activities for students that includes school-directed, Learning Coach-facilitated, and independent learning tasks are segments of the curriculum.

A definition of blended learning systems combines face-to-face instruction with computer mediated instruction (Graham, 2006). In the middle grades, students become

more independent and self-directed learners but still require direction and monitoring. This mix of online, at-home, directed, and independent study, considered a form of blended learning, complements this independence and self-direction. Blended learning has many forms, but is considered to be the merging of online and face-to-face teaching that combines face-to-face instruction with distance learning techniques using a variety of instructional strategies to incorporate learning into a student's everyday life (Jelfs, Nathan & Barrett, 2004; Koohang, Behling & Behling, 2008).

Educators and researchers from all disciplines try to determine the best practices and features of online and face-to-face learning and which type is appropriate in which settings (Chen & Looi, 2007). In the case of the Ogburn students, the blended learning approach includes online instructors as facilitators and the parents as a Learning Coach, with online experiences and self-directed off-line learning activities. A goal of the e-learning guide is to help parents identify and use appropriate technologies for homeschool teaching in their role as the learning Coach.

**Challenges to Homeschooling with Reluctant Parents**

Homeschooling parents may lack formal teaching skills, be unable to choose appropriate curriculum, possibly lack academic skills themselves, and generally be unprepared to meet the challenges of providing instruction (Ensign, 1997). Weberg (2012) states that parents may not possess technology skills more advanced than sending and receiving e-mail or conducting basic Internet searches. Although we are in a technology-driven era, the reluctant homeschooling parent may need additional assistance in identifying technology resources that are both useful and user friendly. Appropriate technology skills are required of students who move out of the homeschool environment to public or private institutions or the workplace. Today's real-world

applications, synthesis and transfer rarely exclude technology (Evans, 2002). The Ogburn School provides support for parents as well as their children during their enrollment in an established distance education school.

**Problem Identification**

The e-learning guide was designed by the researcher in response to an identified problem in the Ogburn School, which were the numerous helpdesk requests for technology assistance. After analyzing the helpdesks requests over a period of one year, the e-learning guide was developed as a tool to assist parents with learning how to use the course technology.

The first effort at technology assistance for parents was created in the spring of 2010 as a resource for parents in print format and was included in the student welcome kit. The use of the guide was neither monitored nor measured. In the fall of 2011, after reflection on providing the guide only as a print resource, the guide was provided as an online document in the resources available in each course. In tracking the access logs in the learning management system, it was noted that the e-learning guide was accessed during the orientation module and rarely accessed after that module was completed. Although the 2011 end of the year surveys indicated that parents were aware of the information, the high number of requests for assistance from parents through the message portal, telephone calls, and e-mails made it apparent that parents needed more structured technology instruction than the e-learning guide provided as a print document available online without further interaction between the school and parents.

The e-learning guide was developed in response to identification of an emerging problem (parents' lack of technology skills), the feedback from parents (helpdesk

requests), teachers' comments on time consuming technology instruction, and analysis of online tracking data. An intervention plan to provide technology resources for parents was implemented over time. The plan included hard copy resources, online resources, and proposed e-learning guide. A reflection on these strategies over a three-month period resulted in further revisions to the intervention plan. This guide was monitored for effectiveness; immediate feedback was provided to participants and documented for further reflection. The value of the e-learning guide was evaluated; revisions to future e-learning guides will be made on a timely basis. Because of the design, implementation, and reflection processes described here, the e-learning guide emerged as a design-based research project (DBR).

**Proposed Solution**

The purpose of the e-learning guide is to increase parents' use of technology to enhance student engagement for 6th-8th grade students enrolled in the Ogburn School. The focus of this research is 6th-8th grade since middle school is sometimes referred to as the 'gateway' where a strong foundation for success in high school is established (Alspaugh, 1998; Catterall, 1998; Jimerson, Egeland, Sroufe, & Carlson, 2000; Gutman & Midgley, 2000; Lord, Eccles & McCarthy, 1994; Rumberger, 1995; Wigfield, 1991; Wigfield, Eccles, MacIver, Reuman & Midgley, 1991). The technology currently used at the Ogburn School enables the student to access interactive lessons. Instruction utilizing relevant technology resources for lessons was incorporated into an e-learning guide for parents. The guide was delivered as an online learning module within the 6th-8th grade learning site at the Ogburn School. The guide was implemented as a component of the required orientation process for parents of 6th-8th grade students who were identified as reluctant homeschool parents.

**Identifying Reluctant Homeschooling Parents in the Ogburn School**

The process of identifying reluctant homeschooling parents was done through the pre-enrollment interview that was held with parents. The following five questions were asked that provided details on why the parent has chosen to homeschool (Appendix A).

1. Have you homeschooled your child before? If yes: What grade level? How long?
2. Why have you decided to homeschool your child at this time?
3. How long do you plan to homeschool?
4. Has anyone recommended homeschooling to you? (e.g., family, friends, school personnel, case worker)
5. How do you expect homeschooling to benefit your child?

Parents' responses to the first three questions were the determinants used to identify a reluctant homeschooling parent. If parents chose homeschooling not as a personal preference but as a last resort because of discipline problems, poor grades, medical issues, lack of accommodations for special needs, bullying, or geographic location, then the parent was identified as a reluctant homeschooling parent. This identification indicated the parent might require more academic and technical support than an experienced homeschooling parent.

The profile of a reluctant homeschooling parent in the Ogburn School is: (a) majority female, (b) inexperienced in homeschooling, (c) opted to homeschool as a last resort, and (d) does not intend to homeschool for an extended period of time. Additionally, the parent may not have a clear vision of how homeschooling would help their child, other than to remove them from an undesirable situation. If the parent cannot articulate how they plan to increase their child's specific academic skills, describe how they will provide a more desirable learning environment, or elaborate on how they will

address possible emotional issues, then their homeschooling vision is considered ill defined. Lack of a clear vision may indicate the parent will need more support in homeschooling his/her child.

The total 6th-8th grade enrollment in the Ogburn School at the time of this study was 171. Using the interview criteria, 51 parents were identified as reluctant homeschoolers. Thirty-two of the 51 identified as reluctant homeschooling parents agreed to participate in this study.

**Research Question**

The goal of this research is to investigate whether the e-learning guide increases the parent's perceived effectiveness and use of technology. The following research question was answered in this study:

How does the use of an e-learning guide that emphasizes the use of relevant web-based technology resources affect the homeschooling parent's perceived effectiveness and use of technology in a 6th-8th grade virtual homeschool environment?

**Significance of the Research**

Compiling technology resources to facilitate learning and create application connections has the potential to improve homeschool teaching and better prepare students for transition to other educational and workplace settings (ACTE, 2010; Evans, 2002). Reluctant homeschooling parents may be less prepared to homeschool their child, may not be aware of the resources available to them, and may not be comfortable with the technologies used in homeschooling. These reluctant homeschoolers may need additional support in order to successfully help their children in their homeschool program. An e-learning guide is integral to assist these parents because instruction and direction in using technology resources in homeschooling are provided for easy access.

Parents' improved skills have the potential to encourage inquiry among younger students, to engage them in cross disciplinary learning tasks, and move their learning experiences from the more traditional (read, write, and assess) style of teaching and learning to a more active style (show, read, reread, write, rewrite, create, produce, analyze, assess and reflect) (Chen, 2007). The role of the parent as the first and primary teacher can be reinforced with this method (Bell, 2009).

In this study, it was expected that parents would learn to use technology resources more effectively. For the school, expected benefits included gaining insight on the tasks and resources parents and students consider most valuable. This research addressed parents' perceived effectiveness and use of technology identified as problems in the Ogburn School. There was also the expectation that through reflection on the dialogue between the school and parent, future e-learning guides would include other grade levels.

Finally, school representatives will present this research to others interested in homeschooling through association meetings, conferences and online communities. Sharing information may assist others who are researching homeschooling in general, teaching homeschoolers, or providing assistance to homeschooling parents. The information base for homeschooling will increase when those who are researching and developing techniques share the information learned with others who share the same interests.

**Subjectivity Statement**

Before online schooling became widespread, I completed many of my high school and college courses through correspondence school. As a parent, I homeschooled both my children during their high school years. In 1997 I co-founded the Ogburn School, a

private distance education school. My professional training and experience from a career teaching in adult and alternative education provides me with insight into educational policies and procedures. Currently my studies in educational technology are allowing the Ogburn School to enhance our homeschool curriculum by including new technologies. They also provide me with the opportunities to engage with others who share my interest in technologies that enhance distance education. This research brings together these experiences to provide intervention for parents who need assistance in homeschooling. The concept of designing and creating an e-learning guide for homeschooling parents is an extension of my experiences as a homeschool student, parent, teacher, and administrator.

This was a small study. Participants included parents of students enrolled in the school who agreed to participate in the data collection. Because the Ogburn School is a small institution where the faculty and students develop strong relationships, it was necessary to maintain objectivity given my role as Instructional Program Director in the Ogburn School. The design-based research approach is based on conducting research in an authentic educational setting (Walker & Ruhe, n.d.). While there were challenges of designing and conducting my own research, my involvement did not necessarily contaminate the outcomes (Barab & Kirshner, 2001). Corbin & Strauss (2008) maintain that the researcher uses personal experience to bring meaning to the data. Malterud (2001) maintains that preconceptions are not the same as researcher bias unless the researcher does not acknowledge those preconceptions. I am invested in the research because I want to provide a positive learning experience for students and parents (Glesne, 2006).

Merriam (2009) defines the term ‘epoche’ as the process of refraining from judgment, wherein the researcher becomes aware of his or her personal beliefs, knowings, and understandings and sets them aside as the data is collected and evaluated. I engaged in an audit of my preconceived notions, feelings and understandings about this topic by keeping a reflective journal throughout the research process.

Given my role as researcher and school director, I followed the philosophy of Patton (1987), in that instead of trying to eliminate any bias I made an effort to be fair and conscientious, acknowledging multiple perspectives and interest while working to understand the impact of my personal experiences on the data interpretation instead of trying to eliminate or ignore it. Specific strategies for avoiding researcher bias are discussed in detail in Chapter 4.

Table 1-1. Ogburn School Demographics

| Category | Number (n) | Percentage (%) |
|---|---|---|
| Enrollment | 568 | 100 |
| Gender | | |
| Male | 341 | 60 |
| Female | 227 | 40 |
| Ethnicity | | |
| Caucasian | 201 | 35 |
| Black | 147 | 26 |
| Native American | 19 | 3 |
| Hispanic | 146 | 26 |
| Asian | 33 | 6 |
| Multi | 10 | 2 |
| Other | 12 | 2 |
| Grade level | | |
| Adult | 159 | 28 |
| Grades 9-12 | 301 | 53 |
| Grades 6-8 | 97 | 17 |
| Grades K-5 | 11 | 2 |

# CHAPTER 2
# LITERATURE REVIEW

This chapter explores prior research relevant to the homeschool researcher and explores the factors that exert the most influence on homeschooling. It begins with a brief history of the regulation of homeschooling and proceeds to describe the state of homeschooling today, the demographics of homeschoolers, and barriers that homeschoolers may experience. Although this research is limited to homeschooling in the United States, global perspectives and trends in homeschooling are explored as is virtual schooling that has influenced the growth of online education since the 1990s. Finally, the literature on technology and the homeschool parent is reviewed.

## Modern Homeschooling

### Definition of Homeschooling

The US government's definition of home schooling is, "The education of school-aged children at home rather than at a school" (Lines, 1993). The term home education is sometimes preferred over homeschooling as it refers to independent, home-based, parent-led education (Ray, 2004). Societies have historically educated children at home (Gordon & Gordon, 1990; Stevens, 2001). Home schooling taught by either parent or tutors was common in North America until the 1870s, when compulsory school attendance and teacher training came together to form the institution that we now recognize as formal school. Home schooling continued on a limited basis after the 1870s, but it was not until the 1960s that it began to attract and interest parents and educators (Isenberg, 2007).

## The Current Homeschooling Movement Evolution

As an educational leader and a homeschooling proponent, John Holt called for a partnership between the schools and homeschoolers (Holt, 1983). It is interesting to note that although Holt was a leader in public school reform, when he initially began suggesting that home schooling was a viable alternative to conformist public schools his ideas were seen as slightly radical (Reich, 2002).

One of the first homeschool researchers was Dr. Raymond Moore, a United States Department of Education analyst. In 1969 Moore began researching the institution of school as the primary provider of children's education. As a result of his research, Moore believed that a child's formal education should not begin until ages 8 to 12 (Basham, Merrifield, & Hepburn, 2007). His work developed into the Moore Formula, which has become a popular homeschool teaching method (Lyman, 2000).

During the early 1970s, there was increased emphasis in homeschool among two main groups; one religious and one philosophical (Guterson, 1992). Sociologists Van Galen (1991) and Stevens (2001) suggest that either religious or pedagogical preferences were the motivation behind homeschoolers. Disagreeing with that view, Anthony (2009) found that the motivation for homeschooling was varied and asserted that families made homeschool decisions based on student needs and not religion or teaching methods. Ensign (2000) found that many special education students joined the ranks of the homeschooled. For students identified as having a specific learning disability (SLD), one on one tutoring can have a positive outcome. For gifted students, Caruana (1998) stated that homeschooling is the best option for providing the discovery learning opportunities that may be absent from public school curriculum. These

researchers confirm the theory that many parents based their decision to homeschool on student needs and not religion or teaching methods.

**Homeschooling Regulation**

According to Kunzman (2009), by 1980, home schooling was still illegal in 30 states, and although it has been legal in all 50 states since 1993, state laws related to regulation vary. Kunzman also argues that restrictive state law causes misuse of state resources, while the interests of children are not protected, and that states should consider a more modest approach that emphasize basic skills testing, which may be a more effective way to help homeschool students and parents.

According to Cibulka (1991), during the 1980s some school districts applied mandatory school attendance laws to homeschoolers, which prompted religious and secular homeschoolers to work together to establish legal rights for homeschooling families at the state level. In 1983, former Moral Majority leader Michael Farris founded a national organization, the Homeschool Legal Defense Association (HSLDA), to provide lobbying and legal assistance to evangelical Protestant homeschoolers (Isenberg, 2007). There is debate on whether there should be regulation on homeschoolers (McMullen, 2003).

Many homeschoolers objected to an amendment in the reauthorization of the Elementary and Secondary Education Act in the House of Representatives in 1994 that required each full-time teacher be certified in their subject area because they viewed this as a possible obstacle to parents as homeschool teachers (Stevens, 2001). When the Elementary and Secondary Education Act came up for reauthorization in 2001, more commonly named the No Child Left Behind Act (NCLB), Congress banned any of its provisions from applying to homeschooling (Isenberg, 2007).

## Who Is Homeschooling?

During the late 1990s, the Department of Education estimated that home education might be growing ten times as fast as the general school-aged population, and some researchers also predicted that by the year 2010, the number of homeschooled children in the U.S. might number between two and three million (Lines, 1999; Ray, 2005, Ray, 2010a). This represents an increase from the estimated 1.1 million students who were homeschooled in the spring of 2003 (Princiotta, Bielick & Chapman 2004). The National Center of Educational Statistics (NCES) reported roughly 1.1 million or about 2.2 percent of school age children in the United States were being educated at home as of 2003 (Princiotta, Bielick & Chapman, 2006). This aligns with the data from the 2007 NHES survey which showed an estimated 1.5 million students (1,508,000) were homeschooled in the United States in the spring of 2007 (Bielick, 2008). However, the exact number of children being homeschooled currently is debated, as the NCES (2007) reported that the total number of people who homeschool at least one child in their household has a margin of error of +/- 231,000 (NCES, 2007).

The NCES data also provides some of the general characteristics of the national homeschool population. As of 2003, homeschool children were more likely to be White than Black or Hispanic, tended to live in two-parent households, came from larger families (3 or more children), and live in households with an annual income of $75,000 or less (Princiotta, Bielick & Chapman, 2006). Ray (2006) states that homeschoolers represent a diverse demographic population of atheists, Christians, Mormons, conservatives, libertarians, liberals, low-, middle-, and high-income families, White, Black, Hispanic, parents with a Ph.D., a GED, and no high-school diplomas. Research from Barwegen, Falciani, Putnam, Reamer, and Stair (2004) shows that parental

academic background, race, or financial status does not affect the academic achievement of homeschoolers and in aggregate, they rate as high as or higher in college preparation than traditional students, indicating that the influence of an unfavorable environment on education may be reversed under the right conditions.

