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Parent Beliefs about Technology: A Comparison of Homeschool and Formal Education Families

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Honors Thesis

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Abstract

The purpose of this study was to gain information about how technology is used by parents to assist school learning as well as their opinions and beliefs about the role of technology in the learning process. Specifically, using homeschool and educational networks as well as social media for distribution of a digital questionnaire, this study sought to gauge parents' experience with, as well as responses to, attitudes, and values towards the use of technology in homeschool and classroom education. Sixty-five parents of children who are studying at the elementary grade levels participated in this study. Twenty of these were parents of children enrolled in formal education settings, e.g., public/ private schools, and forty-five were parents of children being homeschooled. Demographic information was used to segment the data into homeschool and formal schooling groups. The study found that although homeschooled children do receive more exposure to technology than formal schooled children, homeschooled children are much less likely to be encouraged to use technology than formal schooled children.

Parent Beliefs about Technology: A Comparison of Homeschool and Formal Education Families

Education is seen as essential for learning how to learn so young people have life-long tools to explore established knowledge and to question new knowledge. The process and setting of education have evolved with societal attitudes. Two prevalent modes of 21st century education are 1) homeschooling where parents decide what, when, and where their children will learn and 2) formal schooling where children participate in set school hours and routines to learn through defined curricula (Scribner & Cole, 1973).

There has been a significant and growing shift over the last several decades with parents deciding to homeschool their children (Noel, Stark, & Redford, 2013). At the same time, there has also been a shift in homework responsibility to parents by teachers and administrators of formal school settings (Solomon, Warin, & Lewis, 2002). Therefore, regardless of educational setting, parents in today's world take active roles in their children's learning.

Over this same period of time, uses of technology have become widespread in both homes and schools. Technological advances in computer technology, digital learning tools, and internet connectivity are now available for home-based education as well as school-based classrooms. This allows parents who homeschool to personalize their children's learning process and environment while at the same time, match academic content to formal schooling grade levels (Martin-Chang, Gould, & Meuse, 2011). It also allows formal school teachers to expose their students to the world from within school classrooms (Perez & O'Neil, 2003). Such changes are not appealing to all parents regardless of their educational setting choices, in part because evidence about how to use technology for learning is still emerging and in part because of personal attitudes, beliefs, and values about technology.

Research has suggested that teachers' attitudes towards change and time commitment combined with the amount of technology training that the teacher has received is a predictor of the amount of technology that the teacher will use and use effectively in the classroom (Hu, Clark, & Ma, 2003). Similar research is not yet available for parents who are, in today's US society, key players in their children's education through homeschooling or as homework mentors. Therefore, the purpose of this study is to gain information about how technology is used by parents to assist school learning as well as their opinions and beliefs about the role of technology in the learning process. Specifically, using homeschool and educational networks as well as social media, this study seeks to gauge parents' experience with, and responses to, attitudes and values towards the use of technology in homeschool and classroom education.

Review of the Literature

This review of the literature will define and provide an overview of homeschooling and the role of parents in the education of children enrolled in formal school settings, e.g., public/private schools. Uses of and beliefs and values toward technology in education will be explored. Trends in the use of technology for learning in classrooms and at home will be examined. This will be followed by the specific questions of the study.

Homeschooling

Homeschooling is becoming an increasingly popular school choice for children with more and more parents choosing to educate their children in this way (Hu, Clark, & Ma, 2003). In 1999, the U.S. Department of Education's National Center of Education Statistics (NCES) released the first report on the number of homeschooled students in the

United States (Bielick, Chandler, & Broughman, 2001). According to that report, there were approximately 850,000 homeschooled students in the United States. That number has grown to approximately 1,770,000 in just 13 years according to a 2012 report from the NCES (Noel, Stark, & Redford, 2013). A major contributing factor to this growth is the advances that have been made in technology. In a recent longitudinal study, Linda Hanna investigated questionnaire data collected from 1998 to 2008 from 250 homeschool families with a total of 693 homeschooled children (Hanna, 2012). She found that of the 250 families surveyed in 1998, not a single family reported using online programs or materials from the internet to supplement their teaching material. However, in 2008, nearly 70% of those same families were using online programs and materials from the internet while teaching. This dramatic shift in the use of technology by homeschoolers is in contrast to formal school settings. While homeschooled families are using the advances in technology to aid the learning process, formal school systems tend to shy away from the use of technology in the classrooms. In support of that claim, a study of two separate high schools found that even when there was access to technology, the technology was seldom used to assist in teaching (Cuban, Kirkpatrick, & Peck, 2001). These data reflect a widening gap in technology use and attitudes about its usefulness for enhancing student learning.

This is not to suggest that all parents who decide to homeschool their children embrace technology. There is literature, however, that suggests that homeschooling families may be embracing the advances in technology that allow them to teach their children more efficiently, while formal school teachers tend to resist using technology because it introduces another variable into classroom management.

