ESL PARENT PERCEPTIONS OF USING EDUCATIONAL MOBILE APPLICATIONS TO DEVELOP THE LANGUAGE SKILLS OF ESL ELEMENTARY SCHOOL STUDENTS

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ABSTRACT

The purpose of this mixed-methods sequential explanatory study is to explore the perceptions of ESL parents regarding the use of educational mobile applications to help ESL elementary school students develop their language skills. Quantitative data were collected via surveys taken by a sample of 72 ESL parents from Unity Point Elementary School, Carbondale, Illinois. Later, qualitative data were collected through in-depth interviews from eight ESL parents from Unity Point. Participants reported positive perceptions of using educational mobile applications to develop the language skills of students. This study provides some recommendations for the successful integration of technology in English learning and teaching.

INTRODUCTION

In the last three decades, digital technology has made great changes in our lives, particularly in the field of education (Mollaei and Riasati, 2013). Sad and Göktığ (2014) indicated that digital technology helps teachers develop innovative teaching methods and moves them from a traditional teaching environment to a highly motivating environment that supports diverse learning styles, creativity, and effective communication. On the other hand, digital technology has some drawbacks that may hinder the learning and teaching process (Kukulska-Hulme and Shield, 2007). In addition to the high cost and lack of technical support, the lack of expertise in technology among some teachers and learners may hinder the educational process and cause it to become more time consuming. This lack of expertise may also interrupt teaching and distract students, particularly when they are connected to the Internet (Al Aamri, 2011). Over the past five years, the number of ESL software products that can support the language and literacy development of ESL learners has increased.

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Meskill and Mossop (2000) stated, many new software products currently marketed for ESL capitalize on both the capacity of multimedia to engage non-native speakers in language development activity and the widely perceived need for efficient, supplemental materials to meet the challenge of serving this population (p. 2).

Problem Statement: With the rapid increase of immigration to the United States and other English-speaking countries, many challenges face minority-language students who enter public schools, as well as their parents. Minority-language students need to improve their English skills, particularly academic language, in order to integrate into mainstream curriculum and to achieve linguistic, social, and academic success. In recent years, digital technology has been widely used to help ESL students master the academic English, literacy skills, and subject matter knowledge needed to achieve academic success. Although a large number of parents believe in the potential of new technology in improving the learning and teaching process, they are not taking full advantage of such technology. According to Al Aamri (2011), different factors may affect the success of integrating technology in ESL classrooms. Especially important are individuals’ beliefs (Merç, 2015). Therefore, more research is needed to identify individuals’ perceptions about integrating technology into the
teaching and learning process. The present study aims to investigate ESL parents’ perceptions regarding the use of educational mobile applications to help ESL elementary school students develop their language skills.

**Technology Use in the ESL Classroom:** According to de Lourdes Andrade (2014), the use of technology in the classroom can bring certain benefits to learners of English. Technology is a beneficial educational tool; if it is used appropriately, it is a beneficial resource to help learners solve problems and explore information, it can enhance and improve students’ learning, and it provides the learners with suitable resources to manage their school activities. Erben, Ban, and Castañeda (2009) stated that technology is a beneficial resource for ESL students because it gives them an opportunity to practice without facing criticism from classmates or even the teacher. It is important for teachers to be familiar with new technology in order to help students with its use since students might not automatically know how to use technological devices for educational purposes. Technology has thus caused classes to shift from being teacher-centered with a focus on transferring knowledge to the student to being more student-centered, providing a more effective learning environment for students and increasing students’ desire and ability to acquire knowledge. Sharma (2009) stated that the use of software applications in ESL classes is beneficial for both teachers and learners. These programs support learners’ basic skills, including vocabulary, grammar, pronunciation, spelling, reading, and writing, to create a more suitable environment to promote their English language skills. Different educational programs are more suitable for different skills and have a significant influence on the learning process of each area of the language. English language skills can be classified as input skills (listening and reading) and output skills (writing and speaking). Constantinescu (2007) mentioned that reading is an important input skill that depends on reading a text, processing it, and understanding its meaning to improve vocabulary, acquire new ideas, and enhance real-world knowledge. Using different educational programs can improve learners’ reading ability and increase motivation to improve vocabulary and reading skills; and technology devices can likewise increase learner interest in reading skills. Reading-based software programs can be utilized to enable English language learners to interact with texts and help users pay more attention to individual needs when reading (Ybarra and Green, 2003).