Although the NCES data indicates that homeschoolers are more likely to be White than Black or Hispanic and come from two parent households with an income of $75000 or less, research from Ray (2006) also shows they represent a wide variety of religious, ethnic, financial, and educational backgrounds. None of these factors seem to impact student academic achievement, indicating that a positive learning environment may have the largest impact on student learning (NCES, 2008).

## Homeschooling Issues

This section addresses some of the perceived issues that parents may encounter in their homeschooling efforts.

### Citizenship and Homeschoolers

Many objections to homeschooling involve concerns that homeschooled children will fail to become good citizens (Arai, 1999; Medlin, 2000; Ray, 2009). Yet, homeschool graduates are more likely to have participated in a protest or boycott, attended a public meeting, written or telephoned a public official or signed a petition more often than the general population (Ray, 2004). Robin West (2009), an opponent of a parent's right to homeschool, states that homeschooled students vote in far higher percentages than the rest of the population. Apple (2000) objected to any governmental support of homeschoolers. Even so, some challenge the opposition of homeschoolers stating it is in direct conflict with the effort to expose students to constitutional values (Ross, 2010).

## Socialization and Homeschoolers

In the ‘90s, research from Mayberry, et al (1995) and Ray (1994, 1997) found that a majority of homeschooled children were not usually isolated in their homes and often participated in sports, music, church, and other groups, such as scouting, outside the home. More current research from Lips and Feinberg (2008) indicates that most homeschool parents are aware of the issue of socialization and are strongly committed to providing positive socialization opportunities for their children outside the home with peers, children of different ages, and adults.

## Academic Achievement of Homeschoolers

Chatmon (2006) examined the SAT scores of public-schooled, private-schooled and homeschooled individuals among attendees at private colleges and universities and she found that the scores of the home educated to be higher, on average, than those from the other two groups: however the differences were not statistically significant. This supports the research comparing the results of SAT testing between public, private, and homeschool students and concluded that homeschoolers are not at a disadvantage in regards to achievement testing (Belfield, 2002; Belfield 2005; Ray, 2010b). Even so, Phillips (2009) states there are studies indicating that long-term homeschoolers are less likely to major in natural sciences or mathematics in college, meaning that additional research might be needed to determine if a learning gap exists between homeschooled and non-homeschooled students, and if so, how to close the gap. Yet, many colleges do not have an admission process specific to homeschool students, and although community colleges are perceived to have an open door policy, homeschoolers may have to provide additional information to gain acceptance to college (Bolle, Wessel, & Mulvihill, 2007; Sorey & Duggan, 2007). The long-term implications of homeschooling

on students in college programs should be studied as the homeschool population increases (McKeon, 2007).

**Public School to Homeschooling Relationships**

Homeschooling families may be exempt from state curriculum requirements due to religious beliefs or the lenient homeschooling regulations of that state. Yuracko (2008) asserts that government has a responsibility to ensure that students are provided at least a minimum basic education. In his School Reform speech, Bill Clinton stated that if homeschooling parents cannot prove their students are learning on a regular basis then the student must attend a parochial, private, or public school (Lyman, 2000). This indicates that homeschool parents must deal with the limits on their on their educational choices.

Research from Fager and Brewster (2000) indicates that public perceptions may be changing as more participatory opportunities, such as taking part-time classes or joining extra-curricular activities, are provided by public school districts. Parents and school districts are moving away from prohibiting homeschool students from participating in public school activities (Grob,1999) toward partnerships that allow for the homeschooler to receive services from the public school district (Angelis, 2008). There is the belief held by some rural public school districts with geographic barriers to school attendance that teachers have a responsibility to teach all children, even those in homeschool (Pearson, 2002).

Homeschooling parents now enjoy a wide variety of curriculum to choose from, including religious, secular, online sources, virtual labs, and resources from scientific organizations such as National Aeronautical and Space Administration (NASA), (Dumas, Gates & Schwarzer, 2010). In the late 1990s, the trend was leaning toward the

public schools making available a wide variety of services that homeschool parents could choose for their individual needs and desires (Brandt, 1997). In some districts, parents now have options for homeschooling that include, but are not limited to, purchasing curriculum, joining an association, or enrolling in a public or private virtual school or allowing students to participate in some public school activities, including athletics (Lips & Feinberg, 2008).

Indications are that homeschooling will continue to increase, partially due to the changing perceptions of homeschool education and perhaps due to the variety of options available to homeschooling parents (Farook, 2009). As homeschooling increases in the U.S., its potential to reshape current education trends is probable (Bauman, 2005).

## Global Perspectives on Homeschooling

Although this research study focused on homeschooling in the United States, policies on homeschooling in other countries are briefly reviewed to determine any similarities and the possible impact upon homeschooling.

Australia, United Kingdom, United States, Canada, Netherlands and Japan are countries which report home schooling, and the United States and Australia are two of the primary governments that promote home education (Varnham, 2008). In Australia, as early as the 1990s, factors that include distance, isolation, economic difficulties and the desire to avoid external influences made homeschooling an alternative for many families (Hunter, 1994). Canada's homeschooling population is also rising and becoming more acceptable as the public school districts recognize home education as a viable option (Horsburgh, 2005). A New Zealand study by Leo Roache (2009) suggests that the reasons for homeschooling are similar to those in the U.S., which are control

over curriculum and strengthening the family unit. The United Kingdom has provided exemption from compulsory school attendance since the Education Act of 1944 (Roache, 2009). Kostelecka (2010) states the post-communist countries of Europe have little research on homeschooling partially because it is a relatively new practice in those countries.

Internationally, homeschooling is becoming recognized as a legitimate option for students who do not function well within the constraints of public schooling (Stroobant, 2006). Lacy and Dolnick (2010) state that reasons for homeschooling are broadly categorized into two types: ideological (parents can provide a better moral environment that improves the quality of their children's education) and pedagogical (parents can provide an education that recognizes individual learning needs). One of the motivations for home schooling was to infuse environmental learning without the restrictions of school timetables so that children could acquire knowledge of the natural and physical world (Murphy, 2000). It is interesting to note that there has been no link between the parent's reason to home school and the homeschooling methods they utilized (Higgins, 2008). The reasons for homeschooling seem to be similar everywhere as parents take responsibility to educate their children outside the public school (Beck, 2008).

## Virtual Schools and the Emergence of Online Learning

Although Canadian virtual schools were first referenced in the literature, the United States has led the growth of virtual schooling (Barbour, 2007; Cavanaugh, et al., 2006). The Virtual High School (VHS) and Florida Virtual School (FLVS) were established in 1997 (Pape, Adams & Ribeiro, 2005). The relatively new expansion of virtual schools includes all schools that are managed by government sponsored, parochial and proprietary organizations.

## Virtual School Categories

Cavanaugh (2010) broadly classifies virtual schools into the following six categories as illustrated in Table 2-1. The Ogburn School falls into the last category of virtual schools because it is a both private and proprietary.

## Virtual School Benefits

Virtual schools provide an additional educational choice for students and parents. This extends to the homeschool population, particularly in high school, when a parent might need additional support in content area courses (Berge & Clark, 2005). A wider selection of courses, such as Advanced Placement courses, may also be offered online to students when not available at the student's base school (Clark, 2001). Public, private, secondary and post-secondary schools are offering diploma, certificate, or degree programs either partially or completely online. For example, Florida Virtual School (FLVS) now offers a diploma option through Florida Virtual Full Time beginning with the class of 2013 (*Florida Virtual School Full Time and Connections Academy, 2011*). Recent states' legislative developments encourage the expansion of online schooling. These include the development of an online learning policy, teacher professional development standards, extended school days through online courses, expanded course offerings, and stronger oversight of virtual schools (Evergreen Education Group, 2010).

## Virtual School Challenges

Berge and Clark (2005) listed five challenges facing virtual schools:

1. The high cost of developing the course content. Creating the curriculum is time intensive. Purchasing the content from a provider is costly and may not completely address the standards.

2. All students may not have access to a computer or the Internet outside of the brick and mortar school campus.
3. Regional accreditation has been as issue, but in recent years the accreditation organizations have developed standards targeting distance education and virtual schools. 4. Student readiness
4. Student retention rates

The last two challenges seem to be linked, in that students who are not prepared to successfully complete online coursework are the first to withdraw, thus increasing the withdrawal rate and reducing the retention rate.

A study by Hara and Kling (2001), which holds true today, indicated that student distress relating to the teacher communication and feedback was a major factor in student withdrawal. Early research from the North Central Regional Education Laboratory (Blomeyer, 2002) identified two of the priorities for online teaching and learning as professional development and constructivist teaching practice. Because cyber school (virtual charter school) regulations vary from state to state, there are recommendations that regulation be more consistent and address some of the issues of cheating, outsourced tutors, certified teachers, funding and accreditation (Glass, 2010; Glass & Welner, 2011).

Technology involves parents in their child's learning and improves the communication between home and school (Ed Tech Action Network, n.d.). This is not exclusive to parents of students in traditional schools, as parents of students enrolled in virtual schools, either public or private, should be familiar with the technology needed in the courses so they are able to monitor student progress and assist when necessary.

## Technology and the Homeschool Parent

The expansion of the Internet energized homeschooling in the mid-1990s, providing convenient delivery of homeschooling materials and increasing collaboration by connecting homeschooling families (Stevens, 2001). The Internet has helped the development of social connections and pedagogical resources of home schooling families (Basham, Merrifield & Hepburn, 2007). The Internet has made it possible for homeschoolers to connect across great distances through social media, which opens the doors to other resources (Steinmeier & Yoon, 2010).

There is research that suggests a connection between the expansion of the Internet, advanced communication technologies, and the increase in homeschooling (Anderson & Rainie, 2008; Huerta & Gonzalez, 2004; Panettieri, 2006; Princiotta, Bielick & Chapman, 2006; Ray, 1997; Stevens, 2001; Wriston, 1992). However, Andrade (2008) suggests that although parents may have found more information on homeschooling through the Internet, available technology was not a factor in their decision to homeschool. According to Fitzgerald, Ostrom, RiCharde and Velasco (2006), distance learning services to homeschoolers are not well established, and delivery options may range from postal methods to a personal computer (PC) with interactive software. While the public library might be the most commonly available resource for homeschooling families, targeting library services specifically to homeschoolers may be difficult as homeschoolers can be hard to locate and identify (McCarthy & Andersen, 2007).

There are some parents that homeschool but have not used a computer due to religious or other reasons (Higgins, 2008). Knowles (1998) found that homeschooling parents do not usually identify teaching strategies that help students achieve learning

goals. This indicates that even if parents are computer literate they may not be comfortable using technology as an instructional tool. Even though today's students may be comfortable with technology, their parents may not be as astute (Norris, Simpson & Wilkinson, 2008). As a school administrator, Srinivasan (2011) admitted that teenagers were far ahead of her in regards to the features of information technology.

As early as 1992, Alan November stated that this was the first generation of parents who had access to a lot of technology within the household, and that often parents did not know how to effectively use this technology (November, 1992). Recently, Kunzman (2012) found that homeschool parents varied in how and to what degree they access resources outside the home, and this includes their use of the Internet. Parents who take on the role of teacher may find homeschooling more difficult and time consuming than anticipated and experience burnout (Lois, 2006). However, if parents learn to use technology, they can also teach their child to use the skill to access outside resources, thereby becoming more self-directed and reducing the frustration level for the parents (Nielsen, 2011).

Shriederman, Borkowski, Alavi and Norman (1998) suggested that homeschoolers who utilize technology will be better prepared for a today's postsecondary college experience. Recently, a report from the Association for Career and Technical Education (ACTE, 2010), stated that homeschooling parents should prioritize student mastery of literacy, media, and technology skills because students who achieve proficiency in these skills will be better prepared for postsecondary education and the workplace.

Chiu, Sun, Sum and Ju (2007) maintain that the success of any web-based learning is directly related to the learner's satisfaction. As early as 1995, researchers

stated that for technology to be adopted it must be an appropriate fit for the task (Goodhue &Thompson, 1995). This is reinforced by Lin (2011) who stated that it is important that users perceive the technology is a good fit in order to continue using it. Saade and Bahli (2005) found that when one learns to use the technology it affects the perceived usefulness, but not the perceived ease of use. More clearly, if the user learns to use the technology he or she may perceive that technology is useful, but not necessarily perceive that it is easy to use. This transfers to parents' perception of technology. For parents to use technology in teaching their child, they must perceive it as appropriate, useful and easy.

Neil and Bonner (2012) suggested that two important issues concerning homeschoolers' use of technology are (a) does the perceived ease of use of technology directly influence his or her perceived usefulness of technology? and (b) does the perceived usefulness of technology directly influence his or her intention to use the technology? This also applies to the homeschool parent. That is, if the parent perceives the technology as easy to use and useful, will this influence their use of technology in teaching their child? These questions mirror the question of this study, which is, "Does the e-learning guide affect the homeschool parent's perceived effectiveness and use of technology?"

## Parental Involvement in Online Schooling

Research indicates that school-to-home communication and parent involvement has a positive impact upon the academic achievement of students (Barwegen, Falciani, Putnam, Reamer, & Stair, 2002). When parents and teachers communicate well, parents gain insight into the school's expectations for learning and how to enhance teaching at home (Hill & Taylor, 2004). Research focusing specifically on parental

involvement in virtual schooling is lacking primarily because it is difficult to develop valid measurement instruments (Liu, Black, Algina, Cavanaugh & Dawson, 2010). Even so, Russell (2004) believed the role of parental involvement in virtual schooling could be more important than it is in traditional schooling. For the purposes of this study, parental involvement is defined as the parents' interactions with the school and their child to help the student achieve academic success (Hill et al., 2004).

**Parental Influence on Students**

According to Feng, Black, Algina, Cavanaugh, & Dawson (2010), parents may influence their child in four ways; encouragement, modeling, reinforcement, and instruction. Parents who encourage their students to be self-directed help instill personal responsibility. Parents who involve children in projects where they collectively stay on tasks model this skill for students' future behavior. Online learning requires persistence which parents can reinforce by helping to establish good learning habits that include completion of learning tasks and applying uses of technology. Finally, parents influence effective instruction when they promote and model communication between students, parents, and the teacher.

**Motivation of Parental Involvement**

Ice and Hoover-Dempsey (2010), state that the motivation of parental involvement is largely based on three circumstances; the parents' belief that they can help their child succeed, specific invitations for involvement from either the teacher or the child, and the parent's individual skills, knowledge, time and energy. The e-learning guide is a tool that helps parents increase their technology skills, enabling them to direct their time and energy into assisting their child. Epstein (2007) suggests that schools and teachers in middle schools should develop partnerships that reach all families to help students

achieve success. To reach out to more families, Mitchell, Foulger and Wetzel (2009) emphasized that Internet-based communications increase the frequency of communication as well as the ability to reach all family members regardless of time or location. The Ogburn School encourages two-way communication through the online messaging, e-mail, chat, Skype and telephone. Parents and students are encouraged to create personal web pages and participate in forums and discussion boards. If parents know when to effectively apply the technology involved in the Ogburn School's curriculum, they can better teach their child which, in turn, may lead to higher achievement.

**Parental Involvement Roles**

Del Litke (1998) categorized the parental roles into three types: absentee, supportive, and participatory parent. The absentee parent is often one who works outside the home, which may result in leaving the student largely responsible for their own learning. The supportive parent is one who makes certain that the student meets his/her responsibilities by questioning the student about progress, communicating with teachers, and providing tutorial assistance when needed. In this role, the amount of involvement fluctuates, increasing when the student experiences difficulties. The third type, the participatory parent, stays involved throughout the process, often tutoring, editing work, and supervising progress. Although it is difficult to determine which role a parent will play upon enrollment into the Ogburn School, the e-learning guide may help parents become more participatory by helping them learn to use the technology skills needed to successfully complete the learning tasks with their child.

The instructional setting for students in the Ogburn School is two-fold. First, the students are enrolled in a virtual school that provides full-time instruction. Second, the

students are considered homeschooled and their parents or guardians monitor and supplement their work. One study states that although parental encouragement may have a positive impact on student achievement, parental instruction may have a negative impact on student achievement. Therefore, interventions should include instructions for parents on effective instructional strategies (Black, 2009). The e-learning guide is one measure taken by the Ogburn School to provide instruction for parents to effectively assist them in teaching their child.

## Summary of the Reviewed Research

By 1993, partly due to the efforts of lobbying organizations, homeschooling was legal in all 50 states (Kunzman (2009). Parental academic, ethnicity, or financial status does not affect the homeschooler's academic achievement (Barwegen, Falciani, Putnam, Reamer, & Stair, 2004). Research from Leo Roache (2009) indicated that globally, control over the curriculum used and a strong family unit are the reasons for homeschooling, which is similar to those in the United States. The Internet has influenced the development of social networking and teaching resources ( Basham, Merrifield & Hepburn, 2007; Stevens, 2001). Virtual schools are also growing as are provided by public, charter, university and private organizations (Cavanaugh, 2010).