Formal School Education

The role and impact of technology when used in classrooms has been a topic of interest among researchers over the last twenty years. Perez and O'Neil (2003) use Thornburg's position on technology to frame their discussion:

> First, how technology is used in education, e.g., the classroom, by educators is more important than the technology itself. Second, because technology has the potential to transform education, our thinking about education should be transformed as well if our investment in technology is to be realized. (p. xiv)

This suggests that technology, when used as a learning tool, can have a positive impact on the educational experience of the learner. Joseph (2012) based her research with teacher-student dyads on this premise to conduct a desk research study that surveyed the available literature. She found that the use of technology increased overall access to information, increased communication, and helped the learners to work independently. Joseph indicated in her discussion of these findings that technology can enhance the teacher-student experience, but that technology cannot replace the teacher-student dyad because technology does not possess the human and social elements that are crucial for learning in the earlier stages of a child's school years (Joseph, 2012). These findings and conclusions support the position outlined by Thornburg (as cited in Perez & O'Neil, 2003).

Hu, et al. (2003) took their research on technology in public schools in a different direction as they were interested in discovering whether the variety of technology, the amount of technology, or both contributes to implementation by teachers. They used responses from more than 130 teachers who were attending a four-week training program on Microsoft PowerPoint. Hu et al. (2003) surveyed the teachers throughout the four

weeks, charting the change in their responses to technology usage in their classrooms. The

results of their study showed a significant influence of perceived usefulness of technology on

technology usage in the classroom. One interesting, yet counterintuitive finding was that teachers

worldwide tend to resist the implementation of technology in public schools (Hu, Clark, & Ma,

2003). This may in part be explained by the research of Vannatta and Fordham (2004). They

found that teacher attitudes towards change and time commitment combined with the amount of

technology training the teacher has received were a predictor of classroom technology use.

Vannatta and Fordham also reported that a teacher's opinion of technology corresponds with

how relevant technology is to his or her job. It would appear that technology use in the

classroom and in other environments may significantly enhance a learner's experience, but that

technology adoption in the classroom is a variable that goes beyond just having access to

technology.

Educational Technology at Home and in School

Technology in schools has changed dramatically in the past twenty years, and technology

continues to evolve at an astounding rate. When Steve Jobs and Steve Wozniak first introduced

their Apple computer in 1976, they begin a course that would put computers in nearly every

home and school in America (Richardson & Terrel, 2008). By the mid-1980s, computers started

to become popular in schools as a way to supplement some of the more difficult subjects

(Molnar, 1997). By 1995, the internet started to become popular as an additional educational

tool, but it did not start to become mainstream until the early 2000s (Kleiner & Farris, 2007).

Today, computers are a staple in nearly every school. According to a study done in 2009, almost

97 percent of teachers have at least one computer located in their classroom (Gray, Thomas &

Lewis, 2009).

Computers are not the only technology available in schools; computer tablets are becoming increasingly popular. Tablets are cheaper to make, more durable, and more lightweight than laptops, yet offer all the functions that a child needs to complete his or her schoolwork. These tablets can have a positive impact on the literacy of children that have low socio-economic status (Formby, 2014) and are beginning to replace the use of textbooks in schools across the nation (Álvarez, 2013).

Homeschool families are able to take advantage of the wide variety of education technology available to teach subjects that are particularly difficult or subjects with which the parent is not familiar (Andrade, 2008). There are homeschooling websites that offer advice and techniques on how to homeschool your children in certain subjects (Rainbow Resource Center, 2006). There are also websites that offer homeschooling families computer and textbook based supplemental curriculum, which ensures the child has a thorough understanding of any subjects that the parent may not feel comfortable in teaching.

Rudner (1998) administrated tests, either the Iowa Test of Basic Skills or the Test of Achievement and Proficiency, depending on the current grade level, to over 20,000 homeschool students, and Rudner then surveyed the results. Rudner found that homeschooled students' median scores were in the 70th to 80th percentile, compared to public school students' average of the 50th percentile. In a similar study, Snyder (2013) reported that homeschooled students had significantly higher GPA, ACT, and SAT scores when compared to formally schooled students. In support of those findings, Martin-Chang and her colleagues found that homeschooled students in structured homeschool programs had higher achievement scores when compared to children attending public

schools (Martin-Chang, Gould, & Meuse, 2011). Although all of these studies have limitations, collectively they suggest that some aspects of homeschooling, or factors associated with a homeschool environment when technology is available, result in higher achievement scores.

Currently, formal schools are behind homeschoolers in the implementation of technology for the use of teaching, but this may not be the case for long. We are seeing an increasing amount of technology being used in formal schools around the nation, and even in our own home state of Arkansas. Mr. Asa Hutchinson, the governor of Arkansas, introduced a plan that seeks to make Arkansas a national leader in technology education. The governor's plan is based on the integration of computer science classes in high schools throughout the state of Arkansas (AR HB 1183, 2015). The Governor's bill is meant to increase the exposure students have to computers from an early age and to help prepare students for an emerging tech-centered work force. Although critics of the Governor's plan question the financial logistics of the undertaking, the majority feedback from students and parents alike has been overwhelmingly positive. This trend, which is being seen across the country, is opposite to the previously held beliefs about technology (Hu, et al., 2003).