**Research Purpose and Questions:** The purpose of this mixed-methods sequential explanatory study is to explore the perceptions of ESL parents regarding the use of educational mobile applications to help ESL elementary school students develop their language skills. This study gathered and analyzed quantitative results from an online survey of ESL parents and collected qualitative data through interviews in order to refine and explain the quantitative results in more depth. In the first phase, an online survey was administrated to ESL parents to examine their perceptions of using educational mobile applications to help ESL elementary school students develop their language skills. In the second phase, I gathered qualitative data through semi-structured interviews with ESL parents in order to explain the quantitative data gathered in the first phase and to fully explore their perceptions of using educational mobile applications to improve their language skills.

This study is significant because it contributes to the body of research on using mobile learning in ESL instruction, which is still an emerging field (Sad and Göktas, 2014). It could also raise awareness among ESL parents and curriculum designers regarding mobile devices and applications as an education tool that can be used to help ESL students in mainstream English classrooms (see Ozdamli and Uzunboylu, 2015).

**Research Question:** The following questions guided this study, What are the perceptions among ESL parents regarding the use of educational mobile applications to help ESL elementary school students develop their language skills? This study adds to the growing body of knowledge in this field by analyzing certain aspects of ESL learning and teaching in greater depth. It also investigates parents’ perceptions which increases awareness about the role of parents in second language learning and teaching (Kanthawongs and Kanthawongs, 2013). This study contributes to the body of research in this field and the knowledge about teaching and learning English as a second language. Additionally, ESL parent beliefs about mobile learning might provide a better understanding of their actual practices inside and outside the classroom (see Merc, 2015).

**Literature review:** This section reviewed relevant literature on mobile learning; technology integration in ESL classrooms and parent perceptions.

**Technology Integration in ESL Classrooms:** Teachers are an essential part of the integration process as they are considered the gatekeepers to technology integration in the classroom. This means that they play a vital role in the success or failure of mobile phones in the integration process (O’Bannon and Thomas, 2015). Additionally, integration is based on the teachers’ experience in effectively facilitating the use of technologies in ESL classrooms (Bitter and Bitter, 2002). In Hismanoğlu’s study (2012a), the lecturers were shown to increase ESL teachers’ motivation in the teaching and learning process and make the class more student-centered by integrating a variety of educational tools into the ESL classroom. Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, and Sendurur (2012) used a purposeful sampling of 12 teachers to discover a variance between teacher beliefs and technology integration practices. The findings revealed that external barriers, such as time and money, and teachers’ attitudes and beliefs were still the greatest obstacle to technology integration in the classroom. Additionally, teacher beliefs showed a strong link between technology integration and student-centered instruction (Chan and Elliott, 2004; Ottenbreit-Leftwich, Glazewski, Newby, and Ertmer, 2010).