There is little research on how technology impacts homeschoolers, but there is evidence that homeschool parents use technology at different levels, formats and purposes (Bullock, 2011). By using computers and the Internet, homeschooling parents have more available resources than in the past (Jorgenson, 2011). However, in order for technology to be effective, parents must know how to use technology resources before they use it with their children (McMullen, 2004). Parents and students should be familiar with technology skills in order to complete assignments and gain proficiency in

writing and research (Klamm, 2012). Although parental roles in virtual schools may differ than those in traditional schools, some believe parental involvement may be more important in virtual schools than traditional schools (Russell, 2004). The purpose of the e-learning guide is to assist parents in learning to use technology resources in homeschooling their child. The e-learning guide resource may help increase parents' effective use of technology which may increase their involvement, leading to higher student achievement.

Table 2-1. Virtual School Categories

| Category | Management and Regulation |
|---|---|
| State virtual schools | Regulated by either a state agency or a non-governmental agency contracted to the state |
| Multi-district virtual schools | Full time programs, generally charter schools (cyber schools) |
| Single district virtual schools | Generally provide supplemental programs at the secondary level |
| Consortium programs | Operated by networks and district either within a region or state and offer supplemental middle and high school (secondary) courses |
| University programs | Operated by private or public universities offer tuition based full-time or supplemental programs |
| Private, proprietary, parochial | Sometimes an extension of an existing school and may also offer courses either partially or fully online |

# CHAPTER 3
# E-LEARNING GUIDE DESIGN AND IMPLEMENTATION

The purpose of this research was to assess the parent's perceived effectiveness and use of technology in homeschool instruction before and after the use of an e-learning guide. This chapter describes the development and implementation of the e-learning guide that was used in this research study. It was hypothesized that providing parents with instruction and activities would increase their perceived effectiveness and use of technology in homeschooling their children.

## Theoretical Framework

The design of the e-learning guide was based on multiple theories: adult learning, student retention in online learning, systemic lesson design, and Design Based Research (DBR). A brief overview of each theory is presented here, as well as a description of the strategies for implementation of the principles of each theory.

## Adult Learning Theory and Implementation

Since the e-learning guide was intended for parents of homeschool students, adult learning theory is appropriate. Malcolm Knowles (1984) is credited for introducing the term "Andragogy" and defining it as the art and science of helping adults learn. Adult learning theory (Knowles, 1990; Merriam, 2001) is based on five principles; adults are internally motivated, possess rich life experiences, are goal oriented, are relevancy oriented and have a need to be respected. A short description of each principle is provided here with a description of the strategy used to incorporate each principle in the e-learning guide.

1. Adults are internally motivated and self-directed. In general, adults have a self-concept that is independent from outside influences and continuously complete independent projects that require specific tasks and problem solving skills.

**Implementation Strategy:** As learning coaches, parents are motivated to assist their child in completing lessons successfully. The parents' self-direction will keep them focused on completing the e-learning guide activities.

2. Adults bring life experiences and knowledge to new learning experiences. They draw on their experiences to further learn new concepts and tasks. Adults can use their existing foundation of knowledge and build new experiences.

   **Implementation Strategy:** Prior experiences and knowledge are a component of the e-learning guide activities. Activities incorporate communication, research, and problem solving skills that parents bring from life experience and prior learning.

3. Adults are goal oriented. When adults see that a specific task can help them perform real-world tasks they are ready to learn.

   **Implementation Strategy:** A goal for parents is for their child to experience success in online learning. The e-learning guide includes tasks that students need to master in order to complete lessons successfully with a minimum of technical assistance. This will help parents reach their goal for their child's success.

4. Adults are relevancy oriented. When the task is of immediate use, then it is considered relevant. Tasks that are not of immediate use to the learner may be considered less relevant and therefore less important to the learner at that time.

   **Implementation Strategy:** The technology skills in the e-learning guide are relevant to their child's success in online learning. The lessons contain only skills that will assist parents and students in the course. These skills are also relevant to everyday use of technology outside of school.

5. Adult learners like to be respected. They respond more readily if they are regarded as a colleague with valuable life experiences.

   **Implementation Strategy:** We were respectful of parents' limited time by creating short, effective lessons that are relevant to their student's success in the online school.

According to Blondy (2007), instructors should utilize adult learning theory to address the demand of online teaching which differs from face-to-face teaching. Bonner (1982), states that adult learner characteristics should be accommodated in lesson design. Adult learning characteristics outlined by Malcolm Knowles (1968, 1984, 1990, 1992, 1996), and supported by Sharon Merriam (2001) are the foundation of the e-

learning guide activities. Including adult learning principles in the lesson design ensures that the e-learning guide is suitable for the parents of homeschool students.

**Student Retention in Online Learning Principles and Implementation Strategies**

The student recruitment categories outlined by Ormond Simpson (2003) are recruitment, retention, retrieval and reclamation. The two categories that were emphasized were recruitment and retention on course, but all categories were addressed. A description of each principle is described below, followed by the implementation strategy used in the e-learning guide.

Ormond Simpson (2003) categorizes retention into four states:

1. Recruitment: The goals and objectives of the students should be confirmed to ensure the enrollment is a good fit for the student.

   **Implementation Strategy:** During the enrollment interviews, the goals and objectives of parents and students are discussed and confirmed before enrolling the student.

2. Retention: Keeping students on track in the course ensures that students do not fall behind because students who fall behind are more likely to withdraw.

   **Implementation Strategy:** Frequent contact and feedback with parents, both online, by e-mail and telephone are the primary retention strategies (Ormond, 2003). Contact will be made before the course (pre-enrollment interview), after each submission, after the surveys, and after course completion.

3. Retrieval: Students who are absent from classes are more likely to fall behind and withdraw from the course.

   **Implementation Strategy:** Parents who did not complete the e-learning guide activities within the 2-week time frame were encouraged to discuss issues with us and clarify how we could assist them in completing the task and moving forward with their child's studies.

4. Reclamation: Students who withdraw are brought back into the class.

   **Implementation Strategy:** Parents who withdrew their child were contacted for an exit interview to determine how the program could better meet their needs.

Efforts to engage parents are continual using Ormond's strategies (2003, p. 73-86) which include frequent contact and timely feedback. Frequent parent contact, including before the course, after each submission, in the forums and during the end of course interviews, is critical and includes Ormond's principle of "no failure, just feedback" (p. 19).

**Systemic Lesson Design and Implementation**

Robert Gagne (1985) asserts that the most important elements of instructional design and good teaching are presenting the knowledge or demonstrating the skill, providing practice with feedback and providing learner guidance. Michael Corry (2006) provides a synopsis of Gagne's events with relevant examples of each event. First, gain the student's attention by presenting a problem using a new situation and asking questions. Second, describe the goal, state what students will be able to accomplish and how the student can transfer this knowledge for use in the future. Third, remind the student of prior knowledge that is relevant to the current lesson. This includes any facts, rules, procedures or skills that are applicable. Fourth, present the new lesson using multiple media sources such as text, graphics, simulations, figures, pictures, sound. Fifth, provide guidance for learning using sidebars or other reminder tools. Sixth, practice the new skills to improve performance. Seventh, provide valid and timely feedback. Eighth, evaluate the student's performance in an appropriate manner. Ninth, initiate transfer by giving students the opportunity to apply knowledge in a similar situation.

The lesson design followed a modified version of Gagne's (1985) Nine Events of Instruction model using four of the learning events. Including a streamlined lesson design reduces any irrelevant activities and creates a format that is more flexible for

participants' schedules. A description of how Gagne's nine events were modified to four in the e-learning guide is provided, along with the implementation strategies used in the e-learning guide.

1. Describe the goal and identify how this knowledge can be used in the future.

   **Implementation Strategy:** Helpdesk requests were analyzed to identify the skills required for inclusion in the e-learning guide. Learners were informed of how the activities related to their child's online learning tasks.

2. Engage to attract the learner's attention with an opening that pulls in the learner.

   **Implementation Strategy:** Lesson opening included questions or phrases intended to prompt responses from the learner.

3. Allow the learner opportunity to practice a new skill. Practice is needed to improve performance over time.

   **Implementation Strategy:** Activities provide at least two opportunities to practice the targeted skills. If additional practice was needed it was provided on an individual basis.

4. Reinforce the concepts through reflection.

   **Implementation Strategy:** Concepts were reinforced using reflection strategies by commenting and posting their experiences in forums and discussion boards. Reflection was also provided in the interviews.

Chen (2007) suggests a support-based design that addresses the four components of technology, course content, people, and learning tasks. The modules in the e-learning guide will provide instruction, guidance and feedback on activities that are embedded in a real-world context that is useful for the learner. Three topics are included in the e-learning guide: Technology Fundamentals, Web Basics, and Educational Resources. Each topic is divided into sections that provide objectives, examples and practice designed to increase technology awareness and use. Each topic also includes a more complex learning task that will guide the learner into creating web-based learning experiences for their homeschool student.

## Design Based Research (DBR)

According to the Design-based Research Collective (2003), design-based research blends empirical educational research with theory-driven learning design to promote understanding of what works in educational practice. Using design-based research requires an ongoing process that monitors the effectiveness of a lesson or learning object to provide immediate, ongoing and accumulating feedback on the value and use of the lesson, object or task (Parker, 2011). Design-based research also incorporates the ongoing cycles of testing and refinement of the solutions put into practice (Reeves, 2006). Each cycle, or phase, of the design is called iteration. The development of the e-learning guide follows a design-based research process in that the guide, as the learning object, was revised and adjusted after reflection on the object and its effectiveness were analyzed over time (Barab & Squire, 2004). According to Joseph (2004), using DBR provides opportunities for researchers to understand problems of practice, allows researchers to focus on key questions or problems, and helps to shape research methods along with the design.

The researcher's steps in the DBR process include the identification of a problem, design and implementation of intervention strategies, analysis, reflection and revision over a period of time which are represented in Figure 3-1. A description of how the DBR principles are specifically applied to the e-learning guide follows.

## Design Based Research Implementation

The e-learning guide was developed using the Design Based Research method in which a question is studied and changes are made according to the data analysis, reflection, and revision of the process. The problem identification was the homeschool parents' lack of technology skills needed for successful completion of the academic

lessons. Analysis of help desk requests indicated that a resource was needed to help parents teach their children more effectively in an online environment. The e-learning guide was the result of three iterations of the design process.

Phase one of the technology guide was a hard copy printed guide that was distributed with the student start-up learning materials that were shipped to the students' homes when they enrolled. The guide was simply inserted into the students' learning materials but contained no instructions on how it might be used. The guide was provided solely as information. Its use was not monitored, nor were parents or students asked to provide feedback on the guide. A comparison of help desk requests that were received before and after the hard copy guide was distributed indicated that the number of requests did not decrease during this period. Reflection on how to improve the hard copy guide to help parents and students resulted in a revision of the document delivery method from a printed hard copy to an online resource.

In phase two, the guide was posted online in the document resource section of the online learning portal used by students. The online tracking system in the learning management portal indicated that although the guide was accessed during the initial orientation period, it was seldom accessed during the course. The helpdesk requests continued to include the basic technology skills that were included in the guide, indicating that parents and students were not referring to the guide as a resource. Reflection on the lack of success with this delivery option led to a third revision of the guide, which is the e-learning guide that was used in this study.

Phase three was the development of the e-learning guide as a component of the parent and student orientation module. Discussions with faculty and staff at the Ogburn

School led to the conclusion that the original goal of the guide remained, which was to reduce the amount of time office staff and teachers spent on the phone assisting parents with the most simple of technology tasks. At this point the process became more deliberate, with the purpose of creating the online module in the orientation that included authentic tasks for participants.

First the help desk request logs were analyzed to determine which skills were requested most often. The helpdesk requests listed here are followed by the number of calls for that skill or problem in parentheses: Lesson documents won't open (359), I don't have MSWord (301), I didn't receive a document in my e-mail (279), I don't know how to submit an assignment (255), I can't submit an image into the submission box (201), I can't send signed documents through e-mail (181), I can't open a file that I completed on another computer (170), I can't find information on a assigned topic (161), I can't find the Internet pages I used as resources (149) and miscellaneous requests such as lost user id (57).

Skills were sorted and grouped according to similarities (Appendix B). Lessons were created based on the skills identified from the help desks analysis, with the instructional tasks addressing the learners' needs. The online interactive guide was accessed online and became part of the orientation process. This intervention plan is an ongoing strategy that has seen revisions over the past year. Revisions to update the content will continue as the guide is monitored and analyzed. The parent survey provided their reflections on which skills were presented well and which needed further development (Reeves, 2006). The online participant tracking log allows us to align the participant responses to the surveys and interviews. As this information is collected and

evaluated, the guide will be updated to reflect more relevant content (Parker, 2011). The analysis of help desk requests helps to identify changes in the learners' needs which call for future revisions, which can probably be posted in a timely manner since the guide is posted online. The e-learning guide will require ongoing feedback, reflection and revision to remain relevant to the current and future parents of children enrolled in the Ogburn School.

The design of the e-learning guide is a design based research process because it involves ongoing feedback, reflection and revision over three iterations (Barab & Squire, 2004). Evaluating the effectiveness of the e-learning guide, which is the third iteration, will help the Ogburn School better understand the needs of the parents, focus more on the key questions that emerge over time, and refine its research methods in creating, analyzing and revising the e-learning guide to support parents (Joseph, 2004). A representation of the design-based research iterations of the e-learning guide is shown in Figure 3-2.

The timeline for completion of the e-learning guide was two weeks. Parents were not able to attend a face-to-face training because the school is a virtual school and because the majority of the students live outside the school's geographic area. The e-learning guide was delivered through Moodle, the same online learning platform used by the students. This e-learning guide was designed in an asynchronous (not occurring at the same time) short-course module to meet the various time demands of parents and was a component of the orientation. Completing the same types of authentic learning tasks ensured that parents gained experience using the same tools their child uses when navigating the site. Parents are expected to better guide their students after

completing similar activities. Figures 3-3, 3-4, and 3-5 are screen shots that illustrate the format of the guide as well as some of the objectives and tasks.

The guide included technology information, instructional websites, asynchronous facilitator assistance, authentic performance tasks and a discussion forum where participants could ask questions or share information. It provided instruction and authentic practice using technology as a learning tool.

**Implementation of the E-learning Guide**

The e-learning guide was a component of the required orientation process for parents of $6^{th}$-$8^{th}$ grade students. Orientation requirements were discussed in detail with parents prior to acceptance of the student into the school. Once enrollment was finalized parents were provided access and instructions via both e-mail and telephone on how to access and log into the site. Participants were led step by step through the process by telephone when needed. The time frame for completion of activities was the first two weeks of the student's enrollment.

The middle grades lead teacher served as facilitator of the e-learning guide activities since she was familiar with the expectations for each grade level. The facilitator provided support for participants through e-mail, Skype, online chat, or telephone. Although the facilitator is the primary contact, all faculty and staff are trained and available for parent support as needed.

The e-learning guide was developed using the principles of adult learning theory, student retention strategies, systemic lesson design, and design-based research. Specific strategies for each component were identified and utilized during the implementation phase of the e-learning guide. These principles and strategies facilitated the technology skills that parents need to support students and those skills needed for

student success in online learning in the Ogburn School. The planned outcome of successful implementation of the e-learning guide is to improve results for students and long-term gains for the school in increased productivity and school effectiveness.