The Role of Parents in Homeschooling and Formal Education

Fundamentally, both homeschooled students and students in formal school settings are the same. Both groups are children the same age, both groups are learning the same subjects, and both groups have the same goals of graduation and future careers. However, there are some key differences between the two groups.

Homeschooled students spend a considerably larger amount of time with their parents in the first few years of their education than students attending a formal school. Homeschooled students spend time with a parent-teacher that is focused solely on them as a single student,

whereas in a formal school setting, there is a single teacher to a group of 20 or 25

students. When teaching and learning is individualized, as in homeschooling, students

may learn differently than when instruction has to be dispersed to a classroom. This

difference and others, such as the use of technology, are possible reasons that

homeschooled students tend to academically outperform public school students (Martin-

Chang, Gould, & Meuse, 2011).

The role of the homeschool parent in learning tasks can be contrasted with the

formal school parent. Although formal school parents are not as involved with direct

instruction as the homeschooled parent, formal school parents spend a significant amount

of educational time with their children in the form of homework (Noel, Stark, & Redford,

2013). Elementary aged children spend on average 53 minutes doing homework (Linver,

Brooks-Gunn, Roth, 2005), and parents believe that they are expected to help their

children with that homework (Hoover-Dempsey et al., 2010). Parents are additionally

encouraged to assist with their child's homework based on findings that parent

involvement with homework can influence student success (Hoover-Dempsey et al.,

2010). Based on studies such as these, it is clear that while not as obvious as the situation

of homeschool parents, formal school parents also spend time teaching their children,

through the medium of homework.

Summary and Specific Questions of the Study

As can be seen from this review of the literature, there are a myriad of reasons why

parents choose to either homeschool or to enroll their children in formal education settings such

as public and private schools. A reason for homeschooling that is well identified in the literature

is the desire of the parent to organize the learning environment of their child and align this with

their values and beliefs. Parents of children in formal school settings are no less involved in the academic lives of their children but accomplish this through expected homework mentoring. Technology has become an effective tool available to homeschooling parents that can allow them to achieve educational outcomes similar to those of children in formal school settings. While formal school settings are increasingly using technology in the classroom, there may be more teacher variability in facilitating learning with this as schools may have a wider range of assets to support student-teacher styles. Two things are constant in 21st century education: parents are expected to be part of their children's education, and technology is available and improving as teaching/learning tools. The purpose of this study was to gain information about how technology is used by parents to assist school learning as well as their opinions and beliefs about the role of technology in the learning process.

The specific questions of the study were as follows:

1. Do parents of children who elect to homeschool differ in the amount of technology used during teaching/learning activities in comparison with formal school parents?

2. Do parents of children who elect to homeschool differ in the types of technology used during teaching/learning activities in comparison with formal school parents?

3. Do the uses of technology for leisure differ from the uses of technology for schooling among the two types of parents?

4. In what ways do the beliefs of parents about technology reflect their choices to homeschool versus enroll their children in a formal school setting?

Methods

Participants

Forty parents of children who are studying at the elementary grade levels were to be sought for this study. Twenty of these were to be parents of children enrolled in formal education settings, e.g., public or private schools, and twenty were to be parents of children being homeschooled. The study did not control for the number of children in the family, SES, living locations, parent vocation, or parents' level of education.

Material

A questionnaire to gauge parents' responses towards use and opinions about technology in pedagogy was developed from the literature. This was a single questionnaire form for both kinds of parents (homeschooling/formal schooling) that allowed the parents to self-identify the type of schooling in which their children participate. It was designed to allow parents to enter information on multiple children in the family even if some were homeschooled and others were receiving formal education. The questionnaire included basic demographic information (How many children do you have?) (What grade are your children in?), as well as questions about the ways technology is being used for education. The question types included multiple choice questions to address the demographic information; closed-set questions (Do you use technology to teach your child?); and open-ended narrative boxes (What does your child enjoy most about school?). No personally identifying information was requested.

Procedures

The questionnaire was placed online using the Qualtrics survey engine. The link to the questionnaire was distributed through online parent list serves and social media

(Facebook). The questionnaire took approximately 20 minutes to complete. The link was active for six weeks with automatic reminders at two week intervals.

Analysis

Demographic information was used to segment the data into homeschool and formal schooling groups. The closed set answers could then be compared for the two groups as could the open ended comments. The analyses were descriptive and qualitative.