**Parents’ Perceptions:** Parents play a crucial role in encouraging computer use for educational purposes. Bank and Graham (2000) stated that parents believed that educating children through technology would increase their academic achievements. In addition, parents strongly perceived that technology would support their children’s acquisition of academic skills, such as reading (Scherer, 1990). In Wentworth and Connell (1995), 30 parents of elementary school children were asked to complete a questionnaire on their perceptions about using computers to teach math. The study found that parents believed math skills could be taught using computers. Parents are interested in their children’s online safety and the variety of fields of study offered at school. Parents have been shown to be familiar with the prospective challenges posed by
technology use in terms of acquiring knowledge and maintaining safety online, and they must find age-appropriate online content of educational value and prepare their children to deal with inappropriate content (Lenhart and Madden, 2007). To understand how technology influences reading skills, according to parents’ perceptions, Sinek and Sparkman (2013) surveyed 2,090 parents, focusing on “attitudes and behaviors about reading books for fun and how technology may be influencing and changing them” (p. 2). Their findings showed electronic or digital devices influenced reading skills. Parental involvement can improve children’s readiness and increase motivation to learn by using technology as a developmental support (Gonzalez-DeHass, Willems, and Holbein, 2005). For example, parents can assist their children while searching on the Internet to help them with their homework (Cramner, 2006). It is important to mention that parents should closely monitor their children’s online activity when using the Internet to do homework. Parents also seem to be sufficiently literate in technology to use it as part of the educational process and are thus capable of instructing their children to use technology properly (Delen, Kayar, Ritter, and Sahin, 2015). According to Anastasiades, Vitalaki, and Gertzakis (2008), parents confessed that exposure to technology was necessary for their children to learn 21st-century skills, although parents understood these technologies involved some potential risks. They also found that parents could not monitor their children all of the time, making it important to regulate when children were allowed to use the Internet. Parents also try to utilize the monitoring procedures of these technologies to safeguard their children (Beale and Hall, 2007). For instance, parents may choose to share their children’s accounts and select the privacy settings before browsing for educational materials to guarantee their children have a safe and positive experience online. Some parents were enthusiastic in encouraging their children’s effective use of technology because they saw it as necessary for a successful future. Plowman, McPake, and Stephen (2010) used parental reports and observations to suggest that children’s interactions with technology can facilitate the four main fields of learning: obtaining operational skills, providing understanding of the world, promoting configuration to learning, and utilizing the role of technology in daily life. In addition, de Lourdes Andrade (2014) reported that parents had a very positive perception about the use of technology in their children’s classroom, and the use of technology was one of the reasons why parents visited her class.

MATERIALS AND METHOD

This section describes the mixed-methods design, the rationale for its selection, the sampling method, data collection procedures, and data analysis plan.

Research Methodology: A mixed-methods sequential explanatory design was an appropriate approach to this research. According to Ivankova, Creswell, and Stick (2006), combining quantitative and qualitative methods in mixed-methods designs helped researchers benefit from the strength of each and gain a better understanding of the research problem. As they stated, “when used in combination, quantitative and qualitative methods complement each other and allow for a more robust analysis, taking advantage of the strengths of each” (p. 3). According to Creswell (2014), the mixed-methods sequential explanatory design was one of the most popular mixed-methods designs and consists of two phases. In the first phase, the researcher collected and analyzed the quantitative data. In the second phase, the researcher gathered qualitative data to interpret, refine, and elaborate the quantitative results collected in the first phase. Ivankova et al. (2006) illustrated this point when they stated the following. The rationale for this approach is that the quantitative data and their subsequent analysis provide a general understanding of the research problem. The qualitative data and their analysis refine and explain those statistical results by exploring participants’ views in more depth (p. 5). In the first phase of this study, I used the online survey design method to examine ESL parent perceptions regarding the use of educational mobile applications to help ESL elementary school students develop their language skills. This design allowed me to collect a large amount of data about individual beliefs in a short period of time with little expense (see Creswell and Plano Clark, 2011). In the second phase, I used a case study design that involves the use of in-depth interviews. The mixed-methods sequential explanatory design was well suited for this study because the quantitative results collected through the survey helped me choose unique participants for the qualitative phase (Creswell and Plano Clark, 2011). Additionally, the interview data supplemented the quantitative data and helped explain and explore the factors that shaped these perceptions because this design gives participants an opportunity to reflect on their responses and to provide more details than those collected solely by quantitative methods (Mollahi and Riasati, 2013). Integrating the quantitative results and the qualitative results in this study hopefully provided a general understanding of using educational mobile applications to help ESL learners and bridge a gap in previous studies in this field that only used one type of results (see Valk, Rashid, and Elder, 2010; Al Aamri, 2011; Vázquez-Cano, 2014).