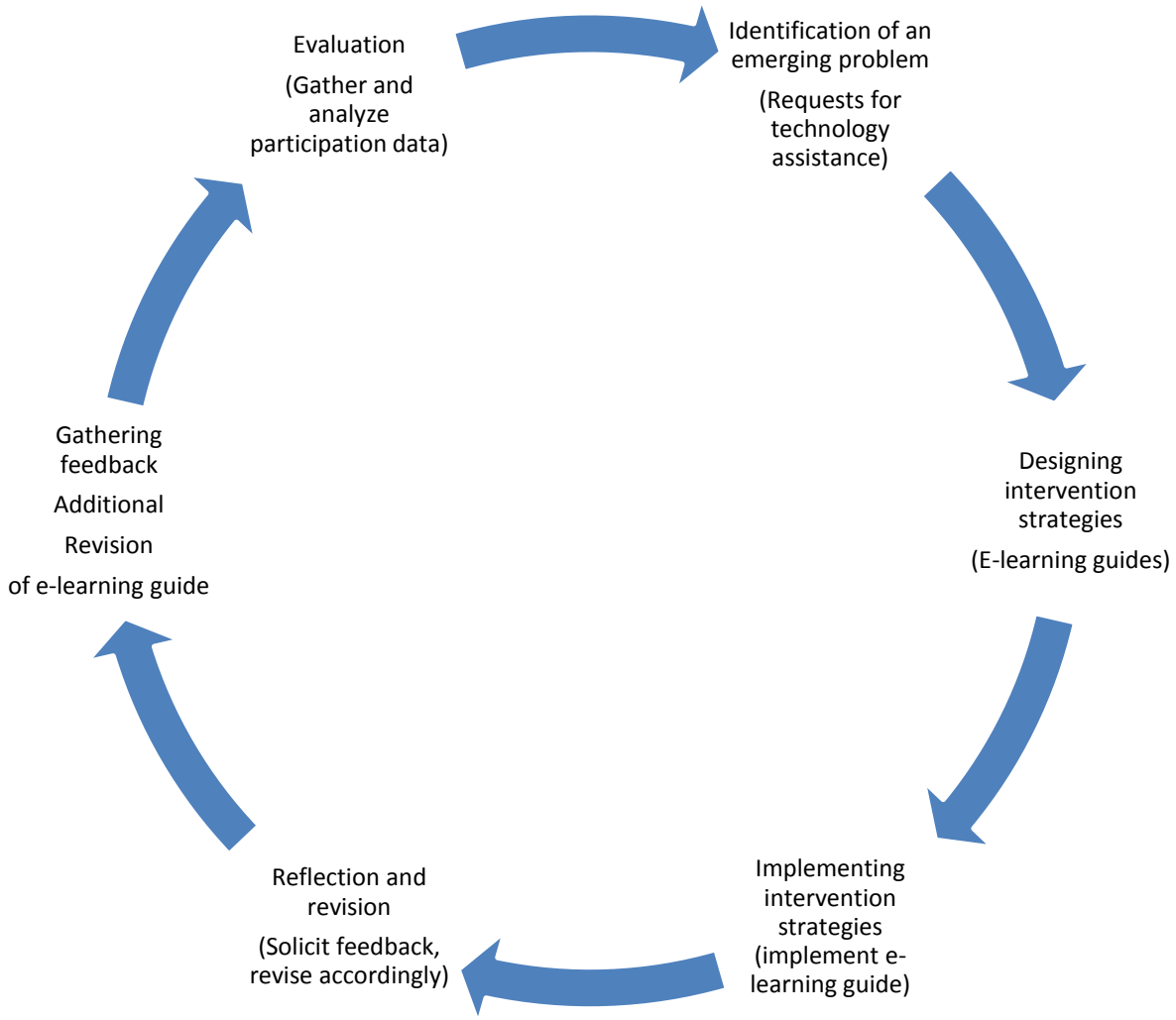


Figure 3-1. Design Based Research Process: Researcher's Interpretation

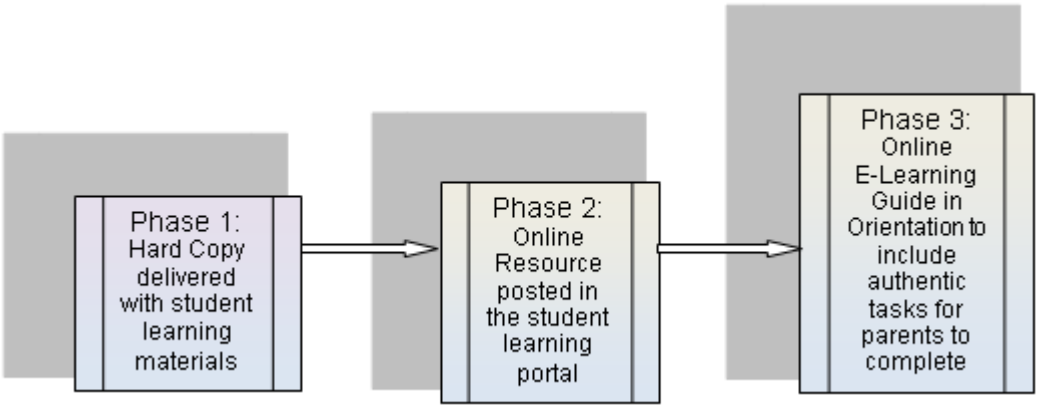


Figure 3-2. E-Learning Guide Design Iterations

Figure 3-3. Home Screen

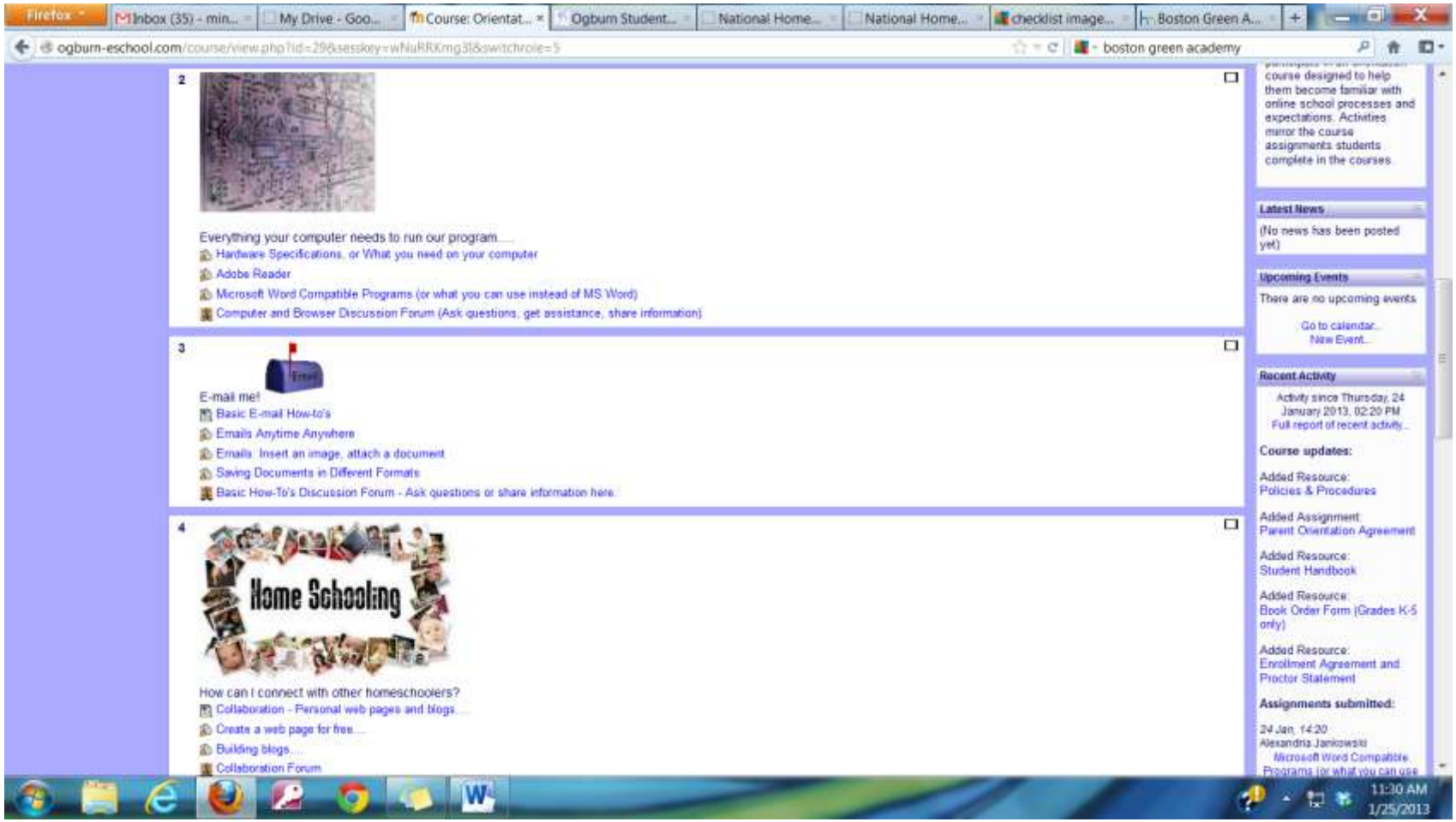


Figure 3-4. Information Literacy

Figure 3-5. Discussion Forum

# CHAPTER 4
# METHODOLOGY

This chapter describes the instruments, data collection methods, and data analysis that were used to evaluate the implementation of the e-learning guide at the Ogburn School and to answer the primary research question:

How does the use of an e-learning guide that emphasizes the use of relevant web-based technology resources affect the homeschooling parent's perceived effectiveness and use of technology in a $6^{th}$-$8^{th}$ grade virtual homeschool environment?

## Research Design

The research question was answered with the help of a pre- and post-technology skills survey, the participant log data available from the online learning management system and a semi-structured interview with 18 participants. Demographics including gender, ethnicity, parent's educational level, prior homeschooling experience, prior virtual school experience, and state or country of residence were collected from the student applications to the Ogburn School.

Research procedures were submitted for approval to the University of Florida Institutional Review Board before beginning data collection. Participants were informed of the purpose of the research, assured of confidentiality, and were given the option of including or excluding their data. Those who agreed to participate signed the informed-consent document before completing the surveys and beginning the e-learning guide activities. Although participants are able to opt-out of the data collection, the e-learning guide is part of the school's required orientation, so all parents participated in the e-learning guide course whether or not their data was included in the study.

## Data Collection

### Technology Skills Survey

A Technology Skills Survey was used as a pre- and post- assessment of parent perceptions of their personal technology skills. The survey contains 10 questions with nine Likert-type scale responses addressing the skills identified in the helpdesk logs such as e-mail, Internet, and integrated applications plus one open-ended question.

The pre-survey was administered during orientation before parents began using the e-learning guide. The post-survey was administered after the parents completed the e-learning guide activities. These pre- and post-technology surveys (Appendix C) provided data that measured parents' perceived effectiveness and use of technology before and after completing the e-learning guide. The pre- and post-survey data instruments were integrated within the same online learning management system as the e-learning guide. Pre- and post-survey data was collected over a four week period from November 15 through December 15, 2012. The interview data was collected over a two week period from December 5 through December 20, 2012. Analysis was completed during January, 2013.

### Participant Interview

Interviews were conducted by telephone in order to collect feedback on the e-learning guide with parents who were willing to participate (Appendix D). Interviews were semi-structured and contained open-ended questions about parents' experience, preference perception, value and reflection on the use of the technology resources in homeschooling. The interview contained six questions that were open-ended, neutral and clear, which is a design based on the work of Turner (2010). The interviews were analyzed through the coding of themes.

The interview questions were first sent to three professional middle school educators, one university professor, and two parents to review and provide feedback on the survey questions. After review and discussion, two changes were made. The question, “Please describe any changes you would make to the e-learning guide” was eliminated and the question, “Please add any additional comments you like” was added. The question, “Would you recommend this e-learning guide to other parents” was edited to read, “Would you recommend this e-learning guide to other homeschooling parents?” After further review by a university professor, another question was added, namely, “How did this e-learning guide affect your ability to instruct your child?” This procedure provided clarity to the survey questions. The revised interview questions were then sent to five parents of currently enrolled students for review (Appendix E). Responses included suggestions to write the questions in more simple language. Rather than change the questions, these questions were added as probing questions that could be used to elicit more thorough responses in the interview.

The interviews were conducted by telephone and recorded. I took notes during the interviews (Patton, 1987). Pre-interview conversations I had with participants before the start of the interviews also called for note taking. Each interview was transcribed into an individual document by an independent transcription service. Any unrelated material was removed (Burnard, 1994; Patton, 1987). For the purposes of validation, (Mishler, 1990) and to ensure the trustworthiness of my observations and interpretations, member checking (Creswell & Miller, 2000) was employed. More specifically, each interview was sent to the participant via an e-mail attachment for participant review with a request to make any needed corrections and return via e-mail within five days. None

of the interviews were returned suggesting the interviewees felt their responses were accurately represented. The interviews were then imported into one document for analysis.

### Parental Use of the E-learning Guide

One of the learning management system tools is a participant activity log that provides information on each individual's site usage, such as the number of times each activity was accessed and if activities were completed. Participants' online activity data were collected by using this participant tracking tool within the learning management system.

## Data Analysis

### Pre- and Post-Surveys

The scoring protocol for the pre- and post-surveys was to average the mean values of each of the Likert scale responses for each question (Knezek, Christensen, Miyashita, & Ropp, 2000). This data was imported into a spreadsheet which compared the percentages for each of the Likert scale responses for each question on the pre- and post-survey (Appendix F). Using STATA software, a paired t-test was performed to determine if there were significant differences in the pre- and post-survey responses for the Category 4 (I can do this very well by myself). The goal was to reach 100% on Category 4 for each question.

### Interviews

After interview transcripts were collected the responses for each question were imported into one document. Responses were then analyzed by identifying terms, phrases, or keywords that represented relevant ideas (Taylor & Gibbs, 2010). Another researcher independently coded participants' responses to one interview question, after

which we compared and discussed our codes, leading me to review my coding according to our discussion and common codes. Next the data was categorized into common topics and codes. Sub-codes were developed to represent the interviewees' responses (Glesne, 2006). After developing the codes and sub-codes, the responses were aggregated into the codes and sub-codes, duplicates were eliminated, and descriptors were added (Bernhardt, 2004). An example of the coding process is provided in Appendix G.

## Perceived Challenges

There were two perceived challenges to this study. One perceived challenge was the possibility that parents would complete only a portion of the module but complete both the pre- and post-surveys and the interview. Following Ormond's (2003) system of retention, participants were contacted frequently by the facilitator through the message center and by telephone during this orientation period to encourage full participation and completion of each activity. User activity on the site was tracked by viewing the individual user activity logs so the participants' activities were considered when analyzing the data. Another perceived challenge was that parents may not be totally truthful in their survey responses. Parents may believe their responses could be connected to their student's grades or that the teacher's perceptions could be influenced by positive or negative survey responses. The facilitator made it clear through conversations with parents and in a written disclaimer that survey responses do not affect the student's academic experience in any manner. It was also emphasized in the orientation that the e-learning guide was developed to help participants better help their child. These steps taken to encourage parents to complete the activities helped overcome these two perceived challenges.

## Validity

Validity refers to the degree to which a study accurately reflects or assesses the specific concept the researcher is attempting to measure and the data must reflect what the participants have said or done (Maxwell, 1992; Walsh, 2003; Glaser & Strauss, 1967). This is a qualitative research designed with the understanding that the findings are a result of my interpretive efforts and may be subjective if preventive steps are not taken (Denzin & Lincoln, 2000; Glaser & Strauss, 1967; Strauss & Corbin, 1998; Walsh, 2003). As part of the research process I can affect the results. Steps were taken to ensure validity in the study. This study included both quantitative data from the Technology Skills Pre- and Post-Surveys, and qualitative data from the parent interviews. Steps to ensure validity are described below.

Interviews were recorded so the participants' responses could be accurately described (Lewis, 2009). Member checking was conducted via e-mail and participants were given the opportunity to review their responses and respond with any corrections (Creswell & Miller, 2000). A second researcher coded participants' responses to one question, after which we discussed our codes, increasing the trustworthiness of the coding scheme (Patton, 1987) I maintained a researcher log where I recorded self-reflections during the process and any changes that occurred (Ortlipp, 2008; Merriam, 2009). These steps helped ensure the data were accurate, reflects the responses of the participants and measures what the study intended to measure, which was participants' use of the e-learning guide, the survey results, and interview responses.

## Limitations of the Data

Three limitations to the data are present and should be acknowledged. First, the study utilizes self-reported data. Therefore, the survey data cannot be independently

verified and must be accepted as true (Krathwohl, 2004). Participants may exaggerate or experience selective memory. To reduce this limitation, effort was made to encourage participants to respond as accurately as possible.

Second, the sample size may be too small for external validity. The margin of error is too large thus making it near impossible to draw descriptive or inferential conclusions from the data for generalization to a larger population. The transferability of this study depends on the similarity of this study transferable to another situation (Cresswell & Miller, 2010).

Third, as a co-founder of the Ogburn School, I have an interest in the success of the school. I am involved in daily operations and interact with parents and students on a daily basis. This interaction helps to develop strong relationships among the students, parents, and school personnel. This same interaction also makes it necessary to be aware of this bias and consciously maintain objectivity in the collection and analysis of the data. As designer of the e-learning guide it is necessary to avoid researcher bias about the data results and participant feedback in order to effectively utilize the data constructively for future e-learning guides.