Results

Overview of Participation

A total of 65 individuals clicked on the questionnaire's link, and 47 families completed all parts of the survey for a retention rate of 72%. The responses included data for 89 children: 28 children enrolled in formal education and 61 children that were currently being homeschooled.
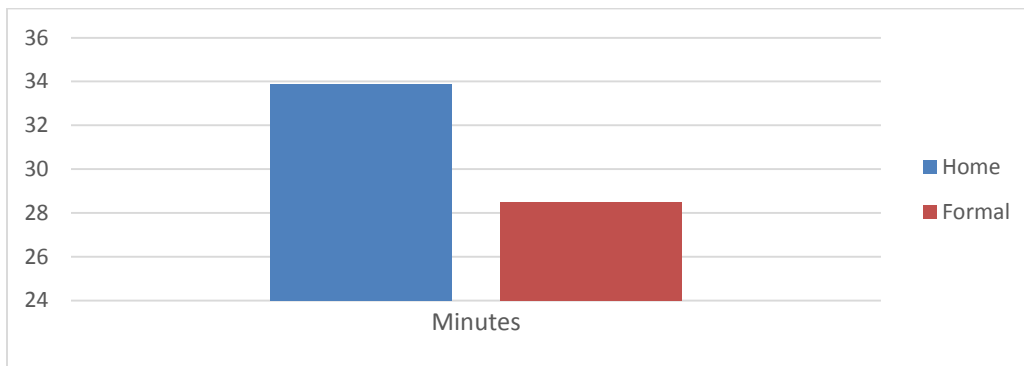
Demographics

Questions 1-8 of the questionnaire were analyzed to provide an overview of the demographics of the families who completed the questionnaire (Who are the people, where do they live?). The majority of the participants were mothers, representing 53 out of the 65 total respondents. The homeschooled families had an average of 3.4 children, while the formal school families had an average of 2.6 children. The respondents of homeschooled children reported having more education and more teaching experience than respondents of formal educated children with 21 homeschooled parents having taught for more than 10 years compared to the 11 formal school parents who had taught for more than 10 years.

Question One

The first question of the study asked if families who homeschool differ in the amount of technology used during teaching/learning activities in comparison with formal school parents. Item 20 of the questionnaire was used to answer this question. Homeschooled children averaged 5 minutes per online session more than formal school children, with homeschooled children (N=63) averaging 33.9 minutes per online session compared to the formal school children's (N=25) average of 28.5 minutes. These data are summarized in Table 1 below.

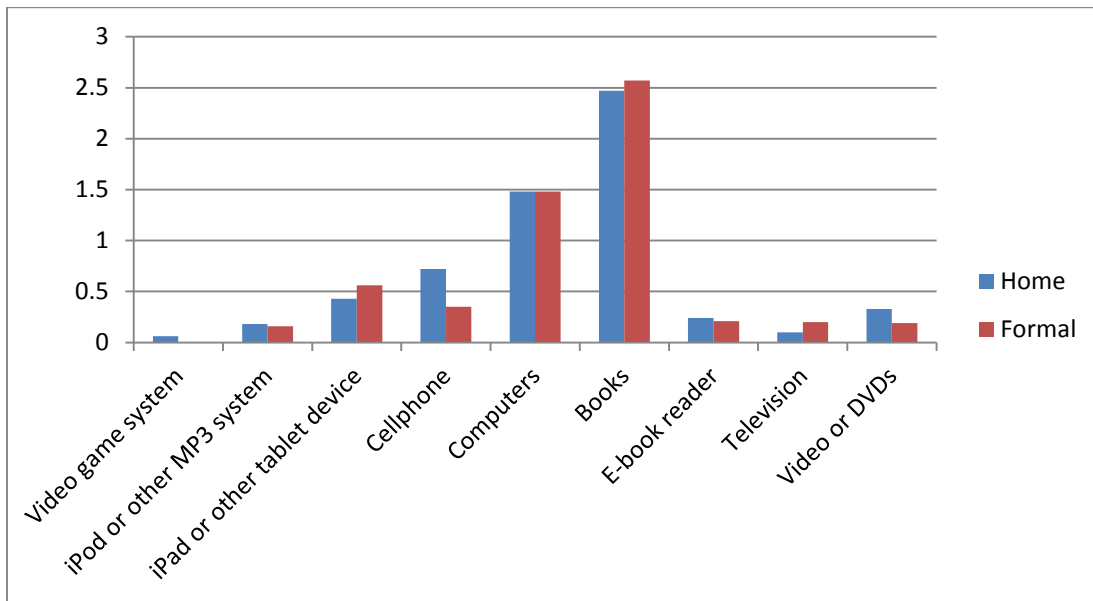Table 1: *Time Spent in Typical Online Session*

By using the average minutes to compare the two groups of children it can be seen that while the number of children per group was different, there was only a 5-minute difference in the time spent in typical online sessions.

Question Two

The second question of the study asked if parents of children who elect to homeschool differ in the types of technology used during teaching/learning activities in comparison with formal school parents. Item 19 of the questionnaire was used to answer this question. Parents were asked about nine different categories of technology, and both homeschooled and formal schooled children had similar results in most categories. The key differences were that homeschooled children were allowed to spend more time with

their cellphones and were more likely to watch educational videos or DVDs. Homeschooled

children were allowed to spend an average of 43 minutes on their cellphones and 20 minutes

watching educational videos or DVDs compared to formal schooled children's average of 21

minutes on cellphones and 12 minutes watching educational videos or DVDs. These results are

presented in visual format in Table 2 below.