To maintain objectivity, I utilized the following procedures:

a. I maintained a reflective researcher log where I recorded critical self-reflections on the process, and described any changes made to the design during the research process (Ortlipp, 2008; Merriam, 2009) (Appendix H)

b. Interviews were recorded so that the descriptions could accurately describe the participants' responses (Lewis, 2009)

c. Interviews underwent member checking, where the participants could confirm, correct, or elaborate on their responses to the interview questions (Creswell and Miller, 2000)

d. I kept all documents generated in the data collection process to create an audit trail (Merriam, 2009)

By utilizing these strategies, I ensured that my experiences did not bias, but enhanced, my research. By implementing this research I gained additional knowledge on providing needed support for homeschool parents.

Data collection for this study included technology pre- and post- technology skills surveys, participant log data, and semi-structured interviews. A paired *t*-test performed on the technology pre- and post-survey questions to determine any significant differences in the responses. Interviews were recorded and then transcribed. Responses were sorted and coded to identify themes. Limitations to consider were the self-reported data, small study sample and researcher bias. Research objectivity was maintained through researcher logs, recorded interviews and member checking. The next chapter will discuss the results of the study in detail.

# CHAPTER 5
# RESULTS

This chapter describes the findings of research following the implementation of an e-learning guide for 6th-8th grade homeschooling parents enrolled in the Ogburn School. Data were collected in the form of pre- and post-survey, and semi-structured interviews with participants after two weeks of using the guide. Participant use of the guide was also tracked. The results are presented in this chapter in two sections. The first section describes the sample and the demographics. The second section is divided into three subsections: pre- and post-survey results, parent interview results, and the e-learning guide participation data.

## Sample

A total of 32 parents were chosen to participate in the study based on their responses to questions asked during the pre-enrollment interview. Of the original 32 participants, 100% completed the Technology Skills Pre-Survey and the Post-Survey. Four students were withdrawn shortly after the two week orientation period, eliminating their parents from the sample, thus leaving 28 parents eligible for the end of e-learning course telephone interviews. Of the 28 remaining participants, four were unable to be scheduled, four declined to participate in the interviews citing family and travel commitments, and two were only partially completed due to extraneous circumstances. A total of 18 interviews were completed and included in the data.

All of the interview participants were female (18), the majority were white (9) and had some sort of post-secondary experience (11). All participants resided within the United States. Seven of the eighteen had previous homeschooling experience. The

demographics of the total study participants and the interview participants are reported in Table 5-1.

The lengths of the interviews ranged from 20 to 35 minutes, not including any pre-interview conversations. Although not a part of the official demographics collected, there was opportunity for me to learn more about the participants which was kept in notes on these conversations. Fifteen of the participants had other children in addition to the one being homeschooled. Although seven participants had previous homeschooling experience, only one was homeschooling another child at this time. Nine of the eighteen interviewees were single parents. Twelve participants held full time jobs outside the home, while three held part-time jobs outside the home and two were not employed. One of the non-employed participants considered herself a 'full time homemaker' and the other was searching for part-time employment. One participant operated her own home-based business. Del Litke (1998) states that employment may cause the parental involvement role to be absentee, leaving the student largely responsible for his/her own learning. I believe that although the majority of the participants were either employed or seeking employment, these parents demonstrated supportive and participatory roles, if for no other reason than they committed time to this study in order to better teach their child.

## Findings

This chapter reports the results of the data. These findings are presented in three sections: Technology Skills Survey, Parent Interviews and Reflective Journal.

### Summary of the Pre- and Post- Technology Skills Survey Results

The first activity in the e-learning guide was to complete the Technology Skills Pre-Survey which contained items about specific tasks related to the use of technology for

the homeschooler's learning. After completing the e-learning guide participants were asked to complete the Technology Skills Post-Survey. The responses were categorized as follows:

1 = I don't know what this means
2 = I know what this means but I cannot do it
3 = I can do this with help from someone
4 = I can do this very well by myself

The goal was to attain a response of 100% in Category 4 (I can this this very well by myself) for every question.

Results of the technology skills pre-survey scores indicated only one item score above 80% in Category 4 which was; (a) using Internet search engines to find primary sources of information. This indicated there was a need for technology assistance provided in the e-learning guide. The discussion of the survey results focuses primarily on the post-survey results, because the purpose of the e-learning guide was to help participants learn the skills targeted in the e-learning guide well enough to respond Category 4 on every question.

Of the nine items, the highest post- technology skills survey scores indicating 80% or above mastery were (a) use internet search engines to find primary sources of information (88.9%), (b) download and install the latest version of Adobe Reader (83.3%), and (c) identify and download a Microsoft compatible program (83.3%).

The lowest post- technology skills survey scores were (a) e-mails: inserting images into and attaching a document to an e-mail (78.8%), (b) e-mails: downloading, opening and saving documents sent as an e-mail attachment (76.5%), (c) using technology for collaboration (72.2%), (d) uploading documents through the online learning portal (66.7%), (e) inserting images into a document and upload for

submission, and (f) saving documents in alternate formats such as -.rtf or -.pdf (66.7%). The lessons that address these skill sets will be reviewed and modified for inclusion in the next iteration of the e-learning guide to better teach these skills.

The purpose of the e-learning guide is to increase the participants' skills in the technology tasks that are required in the student coursework. Although there is a percentage increase in the perceived technology skills in all skills sets except one, the goal of achieving a response in Category 4 (I can do this very well by myself) in all skill sets was not met. Since the goal of a 100% response in Category 4 for every question was not met, all skill sets will be retained in the e-learning guide. Questions will be reviewed for clarity and relevance to ensure the survey questions accurately reflect the skills. Lessons will be modified to better address the targeted skills which may improve the post-survey outcomes. The results of the pre- and post-survey responses are reported in Table 5-2.

In every skill category but one, there was a percentage increase in the mean response, indicating an increase in technology skills by participants. To determine if these increases were significant, a paired-samples *t*-test was conducted because the pre- and post-survey data points were the same for each group and there was no assumption of a significant difference between the two groups (Trochim, 2006). Using STATA software, the paired-samples *t*-test was conducted on each question of the pre- and post-survey comparing the mean scores from Category 4 (I can do this very well by myself) responses using a significance level of $p$=0.05. Category 4 was chosen because I considered this the most important data point since the goal of the e-learning guide was to enable participants to reach a skill level where they could perform each

task without assistance. Of the nine items, seven were considered significant (Table 5-3). The two items considered not significant were (a) e-mails: download, open and save a document sent as an e-mail attachment and (b) use Internet search engines to find primary sources of information. These two areas of concern will be targeted for improvement in future e-learning guides. These results indicate that the e-learning guide may have a positive impact on the participants' perceived technology skills. The results of the paired *t*-test are reported in Table 5-3.

The themes, categorized from the semi-structured interview questions, reflected the following: (a) how the e-learning guide was used by the participants for teaching (usefulness), (b) participants' experiences while using the e-learning guide (experience), (c) what the participants liked about the e-learning guide (likes), (d) what the participants disliked about the e-learning guide (dislikes), (e) would participants recommend the e-learning guide (recommendations), and (f) additional comments. Themes are presented here, along with a description of the codes and sub-codes.

**Participants' Use of the E-Learning Guide**

In analyzing how the e-learning guide was used, participants' responses revealed three primary categories: applications, information, and collaboration. Applications referred to participants' responses where they described their use of specific programs to complete certain tasks. For example, Adobe Reader is needed to view documents in the lesson, and Open Office can be used to create documents and presentations. The information category refers to the participants' awareness, access and use of free resources on the Internet such as lesson plans or project ideas. Collaboration referred to the ways in which participants described using the resources provided in the e-

learning guide to communicate and share experiences with other homeschooling parents.

**Applications**

The e-learning guide contained instruction for parents on how to use applications such as Adobe Reader and Open Office so that they could teach their children. These skills are needed to complete the required assignments in the academic courses. Parents stated that they had learned how to use these applications and could now teach their children how to open and save documents in different formats and create presentations for the lessons. In addition, they said they learned how to download some of these free programs, such as Open Office, on other computers which saved them additional expense.

Included in the e-learning guide was information on free programs available that are used for the academic lessons. Some of these programs are Adobe Reader for reading pdf files, Open Office as a Microsoft Word substitute, WordPress to create a blog, and Yola as a website builder. The two applications mentioned the most by participants during interviews were Adobe Reader and Open Office. Some participants expressed that before they used the e-learning guide, they either did not know about these programs or did not know how to update the current version on their computer. Several participants reflected on their improved technical skills with comments such as, “Learning about Adobe was good. Now I know why sometimes things go wrong, like files won’t open or something,” and “Adobe Reader and Open Office are the ones that I liked a lot. I mean, I knew about the Adobe but not how to keep it updated.” Participants’ comments showed increased understanding of why certain technical issues occurred.

They also mentioned that learning about the different file formats and file conversion was useful to them:

> I didn't really know about the different types of files, like saving them in different ways. Now I do know the difference between the Adobe files and Word files and why sometimes a document just doesn't open right for me.

In the e-learning guide, participants learned about using Open Office, a free software package for word processing**,** spreadsheets**,** presentations**,** graphics**,** and databases. This program works on most computers and is compatible with other common office software packages, such as Microsoft Office. In the e-learning guide, Open Office was acknowledged as a valuable free substitute for Microsoft Word. In some cases**,** participants not only used Open Office for the student enrolled in the Ogburn School, but also used it on other computers in the home for other children. One participant's response was;

> Adobe Reader and Open Office are just great! I got our computer from a friend and it didn't have any programs on it at all, so this helped me get those two programs, plus others, and I didn't have to buy Word.

One participant also reportedly used this application for other computers, "because I really couldn't afford to buy Word again."

**Information**

In the e-learning guide, parents learned about free educational web sites, such as Mathisfun.com, to help them teach their child academic skills when there was a need for additional explanation, reinforcement, or just a break from the traditional lessons. Sites such as A-Z homeschooling and Kidzpage were noted by participants as helpful free resources for lesson ideas and materials. The e-learning guide helped participants become aware of the free materials available to them. One participant stated that, "I had

no idea there was so much free school stuff online," and, "if we don't do the regular lessons we still do something educational, something good."

Another participant expressed enthusiasm for the sites that provide easy to understand tutorials because this helped them learn and better teach their student. Mathisfun.com was mentioned because, "When we are stuck on math we just go there… because I can do math but explaining it is sometimes a little tricky for me."

One participant expressed how learning about blogs made it easier for her to help her child with the lessons that include blogs. She stated that she "didn't know what blogs and wikis were…now I know the difference… it is a blog, you know, and that people are writing." This indicates participants were better helping their child with blogs. In addition to these educational websites, the e-learning guide was used as an ongoing resource to better explain concepts. A participant stated, "I learned about the file formats before but had forgotten, so I went back a few times and looked again when I needed to." Another response included, "I used the glossary a couple of times when I wasn't sure how to explain something." These responses indicate the e-learning guide was used by some participants as a reference tool.

**Collaboration**

One component of the e-learning guide was a module on homeschooling sites that included blogs promoting information sharing among families. Participants found this module very useful. One participant stated, "We visited some of the suggested sites and had some conversations back and forth with two other homeschool families." Further, the participant stated, "We have made some connections that help us along the way with schooling and I plan to keep participating." This indicates that ongoing

communication between families is a benefit beyond participants' use of the e-learning guide.

By using the e-learning guide, parents learn how to identify homeschooling sites that promote communication, and they can use blogs and wikis to collaborate with other homeschool families to exchange ideas about best homeschool practices.

## Experience

In describing their experience using the e-learning guide, participants highlighted positive elements such as ease of use and navigation as well ascertain areas that they disliked. Participants' responses are summarized below.

### What Participants Liked About the E-learning Guide

Overall the responses from participants were positive and indicated they found the site easy to use, evidenced by this comment, "It was very easy to navigate - it was pretty self-explanatory if you followed the directions." Participants stated they "learned how to help their child because I did the same thing and already knew how to send in lessons." Another comment supporting the advance practice was from a participant who said, "It helped us get ready for the real lessons." Two participants made these comments: "It helped me because I didn't know much about computers except for e-mail or shopping online" and "We used it to help learn the technical part", suggesting that the e-learning guide increased their knowledge of general computer skills. Participants continued to use the e-learning guide as a resource after they completed it, stating "I printed some of it out so I could have it on hand and not have to look it up on the computer again."

**What participants disliked about the e-learning guide**

Participants also reflected on what they did not like about the e-learning guide, such as having difficulty following the information in the beginning and stating that the students, not the parents, should be required to complete the e-learning guide. One critical response indicated that participants thought the information was hard to follow in the beginning but got easier with practice, saying, “It was hard to follow at first but because we hadn’t ever done anything like this, but it was good information after we got the hang of it.” An example of this is:

> I just didn’t like the fact that parents had to do this. I didn’t understand that and I don’t understand why students are doing it, not the parents. I almost quit because I said, I signed my kids up for school, not me.

Another participant said they thought that the e-learning guide wasn’t necessary but they completed it anyway “because they were expected to do so.” Others thought that there  Internet overload by expressing, “There was too much focus on Internet; we would like more things to do not on the Internet, like worksheets or things kids can do without being on the Internet.”

One participant suggested changing the order of the lessons to better engage participants because they did not like the grouping of information. Another criticism indicated that the e-learning guide was too long because “it took a lot of time away from schoolwork.”

**Technology Skills**

When asked what types of technology skills should be added to help parents with instruction, responses were varied. Some stated that nothing should be added because the e-learning guide was long enough and it shouldn’t be more complicated. Other responses were that more information on Internet safety should be added because “it’s

dangerous for kids to be online while I am at work." More opportunities for students to create a video for an assignment were suggested as an alternative option for assignment submissions. One participant suggested that typing instruction be added because students type their work in texting style and should learn to type correctly.

**Would Participants Recommend the E-learning Guide?**

Fifteen of the eighteen interviewees stated they would recommend the e-learning guide to other homeschooling parents because it showed them how to complete the lessons and gave them confidence in what they were doing by providing practice before beginning the lessons. Although there was a recurring theme of requiring the students to complete the e-learning guide as opposed to parents, one participant stated that the value became apparent after using the e-learning guide. This was reflected in the comment, "Now I see it. I see the reason for doing it." Another participant expressed there was new information by responding, "But there were some things I didn't know, like updating the Adobe." The participant commented, "If there was any way to do the same thing but shorter I would like it better," indicated the e-learning guide may be too long and should be streamlined.

**Interview Data Summary**

Positive feedback from the participants during the interviews indicates the e-learning guide helped parents learn more about free software, educational websites, and computer terminology while increasing their computer skills in such tasks as attaching or uploading documents and saving in different formats. Some participants requested more tasks in collaboration strategies such as wikis and blogs.

Negative feedback indicated some participants thought the course was too long, contained either too much or not enough Internet tasks, should include more free sites,

the technical component was too hard to read and the glossary should contain images. Some participants felt the e-mail tasks were too basic and one comment was made that the participant just skipped what was not needed.

During interviews, parents suggested these additional skills pertaining to the Internet were needed -- Open Office programs, typing programs, Internet safety, building professional web pages, creating wikis, blogs, videos, time-saving computer skills and one comment was ‘anything that will help.’

The e-learning guide helped some parents better prepare for the school year. One parent appreciated how she was able to work together with her child, saying, “That is what has been the best thing about home school is that we really work together.” Reducing the time requirement and requiring students to participate would address the most prevalent suggestions for improvement. The comment that best illustrates the intent of the e-learning guide was, “I think I was better prepared for this year.”

A sample of the coding document is included in Appendix G. Results of the interview data are reported in Table 5-4.

**Participant Activity Logs**

The learning management system (LMS) provides information on participants’ access to the activities in the e-learning guide, which functions as a course in the LMS. The participant report provides the total numbers of times a lesson was accessed during the course. The five lessons accessed most often were1) saving documents in different formats (101 accesses), 2) e-mails (inserting images into and attaching documents to an e-mail) (91 accesses), 3) e-mails: open, download and save a document sent as an e-mail attachment (89 accesses), 4) Microsoft Word compatible programs (87 accesses), and 5) Adobe Reader (79 accesses).

Four of the lessons most accessed by participants corresponded to survey items that showed a significant increase on the post-survey. These were (a) saving documents in different formats, (b) e-mails: insert an image, attach a document to an e-mail, (c) Microsoft Word compatible programs, and (d) Adobe Reader. One lesson corresponds to items on which participants' perceived ability to complete the tasks did not increase significantly on the post-survey. This was (b) e-mails: download, open and save a document sent as an e-mail attachment. In the interview data, participants stated they were able to use the information on e-mails, and this lesson was accessed 89 times during the course. However, the statistical result on parents' perceived capabilities with this skill was not significant. This may indicate that the e-learning guide should contain more explicit instruction and deliberate practice on this specific skill.