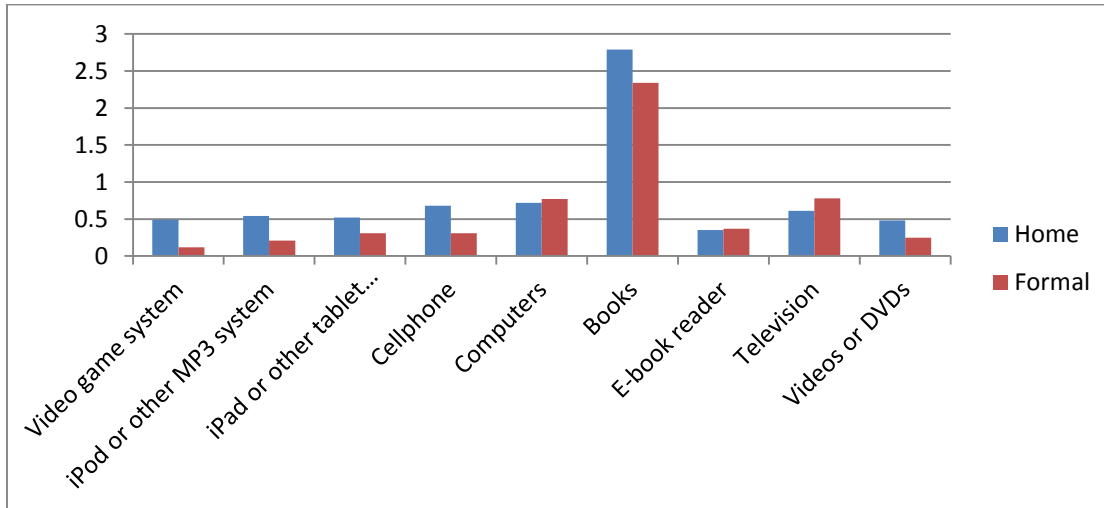Table 2: *Technology for Learning*

Question Three

The third question of the study asked if the uses of technology for leisure differ from the

uses of technology for schooling among the two types of parents. Item 18 of the questionnaire

was used to answer this question. Parents were asked about nine different categories of

technology, and the study found several differences between the two groups. Homeschooled

children (N=63) were more likely than formal school children (N=25) to be allowed to use video

game systems (30 minutes vs 7 minutes), iPod or other MP3 systems (33 minutes vs 13 minutes),

iPad or other tablet devices (31 minutes vs 19 minutes), cellphones (41 minutes vs 19 minutes)

and videos or DVDs (29 minutes vs 15 minutes). However, formal school children were more

likely than homeschool children to be allowed to watch television (47 minutes vs 37

minutes). These results are displayed in Table 3 below.
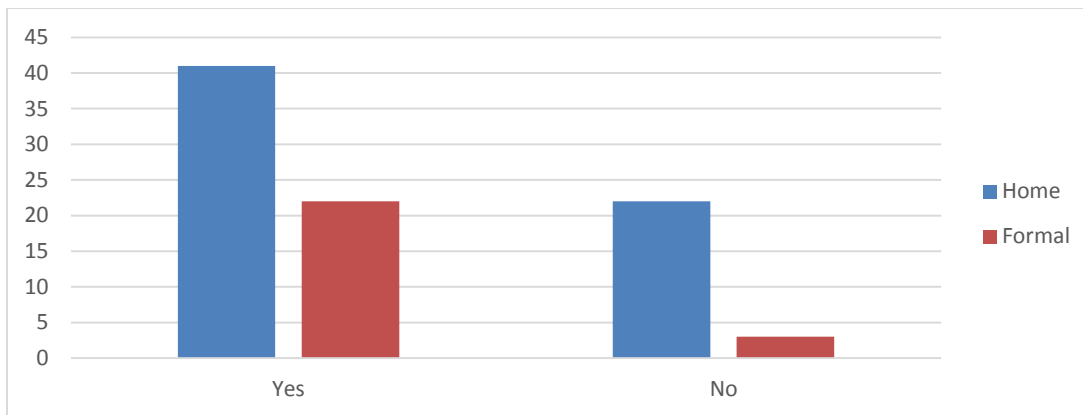
Table 3: *Technology for Leisure*

Question Four

The fourth question of the study asked in what ways the beliefs of parents about

technology reflected their choices to homeschool versus enroll their children in a formal

school setting. Items 11, 12 and 21 were used to answer this question. When asked how

important technology is in preparing students to compete academically, 60% (27) of

homeschooled parents answered "Very important", 36% (16) answered "Somewhat

important", and 4% (2) answered "Not very important". When asked the same question,

60% (12) of formal education parents answered "Very important", 40% (8) answered

"Somewhat important" and none answered "Not very important". Along the same lines,

when asked what is the earliest age that you think is appropriate to introduce children to

technology, 27% (12) of homeschooled parents answered six years or older, compared

with 20% (4) of formal education parents who answered six years or older. When asked if

their child is encouraged to use technology to help with schoolwork, 65% (41) of

homeschool parents said "Yes", but 35% (22) of homeschool parent said "No". This is in stark

contrast to formal education parents, where 88% (22) of parents said "Yes" and only 12% (3)

said "No". These data are summarized in Table 4 below.

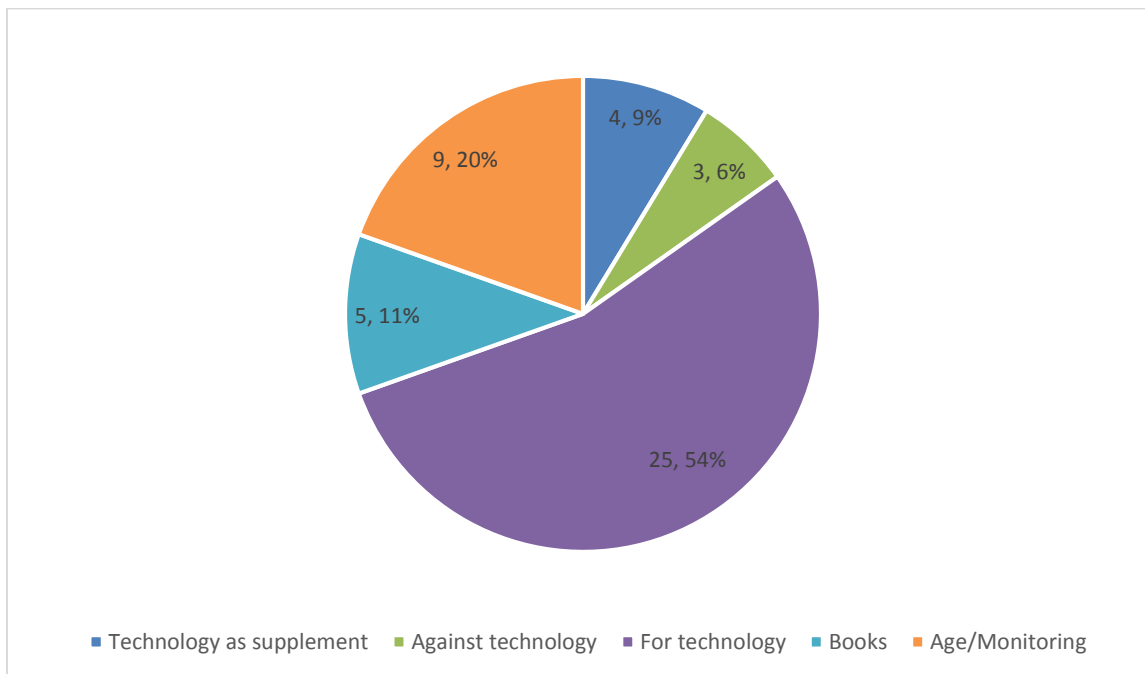Table 4: *Child Encouraged to Use Technology*

Participant Comments

In an effort to allow participants to express personal opinions and beliefs about

technology, a section with an open-ended box was added to the end of the questionnaire. The

responses from this section were coded for themes and five major patterns emerged: technology

as a supplement to learning, negative attitudes toward technology, importance of technology, the

role of books in learning, and finally, the age at which technology should be used with children.

Technology as a supplement was the first pattern. Examples of participant comments for

technology as a supplement are "Great for supplementing education" and "Technology is also

great to supplement a skill". Comments that were negative or against technology was the second

pattern. Examples of participant comments are "We discourage the use of technology for media

consumption or game playing" and "I don't feel [technology] is necessary and feel it is actually

detrimental". For technology was the third pattern. Examples of participant comments are

"Technology played a very important role in [my children's] success" and "The internet has

replaced the need for encyclopedias, dictionaries and textbooks". Books were the fourth

pattern. Examples of participant comments are "Prefer that students learn by actual books

first" and "Kids need to have a textbook to actually learn curiosity of flipping through

material". Age/Monitoring was the fifth and final pattern. Examples of participant

comments are "[Technology] should be limited in the early years" and "Parental guidance

must be used and online safety must also be taught". These patterns are summarized in

Table 5 below.

Table 5: *Qualatitive Data*

Discussion

The purpose of this study was to gain information about how technology is used by

parents of both homeschooled and formal schooled children to assist school learning as well as

their opinions and beliefs about the role of technology in the learning process. With

homeschooled children outperforming formal schooled children academically (Snyder, 2013),

there is a need to examine the differences in technological usage between the two groups to see if this is a factor in the academic differences.

This study found that during online sessions, homeschooled children average 5 minutes more than formal education children (33.9 minutes vs 28.5 minutes). When using technology for learning, homeschooled children spend more time with their cellphones and watching education videos than formal schooled children (43 and 20 minutes vs 21 and 12 minutes). When using technology for leisure, homeschooled children spent more time with almost all of the different technologies surveyed, except for television. Formal schooled children spent 47 minutes watching television, compared to homeschooled children's time of 37 minutes. The study also found that homeschooled children are more likely to not be encouraged to use technology than formal schooled children, as 22 homeschooled parents said that they do not encourage their children to use technology compared to 3 formal schooled children.