The five lessons accessed least often were the discussion forums which ranged from 9 -16 accesses. This contradicted the interview data where participants stated they learned to use technology to collaborate with others. However, one explanation for this is that these forums were meant for one visit or posting as a learning tool. As participants learned how to post to a forum they were then able to use these skills to visit and post in outside forums, as well as posting on wikis and blogs. This may indicate that the forums did not represent relevant topics to the participants and need to be revisited.

These results will be considered in deciding which skills to emphasize and which to reduce in future e-learning guides. Those accessed the most may be expanded while those accessed the least require content revision or made optional. The results of the participants' activity are reported in Table 5-5. A correlation of the participant data log

analysis for the five most and least accessed lessons correlated to the pre- and post-survey questions is reported in Table 5-6.

**Researcher Log**

I began my researcher log by writing into a spiral notebook. I was excited about writing in a traditional format. After one week I decided this was uncomfortable for me and rather unproductive because often I couldn't read my own handwriting. At that point I changed to using post-it notes during the day and then transcribing my notes into a Word document at the end of the day. In reviewing my log I noticed that I seemed worried about the participants completing the activities on time. I was also surprised by some of the requests, such as a participant requesting a print copy of the lessons. I thought, "Do they not know how to print from a web page? I need to provide a print copy?" My attitude changed over a few weeks from one of surprise with the lack of skills to empathy because some participants really did not know how to do some of the simplest tasks. In reading over my notes, I can't explain why I was so surprised at the participants' lack of skills, because that is why the e-learning guide was developed. Maybe it was because I expected participants to 'catch on' more quickly than they did. I began to be more mindful of their point of view and how the lessons were perceived from the other side of the learning portal. I better understood that the e-learning guide needed more of an instructional design approach than to be based in adult learning theory or design-based research. It was about explaining in words and visuals how to accomplish a task in language that was appropriate to the learner. It was about good teaching, staying in touch with the students, and meeting their needs through timely messaging and feedback. A complex task became simple. The e-learning guide redesign will better reflect the learners' input because I have thought it through more

deeply by recording my reactions. A sample of the researcher log is provided in Appendix H.

Evaluation of this data helped determine the participants' use of the e-learning guide. Outcomes indicate the e-learning guide had a positive result on participants' perceived effectiveness and use of technology. The next chapter discusses the findings as related to the research question and implications for future e-learning guides.

Table 5-1. Participant Demographics

| Characteristic | Total (n=32) | Interview (n=18) |
|---|---|---|
| Gender | | |
| Male | 4 | 0 |
| Female | 28 | 18 |
| Ethnicity | | |
| Caucasian | 15 | 9 |
| Black | 10 | 6 |
| Hispanic | 6 | 3 |
| Native American | 1 | 0 |
| Education | | |
| Less than a high school diploma | 2 | 0 |
| High school diploma | 10 | 5 |
| Some college | 12 | 11 |
| Bachelors | 8 | 2 |
| Masters | 0 | 0 |
| Doctoral | 0 | 0 |
| Country | | |
| USA | 100 | 100 |
| Prior homeschooling experience | | |
| Yes | 11 | 7 |
| No | 21 | 11 |

Table 5-2. Pre- and Post-Survey Data Comparison (Results are reported as a percentage of the sample)

Likert Scale Categories*:*
1 = I don't know what this means
2 = I know what this means but I cannot do it
3 = I can do this with help from someone
4 = I can do this very well by myself

| Skill Category | Pre - 1 | Post 1 | Pre - 2 | Post 2 | Pre - 3 | Post 3 | Pre- 4 | Post 4 |
|---|---|---|---|---|---|---|---|---|
| (1)Download & install the latest version of Adobe Reader | 5.2 | 0.0 | 5.3 | 0.0 | 18.4 | 16.7 | 71.1 | 83.3 |
| (2)Identify, download and install a Microsoft Word compatible program (e.g., Lotus, Symphony) | 5.2 | 0.0 | 13.2 | 0.0 | 34.2 | 16.7 | 47.4 | 83.3 |
| (3)E-mails: inserting images into and attaching documents to an e-mail | 2.6 | 0.0 | 2.6 | 0.0 | 25.6 | 21.2 | 69.2 | 78.8 |
| (4)E-mails: download, open and save a document sent as an e-mail attachment | 7.7 | 0.0 | 0.0 | 0.0 | 17.9 | 23.5 | 74.4 | 76.5 |
| (5)Upload documents through an online learning portal | 12.8 | 0.0 | 5.2 | 0.0 | 33.3 | 33.3 | 48.7 | 66.7 |
| (6)Insert images into a lesson document and upload for submission | 17.9 | 0.0 | 5.2 | 0.0 | 25.6 | 33.3 | 51.3 | 66.7 |
| (7)Use Internet search engines to find primary sources of information (e.g., Google, Bing, or Yahoo) | 0.0 | 0.0 | 0.0 | 0.0 | 5.3 | 11.1 | 94.7 | 88.9 |
| (8)Save documents in alternate formats so that others can read them if they have different word processing programs (e.g., saving Word, RTF, or .pdf) | 10.3 | 0.0 | 7.7 | 0.0 | 41.0 | 33.3 | 41.0 | 66.7 |
| (9)Use technology to collaborate with the school, other homeschool parents or students (e.g., wikis, blogs) | 5.1 | 0.0 | 2.6 | 0.0 | 30.8 | 27.8 | 61.5 | 72.2 |

Table 5-3. Pre- and Post-Survey Means Results n=32

| Interview Data<br><br>Question/Skill | Pre- | Post- | *p*-value |
|---|---|---|---|
| (1)Download & install the latest version of Adobe Reader | 3.46875 | 3.9375 | 0.0036 |
| (2)Identify, download and install a Microsoft Word Compatible program (e.g., Lotus, Symphony) | 3.25000 | 3.9375 | 0.0000 |
| (3)E-mails: insert an image into and attach a document to an e-mail | 3.56250 | 3.90625 | 0.0029 |
| (4)E-mails: download, open and save a document sent as an e-mail attachment | 3.59375 | 3.90625 | 0.1000 |
| (5)Upload documents through an online learning portal | 3.25000 | 3.7185 | 0.0008 |
| (6)Insert images into a lesson document and upload for submission | 3.20875 | 3.84375 | 0.0001 |
| (7)Use Internet search engines to find primary sources of information (e.g., Google, Bing, or Yahoo) | 3.93750 | 3.90625 | 0.3251 |
| 8)Save documents in formats (e.g., saving Word, RTF, or .pdf) | 3.12500 | 3.71875 | 0.0000 |
| (9)Use technology to collaborate (e.g., wikis, blogs) | 3.50000 | 3.78125 | 0.0047 |

Table 5-4. Parent feedback on e-learning guide

| Questions | Responses |
|---|---|
| 1. How did the e-learning guide help you teach your child? | I was able to teach my child about collaboration and educational Websites<br>I learned more about free software<br>We learned about e-mail and file formats<br>We used homeschool friendly websites<br>The glossary was useful<br>We learned how to build personal web pages<br>The hardware information was useful and helped us know why some things didn't work<br>Blogs and wikis were fun<br>It helped me teach my child to learn more on her own by using the computer |
| 2. How was your experience using the e-learning guide? | Easy to navigate<br>Reference information was useful<br>It provided practice for me before starting the course<br>It was good. We used it.<br>Tough at first but got easier<br>Hard to follow at first<br>Should be expanded<br>Too long |
| 3. What did you not like about using the e-learning guide? | Order of the information should be changed<br>Too much focus on the internet<br>Not enough explanation needed on the computer hardware section<br>A more detailed glossary with pictures would be nice<br>More free programs should be added<br>Didn't need the information on e-mails – that is basic<br>Too technical – hard to read<br>Expected more internet and less technical type stuff |
| 4. What technology skills should be added? | More information on uploading documents<br>More Internet information<br>Learn how to build professional web pages<br>Information on Open Office and other free programs<br>Kids need to learn typing<br>More wikis should be added to the site<br>More Internet safety for kids<br>Computer skills that would save time<br>Creating videos<br>Anything that will help |
| 5. Would you recommend the e-learning guide to other parents? | Yes (15)<br>No (3)<br>It took too long<br>I didn't have time to finish it<br>I don't really like computers, it's for my child |
| 6. Please add any additional comments. | I thought I knew more than I did<br>I had to get someone from work to help me<br>I wish we had textbooks |

Table 5-5. Participant Activity Log

| Activity course | Total times accessed during |
|---|---|
| Saving Documents in Different Formats | 101 |
| E-mails: inserting images into and attaching documents to an e-r | 91 |
| E-mails: download, open and save a document sent as an e-mail attachment | 89 |
| Microsoft Word Compatible Programs | 87 |
| Adobe Reader: Do you have it on your computer? | 79 |
| Hardware Specifications, or What you need on your computer | 61 |
| Introduction | 53 |
| Locating Useful Websites for Teaching | 51 |
| Videos - How to send e-mails of all types | 49 |
| Web sources for homeschooling | 47 |
| A link to some 'Free Top Notch Websites' | 43 |
| Collaboration - Personal web pages and blogs.... | 42 |
| Distance Education Glossary | 41 |
| Evaluating Web Sites | 41 |
| Create a web page for free.... | 39 |
| Technology Skills Pre-Survey | 32 |
| Technology Skills Post-Survey | 32 |
| Building blogs.... | 29 |
| Basic How-To's Discussion Forum | 16 |
| Collaboration Forum | 14 |
| Computer and Browser Discussion Forum | 13 |
| Locating Useful Websites for Teaching Discussion Forum - | 11 |
| Web Resources Discussion Forum | 9 |

Table 5-6. Participant Activity Log Correlation to Pre- and Post-Survey Statistical Analysis

| Activities | Correlation to Questions Significant | Not significant |
|---|---|---|
| Accessed most often: | | |
| Saving documents in different formats | 8 | |
| E-mails: inserting images into and attaching documents to an e-mail | 3 | |
| E-mails: download, open and save a document sent as an e-mail attachment | | 4 |
| Microsoft Word compatible programs | 2 | |
| Adobe Reader | 1 | |
| Accessed least often (forums): | | |
| Basic E-mail how to's forum (inserting images into e-mails, attaching documents to e-mails, saving documents in different formats) | 2,3,8 | 4 |
| Collaboration forum (creating personal web pages and blogs) | 9 | |
| Computer and browser forum (What you need on your computer, Adobe Reader, MSWord compatible programs) | 1,2 | |
| Locating useful websites for teaching forum (web sources for homeschooling) | 9 | 7 |
| Web resources forum (locating and evaluating useful website for teaching) | 9 | 7 |

# CHAPTER 6
# DISCUSSION AND IMPLICATIONS

This chapter summarizes the purpose of the study, discusses the results, and presents conclusions based on the data. Study limitations and recommendations are presented. The chapter concludes with the impact of the study and implications for future practices of the Ogburn School.

## Context

The Ogburn School is a private distance education school providing web-based curriculum for grades K-12. Students enrolled in middle school are encouraged to be self-directed learners but still require guided instruction provided by a learning coach, who is most often a parent. The Ogburn School recognizes that some parents choose homeschool as a last option and are not familiar with homeschooling, instructional methods or practices. These homeschooling parents are referred to in this study as a 'reluctant homeschooling parent.'

The Ogburn School provides instructional support for homeschooling parents through the learning portal message center, school e-mail, school telephone, Skype and postal mail. After analyzing the number of helpdesk requests over time, it was apparent that requests for basic technology skills assistance comprised the largest number of requests and took a large amount of administrative and faculty time. An e-learning guide was designed and implemented to provide training in technology skills for parents who work with their students as learning coaches. Parents were required to complete the e-learning guide activities during an orientation period prior to the students beginning their academic studies. Parents used the same learning management system that the student used, which gave them the same technology experiences as their child. The

pre- and post- technology skills survey collected data on participants' perceived technology skills. Participant log data tracked participant's access in the e-learning guide activities. Data were collected from 32 participants. Interviews were also conducted with 18 participants that collected responses on using the e-learning guide, including participants' likes, dislikes, suggestions for improvement and whether they would recommend the e-learning guide to other homeschool parents.

## Overview

Following the design based research (DBR) framework, the technology resource for parents was developed in three iterations that were improved based on parent use, an analysis of help desk requests, and researcher reflection. The first iteration was a hard copy mailed to students, the second an online resource that was not monitored, and the third was the e-learning guide which is the focus of this study. The anticipated outcome of the study was an increase in the perceived technology skills proficiency of parents who enrolled their $6^{th}$-$8^{th}$ grade children in the Ogburn School.. To achieve this, the helpdesk calls were analyzed and sorted into technology skills categories that would be included in the training. Using the adult learning theories of Malcolm Knowles (1984), systemic lesson design, and design based research, an e-learning guide was created that included the skills assistance most commonly requested in the helpdesk logs. A survey was conducted during the enrollment process to determine whether parents needed to participate in the e-learning guide during the orientation. Those identified were asked to sign the informed consent for participation in the study.

Participants completed the e-learning guide during a two week orientation. This guide provided asynchronous self-paced instruction and practice in the basic technology skills needed to successfully complete the middle school program. Participants

completed the technology skills pre-survey before beginning the instructional modules. The instructional modules were self-paces and included basic technology skills instruction, independent tasks and discussion forums. After completion participants completed the technology skills post-survey to determine if there was a significant difference in their perceived technology skill proficiency. A paired *t*-test performed on the technology skills pre-survey and post-survey showed a significant difference in participants' perceived technology skills proficiency.

A semi-structured telephone interview was conducted with 18 participants to determine participant satisfaction with the e-learning guide, which components of the guide were the most useful, the least useful, and suggestions for improving future e-learning guides. These responses will be used to guide revisions in future e-learning guides.

The majority number (*n*=15) of those interviewed who would recommend the e-learning guide to others suggests that the guide was beneficial to parents in learning technology skills they felt were worthwhile. The participant tracking log shows that, overall, those who recommended the guide did not access the lessons any more often than those who did not recommend the guide.

The purpose of the e-learning guide was to help reluctant parents become comfortable using technology to teach their child, which, in turn, may encourage parents to play a more participatory role in their child's schooling.

## Discussion of the Results

This study was directed at reluctant homeschooling parents who were not experienced at teaching their children. The e-learning guide was designed to help parents' increase technology skills so they will access it regularly in order to help their

child. This study demonstrated that an e-learning guide is important because of the following: a) homeschooling parents' technology skills vary, b) they are often unaware of what they don't know, and c) they are willing to learn new skills and move towards playing a participatory role in order to help their child.

**Parents' Varied Technology Skills Proficiency**

Parents of students in the Ogburn School vary in their technology skills proficiency. The lack of technology skills proficiency of some parents of students enrolled in the Ogburn School was evidenced in the help desk requests. This was the emerging problem which led to the creation of an e-learning guide that provided consistent technology skills assistance for parents.

In this study, parents varied in how and to what extent they were able to access outside resources (Kunzman, 2012). Bullock (2011) suggests that the more experienced parents will access technology more readily than others. The parent who stated she was able to teach her child to collaborate and be a more self-directed learner by using the computer is an example of someone more experienced with technology (Basham, Merrifield & Hepburn, 2007; Stevens, 2001). The parent who stated she had to get someone from their work to help her is an example of someone inexperienced with technology. These two responses illustrate how the parents' technology skills vary in this study.

The intent of the e-learning guide is to help all parents become more experienced in using technology to help their child, regardless of their perceived technology proficiency skills when beginning the program. Future revisions of the e-learning guide will contain more explanations and examples to ensure that parents of all technology skill levels will find it helpful.

### Parents' Technology Skill Awareness

Some studies suggest that today's parents are not always comfortable with technology (Knowles, 1998; Norris, Simpson & Wilkinson, 2008). This is supported by responses to the interview questions such as, "I thought I knew more than I did and "I really don't like computers." Parents may have experience with technology; however, but it may be limited to technology every day applications. For example, someone may use a computer at work, but they may only use one application (e.g., as an inventory). While they may be very proficient at that one application, they may not know how to download and use other applications or how to apply social media for collaboration. Another possibility is that a parent may be very proficient in useful technology skills but not be aware of how to use these skills for teaching his/her child. The e-learning guide attempts to improve parents' technology skill awareness by involving them more fully in the learning process. In addition, the expansion of the e-learning guide to include students can serve as collaboration between parent and child, which will further involve the parents in their child's learning. According to Ice and Dempsey (2010) the motivation of parental involvement is based in part on specific invitations from the student or the teacher and the parent's individual skills and knowledge. The e-learning guide addresses these two conditions. Parents are directly invited to participate in their child's learning which lends the possibility that they are better able to help their child learn because their perceived technology skills proficiency may increase through the use of the e-learning guide.