While homeschooled children do receive more exposure to technology than formal schooled children, the difference is not as extreme as Hu, Clark, and Ma (2003) suggested. This study found that the time homeschooled students spend on an online session is just 5 minutes longer than the time formal schooled students spend (33.9 minutes vs 28.5 minutes). This finding, along with public policy changes (AR HB 1183, 2015), further supports the idea that the 'technology usage gap' between homeschooled and formal schooled children is shrinking.

Surprisingly, this study found that although homeschooled children do receive more exposure to technology than formal schooled children, homeschooled children are much less likely to be encouraged to use technology than formal schooled children. When asked if their child is encouraged to use technology to help with schoolwork, 41 homeschool parents and 22 formal education parents said "Yes". However, 22 homeschool parents said "No" compared to

formal education parents, where only 3 said "No". This finding is in opposition to the

idea that homeschooled families are eagerly using technology as a way to match formal

education academic levels (Martin-Chang, Gould, & Meuse, 2011; Andrade, 2008).

Limitations of the Study

Several limitations impacted the results of this study and suggest that findings should be

interpreted with caution. Items 18 and 19 of the questionnaire did not include a "not applicable"

option, so participants might have felt compelled to enter a value of "0" even if the category was

not relevant to them. This option should be added to future studies. The questionnaire was

formatted to allow parents to enter information for multiple children in a single questionnaire.

However, several participants commented that the process to add multiple children was

confusing. The questionnaire should be formatted to be easier to navigate in the future.

Additionally, more homeschool parents than those who send their children to formal school

settings participated in the research. Therefore, the beliefs, values, and experiences of the formal

school parenting group may be more limited in scope due to reduced number of participants.

Future Directions

This study provides information that is more recent than some of the studies reviewed in

the literature. As such, it calls into question the findings of these and suggests that technology

use may be more dynamic than expected as an influencer of education. It also suggests that

knowing about and using technology may not be what makes the most significant difference in

the educational success of children. While the technology usage of these two groups was

different, it does not fully explain why homeschooled children perform better academically than

formal schooled children (Martin-Chang, Gould, & Meuse, 2011). Future study into the

differences between homeschooled and formal schooled children is necessary to explore the

reasons this academic difference exists. Also, homeschooled children, although they are more likely to use technology, are less likely to be encouraged to use technology than formal school children. This is an interesting contrast and deserves further study. Overall, the results of the study indicate that there is more to understand about technology, family habits and beliefs about education, and that methods of investigation will need to go beyond questionnaire studies.

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Appendix A

Parent Beliefs about Technology Questionnaire

1. What is your relationship to the child?

_ Father

_ Mother

_ Other

2. How many children do you have?

[ ]1 [ ]2 [ ]3 [ ] 4 [ ]5 [ ]6 [ ] 7 or more

3. Your zip code:

4. How would you describe your community?

⦿ Urban

○ Suburban

○ Rural

5. What is your highest level of education?

⦿ Less than high school

○ High school graduate

○ Some college

○ Associate's degree

○ Bachelor's degree

○ Some graduate school work

○ Master's degree

○ PhD or EdD

6. At what age did you finish your education?

_ 15-17

_ 18-23

_ 24-30

_ 31-40

_ After 40

7. If you are teaching, how long have you been teaching?

◉ Less than 1 year

○ 1-5 years

○ 6-10 years

○ 11-15 years

○ More than 15 years

8. Where do you access technology for teaching and working with your child? (check all

    that apply)

○ Home

○ School

○ Public Library

○ Wi-Fi Hot Spot

○ Other ____

9. If you own or have access to a computer please answer the following:

What type of computer do you own?

☐ Desktop

☐ Laptop

☐ Other

10. How important do you think technology is in preparing students to compete in the

workforce?

_ Not very important

_ Somewhat important

_ Very important

11. What is the earliest age that you think is appropriate to introduce children to technology?

○ Birth to 12 months

○ 1 to 2 year

○ 2 to 3 year

○ 3 to 4 year

◉ 4 to 5 year

○ 5 to 6 year

○ 6 year and up

○ Not at all

Please complete the following section for a single child. There will be an option to add

additional children at the end of this section.

12. Please indicate the grade level of your child.

[ ] Preschool [ ] kindergarten [ ] 1st grade [ ] 2nd grade [ ] 3rd grade [ ] 4th grade [ ] 5th grade [ ] 6th grade

13. Where does this child go to school?

_ Public School

_ Home School

_ Private School

_ Other

14. On a typical day, about how many children are in your child's classroom?

Children in Classroom: [   ]

15. Has your child ever or does your child now receive any of the following services?

○ Speech Therapy

○ Occupational Therapy

○ Physical Therapy

○ Behavioral Management

○ Counseling

○ Other Service

16. Please estimate how much time your child spends with each of these media on an average

weekday for **leisure**:

Television (hh/mm): [   ]

Videos or DVDs (hh/mm): [   ]

Video game system (hh/mm): [   ]

iPod or other MP3 system (hh/mm):

iPad or other tablet device (hh/mm):

Cellphone (hh/mm):

Computers (hh/mm):

Books (hh/mm):

E-book reader (Kindle, etc.) (hh/mm):

17. Please estimate how much time your child spends with each of these media on an average

weekday for **learning**:

Television (hh/mm):

Videos or DVDs (hh/mm):

Video game system (hh/mm):

iPod or other MP3 system (hh/mm):

iPad or other tablet device (hh/mm):

Cellphone (hh/mm):

Computers (hh/mm):

Books (hh/mm):

E-book reader (Kindle, etc.) (hh/mm):

If your child goes online please answer the following*:

18. How often does your child go online?

○   Goes online once a day

○   Goes online several times a day

○   Goes online several times a week

○   Goes online a few times a month

○   Goes online less than once a month

19. How much time does your child spend on a typical online visit (hh/mm)?

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[                                    ]
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20. Does your child use technology to complete homework assignments?

21. Is your child encouraged to use technology to help with schoolwork?

22. If you use technology when doing school work with your child, how do you use it?

    (check all that apply)

○   To complete homework

○   To look up information

○   Online learning units

○   Other, e.g. Ted Talks, etc

If you would like to provide information about another child in your family, please click

here.

23. Is there anything you would like to tell us about what you think is appropriate use of

    technology for learning and/or schoolwork?

Appendix B

Informed Consent

Electronic Distribution

Parent Beliefs about Technology: A Comparison of Homeschool and Formal Education Families

Principal Researcher: Eli Skelton
Faculty Advisor: Dr. Fran Hagstrom

You are receiving this email as a request to participate in an electronic questionnaire that is being conducted as part of an undergraduate research project entitled, *Parent Beliefs about Technology: A Comparison of Homeschool and Formal Education Families.*

Description: The purpose of this study is to gain information about how technology is used by parents to assist school learning as well as their opinions and beliefs about the role of technology in the learning process. This will allow us to better understand the attitudes and values that parents have developed when helping their children with homework, in classrooms, or through homeschooling. The brief questionnaire that can be completed in about 20 minutes asks demographic information; information about the use of technology in homes and for school work; and parental beliefs about the use of technology for educational purposes.

Risks and Benefits: There are no anticipated risks to participating in the study. You may gain insight about how often and the range of ways that you as a parent are using technology with your children.

Voluntary Participation: Your participation in the research is completely voluntary. You do not have to agree to take the questionnaire. You can stop once you have started. You can decide to not submit your questionnaire at any time. No one will think negatively of you should you decide to not participate.

Confidentiality
Your name will not be on the questionnaire, and the electronic link to the questionnaire cannot be traced to you or the computer upon which it was completed. This means no one will know if or how you answered the questions. The results of the study will be reported only as group information in presentations and papers. All information will be kept confidential to the extent allowed by applicable State and Federal law and University policy.

Implied Consent:
By completing the questionnaire and electronically submitting it, you are implying that you are willing to participate. It also means that you understand the description of the research, including risks and benefits, confidentiality and the right to withdraw.

If you have questions about this study or seek additional information please contact the researchers at the following address or telephone number.

Researcher:	*Administrator:*
Eli Skelton, Undergraduate Student	Ro Windwalker, CIP
Fran Hagstrom, Ph.D., Faculty Advisor	Institutional Review Board Coordinator
University of Arkansas	Research Compliance
College of Education and Health Professions	109 MLKG Building
Department of Rehabilitation, Human Resources and	University of Arkansas
Communication Disorders	Fayetteville, AR 72701
GRAD 303	Phone:479-575-2208
Fayetteville, AR 72701	irb@uark.edu
479-575-1910	

Appendix C

IRB Approval

UNIVERSITY OF
ARKANSAS

Office of Research Compliance
Institutional Review Board

December 9, 2015

MEMORANDUM

TO: Eli Skelton
                                 Fran Hagstrom

FROM: Ro Windwalker
                                 IRB Coordinator

RE: New Protocol Approval

IRB Protocol #:   15-12-399

Protocol Title: *Parent Beliefs about Technology: A Comparison of Homeschool
                                 and Formal Education Families*

Review Type: ☒ EXEMPT   ☐ EXPEDITED   ☐ FULL IRB

Approved Project Period: Start Date: 12/09/2015 Expiration Date: 12/08/2016

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of
one year. If you wish to continue the project past the approved project period (see above), you
must submit a request, using the form *Continuing Review for IRB Approved Projects*, prior to the
expiration date. This form is available from the IRB Coordinator or on the Research Compliance
website (https://vpred.uark.edu/units/rscp/index.php). As a courtesy, you will be sent a reminder
two months in advance of that date. However, failure to receive a reminder does not negate
your obligation to make the request in sufficient time for review and approval. Federal
regulations prohibit retroactive approval of continuation. Failure to receive approval to continue
the project prior to the expiration date will result in Termination of the protocol approval. The
IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 200 participants. If you wish to make *any*
modifications in the approved protocol, including enrolling more than this number, you must
seek approval *prior to* implementing those changes. All modifications should be requested in
writing (email is acceptable) and must provide sufficient detail to assess the impact of the
change.

If you have questions or need any assistance from the IRB, please contact me at 109 MLKG
Building, 5-2208, or irb@uark.edu.