### Parental Involvement in the Ogburn School

There are two theories regarding parental involvement that form the basis for encouraging participatory parental involvement roles in the Ogburn School. First,

homeschooling and virtual schooling parents may play a more important parental involvement role than parents of students in a traditional environment (Russell, 2004). Tools such as the e-learning guide help engage parents in the learning process along with their child. Second, Internet based communications can increase the frequency of communication and reduce barriers to parental involvement, such as work schedules (Bouffard, 2006; Mitchell, Foulger & Wetzel, 2009). The Ogburn School provides several methods of two-way communications through grading feedback, the message center, e-mails, instant messaging, chats, Skype, telephone and postal mail. Each of these technologies helps facilitate a supportive and participatory parental involvement role by providing parents with easy access to the school and their child's teachers. As a result of this study, the Ogburn School plans to provide additional and ongoing training for parents on using technologies so they will frequently reach out to the school and become more supportive and participatory parents in their child's learning.

If parents are not comfortable with technology, they may not perceive it as easy to use even if they do perceive it as valuable to their child (Saade & Bahli, 2005). In the interviews, when parents discussed the skills they learned and how they used those skills, they did not always state they thought the skills were easy to use; they used technology because it was necessary to help their child. Parents stated they completed the lessons because they needed to do so, indicating that the e-learning guide helped them recognize the importance of helping their child successfully complete their coursework. This aligns with research by Knowles (1990) and Merriam (2001), who state that adults are goal oriented in their learning. Future e-learning guides will provide

consistent instructions for learning technology skills to help parents become comfortable with using technology to help them reach their goal of helping their child academically.

Lin (2011) stated that users must perceive the technology as a good fit in order to keep using it. Parents' suggestions to add more multimedia to the e-learning guide and to include students in using the guide indicate they think that learning these technology skills was valuable. Incorporating parents' suggestions into future e-learning guides may further parents' perception of the value of learning these skills. Incorporating parent feedback into revisions of the e-learning guide will help create activities that are relevant to future users' needs. This will ensure that skills perceived as valuable are included.

The intent of the e-learning guide is to help parents perceive technology skills as easy to adapt and a good fit so they will access the guide regularly in order to help their child. Parents who are comfortable using technology as a tool for their child's learning will become a more participatory parent. This will enable students to spend more time on active learning activities, such as researching, creating and reflecting on their learning, which is a focus of the Ogburn School curriculum.

The Ogburn School's next step is identifying what additional skills should be included in the e-learning guide. To do this we will expand our data gathering from the technology skills requests to other categories. For example, provide additional training for parents on data they can access on the learning portal. Although this information is currently available to parents on the learning portal, we still receive phone calls and message center requests from parents on how to view or print grade reports. This represents one type of information that could be included in the e-learning guide to increase parental participation and support for their child. Identifying the technology

skills to target for future e-learning guides is an important step in helping parents view technology as easy to use, a good fit, and a valuable tool for teaching their child.

**Discussion of the Results Summary**

This study answers the research question: How does the use of an e-learning guide that emphasizes the use of relevant web-based technology resources affect the reluctant homeschooling parent's perceived effectiveness and use of technology in a $6^{th}$-$8^{th}$ grade virtual homeschool environment? Outcomes indicate that the e-learning guide may increase the homeschooling parent's perceived technology skills proficiency when they participate in relevant activities that help them effectively use technology-based resources to help their child's learning process. This is signified by the increase in the mean responses on the pre- and post- technology skills surveys and the participants' interview responses stating how they used the guide and whether they would recommend the e-learning guide to others.

Responses from parents indicate they thought the technology skills were valuable, although not necessarily easy, and their goal of helping their child was the reason for their involvement. The design of future e-learning guides will emphasize technology instruction that results in the user learning skills they perceive as easy as well as useful, so they will regularly apply technology effectively in homeschooling.

**Changes for Future Design and Use of the E-learning Guide at the Ogburn School**

The purpose of the e-learning guide is to provide instruction and practice for the learning coach (parents) on technology skills relevant to the middle school curriculum at the Ogburn School. This study indicates the e-learning guide had positive outcomes for increasing parents' perceived technology skills proficiency. The research indicates the e-learning guide pilot was successful for its intended purpose. In the study, the

e-learning guide was limited to 6th-8th grade parents because it was offered electronically for the first time. Future e-learning guides will include all students in grade K-8. Although the indications are that the e-learning guide fulfilled its intended purpose, looking more closely at participant responses provided additional insight into several areas for improvement that are described in this section.

**Revision of the E-Learning Guide**

Using the design-based research process, the outcomes of this study were analyzed to understand what worked best for the participants in the e-learning guide, as well as what was not useful. Using the survey and participant log data as well as the feedback from the participant interviews, I determined which activities were or were not valuable to the users. I also used these tools to identify problems and redesign the intervention. By reviewing and reflecting on the activities and participants' feedback, I decided how to better design and deliver the e-learning guide and who should be included as a participant in addition to the learning coach (parents).

**Student Participation**

In reviewing the activities and submissions, it became apparent to me that students were participating in the e-learning guide activities along with their parents. This issue highlighted an opportunity for increased effectiveness. That is, future e-learning guides will be expanded to include student participation and not focus exclusively on the learning coach (parents). Students may be better served if they complete the e-learning guide themselves with support from their learning coach (parent), just as they do in the academic courses. Future e-learning guides will include K-8th grade students as well as the learning coaches (parents). Parents will continue to participate and provide support as the primary learning coach, but students will be an

equal participant in the e-learning guide activities. This ensures that both student and learning coach (parent) have the skills necessary to complete the activities required in the academic program in the Ogburn School.

**Relevance of Technology Skills**

The e-learning guide activities will be continuously monitored to ensure lessons reflect the higher level technology skills required in the updated academic lessons. E-learning course designers will be aware of any revisions to academic activities and ensure those skills are reflected and evident in the e-learning guide. Helpdesk requests will still be monitored to identify relevant skills to include in the e-learning guide. The message center will also be monitored for relevant questions from participants concerning the e-learning guide or other technical issues on the learning site. Using both the help desk calls and the message center will increase the likelihood of identifying all issues that students may have pertaining to technology.

As the e-learning guides become available to students at primary and middle grades, the level of technology skills may differentiate as well, with a higher level of technology skills required for $6^{th}$-$8^{th}$ grade students that align with the higher academic requirements. For example, while a $6^{th}$ grader may need to know how to download and open Adobe Reader to read pdf files, a $7^{th}$ grader may need to know how to download Adobe Reader and also edit the pdf files. An $8^{th}$ grader may need to know how to download Adobe Flash Player and create a video in Adobe Flash Player format as an assignment submission. These are simplified examples because students' needs vary according to student abilities, but they illustrate how the e-learning guide may be differentiated for students.

### Discussion Forums

During my reflections on the effectiveness of the e-learning guide, one question emerged concerning the discussion forum tasks. As evidenced by the system log data, the discussion forums were the least accessed of all the activities in the modules, even though the participant feedback indicated a positive response to sharing and collaboration among other homeschooling families. This seems like a conflict, because the forums were presented as a place to ask questions or to share information. The lack of postings may indicate several conditions: (a) participants had no questions to ask pertaining to the discussion board topic, (b) participants did not feel they had pertinent information to share with others, (c) the forum was not user friendly, or (d) the assignment was not pertinent to their learning. The discussion boards will be revised to include direct questions on topics that may be more relevant to the participants' learning. Future discussion forums will include a required posting on a specific task that is more closely aligned with the learning objectives.

### Optional Resources

There were a few suggestions from the participants' feedback that included topics that were not aligned with the e-learning guide. One example is a request for learning to create videos and another was that students need to learn typing. These suggestions do not align with the technology skills topics identified as relevant for the e-learning guide, but the feedback is still valuable. I wanted to create a way to include their request in the e-learning guide without straying from its original intent. One solution is a simple design addition of an optional resource area on the student learning site to provide access to information on additional technology based skills. Participants could access this resource area as desired, but this would not be a requirement. This is an example

of how I gathered feedback and additional information on the intervention strategy (the e-learning guide) and used that information in the revision process.

**Format of the E-learning Guide**

Through the ongoing process of monitoring the e-learning guide activities, I reflected on some of the issues that arose for participants. Throughout this reflection I kept notes on some of the most important issues and developed a short list of the primary changes I believe may improve the e-learning guide.

First, providing the e-learning guide as an activity separate from the students' courses before students begin their lessons may not be the more optimal format. Embedding the e-learning guide and resources into the introduction of a content area course, or grade level (e.g., 6th grade), may be better for parents and students. This way, if a participant needs information on how to perform a task, the link will be readily visible within the student's course. Therefore, the e-learning guide activities will be added to grades K-8 and placed as the first activity in their academic program instead of a separate course.

Second, the course design will be more flexible, with revisions made as needed to accommodate the changing needs of the participants. This design will be more immediately responsive to necessary edits or changes. This is more easily accomplished if the e-learning guide activities are embedded within each grade level instead of as one separate course. Formatted in this manner, each e-learning guide in each grade level can be revised according to student needs. As the e-learning guide is expanded to all grade levels, the technology needs and skill levels may vary. For example, a 5th grader may require a different modeling explanation than an 8th grader for a lesson or activity. Embedding the activities in each content area course (grade

level) will allow individual editing without revising the activities for all students. It will also provide easier access to the e-learning guide resources without having to exit the academic course to enter the e-learning guide course. This will be more time effective for participants.

Third, the e-learning guide will not be provided to the parent in isolation without including their child. It was mentioned previously that I believe both parents and students were involved in completing some of the e-learning guide activities. This leads me to believe it should be a family activity, encouraging collaboration between parent as the learning coach and his/her homeschool student.

During the design review and revision process, each e-learning guide activity will be evaluated for succinct language, flow, and length to ensure that all tasks are commensurate with students' academic level and relevant to each student's success in courses at the Ogburn School. By using the design based research process, the e-learning guide becomes more relevant to the learning coach (parent) and the student by providing easier access to resources and differentiated technology based activities for each grade level.

## Limitations

Participation was limited to the parents of $6^{th}$-$8^{th}$ grade students enrolled at the Ogburn School who were identified during the pre-enrollment interview as reluctant homeschoolers. The data collection instruments were designed to reflect the knowledge of the technology skills used in the Ogburn School's academic courses and not necessarily the technology skills needed for purposes outside of this setting. The time frame for parents to complete the e-learning guide activities was two weeks from the student's enrollment date.

There are factors that may limit the transferability of this study to other settings. The self-reported data utilized in the study cannot be independently verified. The small sample size of the specialized population, the parents of 6th-8th grade students in the Ogburn School, makes it unclear if the results would generalize to other similar or dissimilar research studies. This study was conducted over a short time period, which provided a snapshot of the conditions during that time period. A longer period of time may produce different results. Researcher involvement may also present a limitation. As the co-founder and current Instructional Program Director, I am involved in the decision-making process as well as day-to-day operations. Steps taken to address these threats include recording interviews, member checking, and a researcher log. These steps help ensure the study was valid for its intended purpose, which was to increase the perceived technology skills for the parents of 6th-8th grade students enrolled in the Ogburn School.

## Implications

The findings in this study lead to implications for future research, virtual school practices and for the Ogburn School. This section discusses those implications.

### Implications for Future Research

Wood (2005), states that virtual schools often provide mandatory professional development training to the online teachers. In the Ogburn School, the parent serves as the teacher and learning coach. Since the homeschooling parent serves as the primary teacher, providing the opportunity for professional training is applicable. Professional training to increase homeschooling parents' perceived technology skills may be more easily addressed through the use of technology (Fitzgerald, Ostrom, RiCharde, & Velasco, 2006; Skal-Gerlock, 2012). E-learning can assist homeschool parents in

providing an education for their child that is consistent with the best practices in education (Edelson & Arnold, 2009). Providing the opportunity for parents to learn more about the best teaching strategies and technology use may increase their ability to teach their child. The purpose of the e-learning guide is to provide an online, structured training opportunity for homeschooling parents because the parent's ability to understand and implement the curriculum may determine their child's academic success. The results of this study indicate that homeschooling parents will use technology to connect with other homeschooling parents, get advice, and share experiences when they possess the technology skills to do so. The positive responses also indicate that parents are willing to participate in training that may help them better teach their child. Further research on a broader scale is needed to determine if creating structured technology training for homeschooling parents on utilizing technology resources in the their classroom would maximize their child's homeschooling experience.

**Implications for Virtual School Practice**

According to Basham, Merrifield and Hepburn (2007), the Internet has increased the development of social media connections and teaching resources for homeschooling parents. Many parents use social media, but perhaps they do not always know how to use it benefit their child in online schooling. Virtual schools should provide information for parents on how to better utilize social media to support their child in online schooling because using the Internet and social connections may help parents identify additional resources available to them (Steinmeier & Yoon, 2010). Current research indicates that parental involvement can make a difference in a child's education (The Center for Public Education, 2011). Furthermore, parental involvement

is important to student success in both traditional and non-traditional school environments (Liu, Black, Algina, Cavanaugh, & Dawson, 2010). However, a high level of parental involvement does not always correlate to high student success (Borup, Graham & Davies, 2013). Grant (2009) stated that parental engagement differs from parental involvement (attending school functions and meetings) and defines parental engagement as being active in the child's learning at home. Parental engagement more often correlates to higher academic achievement (p. 4). Given this difference, it would seem that homeschooling parents are not only involved but engaged in their child's education. Even so, a high level of engagement may not correlate to high achievement if the parent is not able to properly implement a curriculum or fully monitor their child's activities.

This suggests that virtual schools should provide appropriate resources beyond basic e-mail and telephone communications for homeschooling parents that promote active and successful parental engagement. This could be accomplished in several ways. Informational resources could be posted and made available to parents through a parent portal. Chat rooms could be created as a place where parents can gather and post questions of a virtual school representative or other parents. Training materials, similar to the e-learning guide, could be made available for parents to access as needed in order to learn how to use the resources that are provided to them. Newsletters could include information on how to access and use the online resources that would help parents assist their child. An online help request system could be developed for parental use only that addressed parents' questions. Though the parents' use of these resources may not be mandated by virtual schools, it is recommended that resources be

developed to increase parental engagement in their child's online experience. It is also recommended that the use of these resources is monitored to help determine which are the most helpful to parents. However resources are developed and delivered to parents, it is important that resources are topical, easy to access and expeditious to accommodate parents' busy lives.

This study emphasizes the need for parents to possess the foundational technology skills required for virtual learning so they can better teach and assist their child. An institution that provides a homeschool program in a virtual environment should identify parents that need additional support, and then provide that support in ways that most benefits the parent and their homeschool student.

**Implications for the Ogburn School**

This study highlighted ways that the Ogburn School can help parents become more involved in their child's online schooling. Even though the school assists parents and students in developing their skills, the parents and students carry the primary responsibility for learning. Whether intentional or not, homeschooling parents take on a larger supervisory role in their child's education. They need information on accessing resources that will help them better teach their child. The Ogburn School provides information and access to resources but also carries the responsibility to help parents learn how to best utilize these resources. The e-learning guide is one tool to help parents best utilize technology resources.

The development of the e-learning guide reflects an attempt by the Ogburn School to develop a resource for inexperienced homeschooling parents that will increase the technology skills needed by their child to be successful in the Ogburn School. Outcomes suggest that the e-learning guide meets its intended purpose because the

pre- and post- technology survey data analysis indicates that parents' perceived technology skills proficiency increased after using the e-learning guide. In considering the participants' responses and researcher observation, indications are that the e-learning guide is a successful intervention strategy, but it should be continually reviewed for effectiveness. The e-learning guide activities will be monitored for relevancy and the content updated as needed to align with students' academic needs.

One example of an update is moving the e-learning guide from a separate course to embedding it in the orientation lessons for all grade levels. This will make it easier to differentiate for the varied student levels and abilities. Another update is making the activities available for students as well as parents so that parents are not completing the activities in isolation. This may help the parental involvement roles become more supportive and participatory. The technology skills included in the e-learning guide will be under ongoing review and added to learning activities as appropriate. For example, some students are requesting help with Google Chrome and the iPad. Optional resources that students may want to utilize could include creating videos, podcasting, or typing.

The e-learning guide was initially developed as an intervention to assist parents of $6^{th}$-$8^{th}$ grade students teach their child how to better use technology in their academic studies. Through the three iterations of the e-learning guide design, other emerging problems were identified, leading to the Guide's expansion from a short course for parents to a component of the course introduction for all K-$8^{th}$ grade students in the Ogburn School. Continued analysis of feedback and reflection is needed so that future e-learning guides are continually updated, ensuring that activities are current and topical

to meet students' needs. The Ogburn School should continue to build on the idea that parents and students can benefit from additional assistance in areas outside academics.

## Conclusion

This study demonstrates that the technology training provided by the e-learning guide may help increase the perceived technology skills in the targeted population of parents of $6^{th}$-$8^{th}$ grade students enrolled in the Ogburn School. This is a proactive approach intended to help parents and students become familiar with the skills needed for the online activities in the academic courses. The Ogburn School will continue to include the e-learning guide as embedded activities within content areas. The e-learning guide should not focus exclusively on parents but expand to include all K-8 parents and students of the Ogburn School. Although the e-learning guide was initially developed to reduce helpdesk calls and keep the staff and teachers' time focused on academics, there is evidence that it helped parents and students better utilize technology for higher academic achievement in the online environment of the Ogburn School.

## APPENDIX A
## INITIAL PARENT INTERVIEW QUESTIONS

1. Have you homeschooled your child before?

    If yes:  What grade level?  How long?

2. Why have you decided to homeschool your child at this time?

3. How long do you plan to homeschool?

4. Has anyone recommended homeschooling to you?

(e.g., family, friends, school personnel, case worker, etc.)

5. How do you expect homeschooling to benefit your child?

# APPENDIX B
# HELP DESK REQUESTS ANALYSIS

| Help Desk Request Analysis | | Date: July 2010-June 2012 | |
|---|---|---|---|
| Total calls | 2113 | | |
| Monthly average | 88 | 24 months | |
| Daily average | 4.4 | 20 days per month for 24 months | |
| | # of requests for each problem | Problem | Solution |
| 1 | 359 | The lesson document won't open | Download latest version of Adobe Reader |
| 2 | 301 | I don't have Microsoft Word or PowerPoint to complete the lessons | Download and install OpenOffice.org |
| 3 | 279 | I didn't get the document you were supposed to send me in my e-mail | Open and save documents attached to an e-mail |
| 4 | 255 | I don't know how to submit the assignment | Attach and upload lesson documents |
| 5 | 201 | I can't insert an image into the submission box | Save, then copy/paste into the submission box |
| 6 | 181 | I can't send you the signature documents through e-mail | Send attachments through e-mail |
| 7 | 170 | I did my work on another computer and now the file won't open | Save as: RFT, pdf, Word, Works, WordPad |
| 8 | 161 | I can't find any information on the assigned topic | Conduct a subject specific internet search |
| 9 | 149 | I did an Internet search but can't find the pages I used for resources | Favorites, bookmarks |
| 10 | 57 | Other (lost use id/password, refreshing browser, assignments missing, scanning documents/images, searching for documents) | |
| Total | 2113 | | |

APPENDIX C
TECHNOLOGY SKILLS PRE- AND POST-SURVEY

**Technology Skills Survey**

| | |
|---|---|
| ID: _____ | Use the ID assigned to you. |

**Gender:** ①Male ②Female

**Ethnicity:**

| | | | |
|---|---|---|---|
| ① Caucasian | ③ Black | ⑤ Hispanic | □Hispani |
| ② Native American | ④ Asian | □sianv | □sianv |

**Highest degree received:**

| | | |
|---|---|---|
| ① High School | ③ Associates | ⑤ Specialists |
| ② Bachelors | ④ Masters | □□□□□□□□□ |

**Grade level of homeschooler: Choose all that apply**

| Grade level | Number of students |
|---|---|
| ① Grade 6 | |
| ② Grade 7 | |
| ③ Grade 8 | |

**Location:**

| | |
|---|---|
| ① United States | ② Outside US |
| List State | List Country of Residence |
| _____ | _____ |

**Instructions: Select the statement to indicate your level of confidence in performing the technology skills.**

1= I don't know what this means
2= I know what this means but I cannot do it
3= I can do this with help from someone
4= I can do this very well by myself

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. Download and install the latest version of Adobe Reader | ① | ② | ③ | ④ |
| 2. Identify, download and install a Microsoft Word compatible program (e.g., Lotus Symphony) | ① | ② | ③ | ④ |
| 3. Attach documents to an e-mail message | ① | ② | ③ | ④ |
| 4. Download, open and save documents sent as attachments to an e-mail | ① | ② | ③ | ④ |
| 5. Upload documents through an online learning portal | ① | ② | ③ | ④ |
| 6. Insert images into a lesson document and upload for submission | ① | ② | ③ | ④ |
| 7. Use an Internet search engine (e.g., Google, Bing, or Yahoo) to find primary sources of information on the Internet that I can use in teaching my child | ① | ② | ③ | ④ |
| 9. Save documents in formats so that others can read them if they have different word processing programs (e.g., saving Word, RTF, or pdf) | ① | ② | ③ | ④ |
| 10. Use technology to collaborate with the school, other homeschool parents or students (e.g., wikis, blogs, newsletters) | ① | ② | ③ | ④ |
| 11. Please list any technology skills that you would like to learn that will help you homeschool your child | | | | |

**Thank you for your participation in this survey.**

APPENDIX D
END OF COURSE INTERVIEW

Please answer the following questions as honestly as possible. Your answers do not affect your student's grade or progress in the school.

1. How did the e-learning guide affect your ability to instruct your child?

2. How was your experience using the e-learning guide?

3. What did you not like about using the e-learning guide?

4. In what other technology areas do you feel you could use assistance?

5. Would you recommend this e-learning guide to other homeschool parents?

6. Please add any additional comments you like.

Thank you for your participation in this interview. Your input is valued and will be used to improve the e-learning guide.

If you have any questions please contact:
info@ogburn.org

APPENDIX E
PARENT FEEDBACK ON END OF COURSE INTERVIEW

Five parents of currently enrolled students were asked to review the interview questions and make suggestions. The survey was e-mailed and parents were asked to respond by e-mail within five days. Four parents responded within the requested time frame. Their responses are entered in red. My thoughts are in blue. My final thoughts are to keep the interview questions as written but note in the interview notes if I had to elaborate on the questions.

Please answer the following questions as honestly as possible. Your answers do not affect your student's grade or progress in the school.

1. How did the e-learning guide affect your ability to instruct your child?

   I would use the phrase 'help you teach your child.'
   I do think this phrasing is better. While the original seems more academic, the second is more people friendly.

2. How was your experience using the e-learning guide?

   Did you use the guide?
   How did you use the guide?
   Did you use the guide during the course?

   I think that since this will be a telephone interview, these suggestions are good for follow-up to elicit a more detailed response, but only the second suggested question encourages an open-ended response.

3. What did you <u>not</u> like about using the e-learning guide?

   Please explain what you did not like about the guide.
   In writing, the original version may be misleading. If a person is reading quickly he or she might miss the 'not like' but since it is a telephone interview it can be clarified easily.

4. In what other technology areas do you feel you could use assistance?

   What other technology skills should be included in the guide?

APPENDIX F
TECHNOLOGY SKILLS SURVEY PRE- AND POST- SCORES COMPARISON

| **1. Download and install the latest version of Adobe Reader** | | |
|---|---|---|
| **Answer Options** | **Pre-Survey Response Percent** | **Post-Survey Response Percent** |
| 1= I don't know what this means | 5.2% | 0.0% |
| 2= I know what this means but I cannot do it | 5.3% | 0.0% |
| 3= I can do this with help from someone | 18.4% | 16.7% |
| 4= I can do this very well by myself | 71.1% | 83.3% |
| Other (please specify) | | |

| **2. Identify, download and install a Microsoft Word compatible program (e.g., Lotus Symphony)** | | |
|---|---|---|
| **Answer Options** | **Response Percent** | **Response Percent** |
| 1= I don't know what this means | 5.2% | 0.0% |
| 2= I know what this means but I cannot do it | 13.2% | 0.0% |
| 3= I can do this with help from someone | 34.2% | 16.7% |
| 4= I can do this very well by myself | 47.4% | 83.3% |

| **3. Attach documents to an e-mail message** | | |
|---|---|---|
| **Answer Options** | **Response Percent** | **Response Percent** |
| 1= I don't know what this means | 2.6% | 0.0% |
| 2= I know what this means but I cannot do it | 2.6% | 0.0% |
| 3= I can do this with help from someone | 25.6% | 21.2% |
| 4= I can do this very well by myself | 69.2% | 78.8% |

| 4. Download, open and save documents sent as attachments to an e-mail | | |
|---|---|---|
| **Answer Options** | **Response Percent** | **Response Percent** |
| 1= I don't know what this means | 7.7% | 0.0% |
| 2= I know what this means but I cannot do it | 0.0% | 0.0% |
| 3= I can do this with help from someone | 17.9% | 23.5% |
| 4= I can do this very well by myself | 74.4% | 76.5% |

| 5. Upload documents through an online learning portal | | |
|---|---|---|
| **Answer Options** | **Response Percent** | **Response Percent** |
| 1= I don't know what this means | 12.8% | 0.0% |
| 2= I know what this means but I cannot do it | 5.2% | 0.0% |
| 3= I can do this with help from someone | 33.3% | 33.3% |
| 4= I can do this very well by myself | 48.7% | 66.7% |

| 6. Insert images into a lesson document and upload for submission | | |
|---|---|---|
| **Answer Options** | **Response Percent** | **Response Percent** |
| 1= I don't know what this means | 17.9% | 0.0% |
| 2= I know what this means but I cannot do it | 5.2% | 0.0% |
| 3= I can do this with help from someone | 25.6% | 33.3% |
| 4= I can do this very well by myself | 51.3% | 66.7% |

| 7. Use an Internet search engine (e.g., Google, Bing, or Yahoo) to find primary sources of information on the Internet that I can use in teaching my child | | |
|---|---|---|
| **Answer Options** | **Response Percent** | **Response Percent** |
| 1= I don't know what this means | 0.0% | 0.0% |
| 2= I know what this means but I cannot do it | 0.0% | 0.0% |
| 3= I can do this with help from someone | 5.3% | 11.1% |
| 4= I can do this very well by myself | 94.7% | 88.9% |

**8. Save documents in formats so that others can read them if they have different word processing programs (e.g., saving Word, RTF, or pdf)**

| Answer Options | Response Percent | Response Percent |
|---|---|---|
| 1= I don't know what this means | 10.3% | 0.0% |
| 2= I know what this means but I cannot do it | 7.7% | 0.0% |
| 3= I can do this with help from someone | 41.0% | 33.3% |
| 4= I can do this very well by myself | 41.0% | 66.7% |

**9. Use technology to collaborate with the school, other homeschool parents or students (e.g., wikis, blogs, newsletters)**

| Answer Options | Response Percent | Response Percent |
|---|---|---|
| 1= I don't know what this means | 5.1% | 0.0% |
| 2= I know what this means but I cannot do it | 2.6% | 0.0% |
| 3= I can do this with help from someone | 30.8% | 27.8% |
| 4= I can do this very well by myself | 61.5% | 72.2% |

**10. Please list any technology skills that you would like to learn that will help you homeschool your child**

| Answer Options | |
|---|---|
| | **Response Text** |
| | Anything that will help |
| | Anything |
| | I am going to take a tutorial to get myself more efficient. |
| | Typing would benefit |
| | More info on programs |

APPENDIX G
INTERVIEW CODES

Parent Interviews

| Interview Questions/Themes | Codes and Sub-codes |
|---|---|
| 1. How did the guide help you teach your child?<br>Theme: Teaching | |
| | Applications |
| | Created web pages and blogs |
| | Learned more about using e-mail |
| | Downloaded free software such as Adobe |
| | Learned about compatible software |
| | Saving files in different formats |
| | Learned about computer hardware |
| | Learned more terminology |
| | Collaboration |
| | Home school friendly websites |
| | Discussion forums |
| | I was able to teach my child collaboration |
| 2. How was your experience?<br>Theme: Experience | |
| | Positive |
| | Tough but informative |
| | Easy to navigate |
| | We liked the reference information |
| | It was good practice |
| | It should be expanded |
| | Negative |
| | Tough |
| | Too easy |
| | Hard to follow |
| | Too long |
| | Our child thought it was not necessary |
| | Hard to follow at first but good information |
| 3. What did you not like about using the guide?<br>Theme: Dislike | |
| | Technology |
| | Tech Support |
| | It was too technical |
| | I needed more tech support |

More tech support in the beginning needed
Hard to understand the technical part
Not enough information on computer hardware

Format
Hard to follow at first
I would change the order

Content
Not enough free programs
Too much on Internet
Needs more explanation
Didn't need basics on e-mails
More definitions in first part
More MS excel formulas

4. In what other technology areas could you use assistance?
Theme: Suggestions for Additions

Multimedia
Add more interactive web 'stuff'
Create videos, blogs, wikis
Use Google chat, not the school chat
More like Excel

Skills
Kids need to learn typing
More Internet Safety

5. Would you recommend the e-learning guide to other parents?
Theme: Recommendations

Yes (15)

No (3)
It took too long
I didn't have time to finish it
I don't really like computers, it's for my child

6. Please add any additional comments.
Theme: Comments

I thought I knew more than I did
I had to get someone from work to help me
I wish we had textbooks

APPENDIX H
REFLECTIVE JOURNAL SAMPLE

11/2/12: Talked with 40 prospective participants in the past week. All are agreeable, but I wonder - how long it will take to get the paperwork back. Not long I hope. All is sitting on ready. Probably will see so many errors I didn't see before once we get started.

11/8/12: Received 19 consent forms back already. Can't believe that! I thought that would be the hardest part. Not really. Will send messages today to remind others to send forms ASAP.

11/10/12: Reading over the guide, found some changes I would like to make before we get started. Once we start I won't make any changes unless there is a huge error or something.

11/12/12: Received 32 consent forms. Those are the ones. I don't expect to get anymore. Anxious to get started with this group.

11/15/12: Opening day. Only two surveys completed. No topic responses submitted yet. Some clicking around the topics, though. Message sent welcoming all again and requesting to please complete the survey first.

11/20/12: Submissions are coming in. Most do not write anything in their e-mails, just inserting the image. I don't know why I think that is different. I would put in a Hi or something.

11/27/12: No messages since last week but lots of submission today. Holiday over.

11/28/12: Discussion forums are not being used. I started each one but no responses. Perhaps directions are not clear on how to do it. Will send a broadcast message about this.

11/30/12: Lots of images embedded in e-mail and documents. About 50/50 whether they send photos of themselves or stock images. I like it when they send photos of the kids. I always want to know more about the students. I forget sometimes this guide is for parents. Not used to that.

12/3/12: Four have finished the topics. I am going to try and interview them quickly.

12/5/12: Six more said they completed but I asked them to be sure and take the post survey.

12/6/12: Ten completed so far. What could make it go faster and easier? Discussion forums are not being used.

12/7/12: Getting closer to holidays and I think that is affecting the submissions. Too many other responsibilities. Three more completed. I will try and pin down the interview dates tomorrow.

12/9/12: Taking a sneak peek before the week starts. Looking ok. Started slow but picking up speed now. Fourteen completed. Need to send another message to remind all to complete the post-survey. So far there have been very few help requests. Maybe that means the directions are good?

12/11/12: Eighteen completed. I am thinking there have not been very many requests for help during the course. The most requests have been about the login. Seems they are going to the high school site and not the middle school. There is a direct link in their welcome e-mail. It needs to be more clear.

12/12/12: If everybody doesn't finish by the 15th then I will just count those out and open the courses for those kids. Deadline reminder sent.

12/13/12: Twenty-five completed. It's the big push. I need to finish this up. Don't want to push them but the longer they wait the harder it will be to get it all together. Next time I do anything like this I will know better than to have anything during the fall holidays.
12/14/12: Twenty-eight! Sending a message reminding the last few to complete. One not submitting. Made a phone call. Said they couldn't see any lessons, only submission box. Teacher couldn't help them any further. I walked them through a screen shot - that was fun - because I couldn't figure out what was happening on their end. They weren't scrolling down to read any information, just clicking on the assignment tab on the left, which makes sense because it is labeled, assignments.' That doesn't show any lessons, only the submission boxes. This needs to be added to the introduction. I wonder how many students in the regular courses do that before they figure it out?

12/14/12: Mystery solved about going to the wrong site. Some read their e-mail on their phone and don't go to the site from there. Then they go back to the link where they found the school in their online search. We need to think about that and how we can be more clear. It is frustrating for them to put in the login over and over and it doesn't let them in. If it only happens to two out of ten students, that is still 20% at frustration level and they haven't even started.

12/15/12: It's midnight. Thirty-two completed. Thought it wouldn't happen. So relieved.

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