Population and Sample: This study entirely took place in Carbondale, Illinois, in the academic year 2016/2017. There were six elementary schools in Carbondale including Unity Point Elementary School, Giant City School, Lewis School, Thomas Elementary School, Parrish Elementary School, and Carbondale Middle School. Sample selection in this study was a complex process because it involved selecting a sample for both quantitative and qualitative phases. According to Onwuegbuzie and Collins (2007), “Sampling decisions typically are more complicated in mixed methods research because sampling schemes must be designed for both the qualitative and quantitative research components of these studies” (p. 281). To select the sample for the quantitative phase, I first identified the target and the accessible population. According to Gliner, Morgan, and Leech (2009), the target population included “all of the participants of theoretical interest to the researcher and to which he or she would like to generalize,” while the accessible population was “the group of participants to which the researcher has access” (p. 117). The target population of this study included all ESL parents in public elementary schools from 4th to 8th grade located in southern Illinois, while the accessible population consisted of ESL parents in public elementary schools from 4th to 8th grade in Carbondale, Illinois. I used cluster random sampling to select ESL parents to participate in the study. To do so, I listed all elementary schools in Carbondale except Thomas Elementary School and Parrish Elementary, chose one randomly, and then selected all ESL parents in that school. The cluster random sampling was appropriate for the quantitative phase of this study because it would be difficult to obtain an overall list of all ESL parents in the accessible population.
According to Ary, Jacobs, and Sorensen (2006), cluster random sampling is appropriate when “it is very difficult, if not impossible, to list all the members of a target population and select the sample from among them” (p. 154). For the second phase, I used purposive sampling to choose eight participants in order to collect qualitative data through in-depth interviews. This process involved choosing the participants who would provide a richness of data (Patton, 2002), and it also addressed the purpose of the study.

Data Gathering Procedures: After using cluster sampling to select one public elementary school from 4th to 8th grade among six elementary schools in Carbondale—including Unity Point Elementary School, Giant City School, Lewis School, Thomas Elementary School, Parrish Elementary School, and Carbondale Middle School—Unity Point Elementary School was randomly chosen, selecting all ESL parents in that school. After receiving approval from the SIU IRB, I requested permission from Unity Point to begin data gathering procedures through an online survey and interview. In addition, I asked the Unity Point school administration to send consent forms and cover letters to ESL students’ parents or guardians asking them to sign and provide their email address if they agreed to be participants in the study. After collecting the signed consent forms returned to Unity Point, I sent the online questionnaires to the emails provided along with a cover letter explaining the study’s purpose and goals. I provided all information necessary to reduce any concerns that the participants may have had about the study. The deadline for the online survey to be completed and collected was three weeks. I sent follow-up emails to the participants every Monday during the three-week period. The 72 parents’ surveys were completed within that timeframe. Because the online survey required all items to be completed, there were no missing items on the online surveys. After collecting and analyzing the data from the online surveys, I used purposive sampling to choose eight participants in order to collect qualitative data through in-depth interviews during the 2016–2017 academic year. This number of participants was chosen to enrich the data. Lincoln and Guba (1985) stated, “in purposeful sampling, the size of the sample is determined by informational consideration” (p. 202). Furthermore, Creswell and Clark (2011) stated, “The sample size relates to the question and the type of qualitative approach used” (p. 174). Interviews took place at a place and time most convenient to the participants. Most of the parent participants chose their households (8 interviews) and the other 4 interviews took place in community room of Evergreen Terrace, while interview with teachers took place in their schools. Before the interview, interviewees provided demographic information. I notified the interviewees that all information they provided was for research purposes only. The primary language used in the interviews was English. The average duration of each interview was 30–40 minutes. They were recorded for accurate data transcription. I avoided guiding the interviewees toward any particular answers and encouraged them to express their opinions freely. The interviews were conducted over a two-week period.

RESULTS

I used both quantitative and qualitative techniques for data collection and analysis. The study explored the perceptions of parents regarding the educational mobile applications used to help ESL elementary school students develop their language skills. The study sought to answer the following research question, what are the perceptions among ESL parents regarding the use of educational mobile applications to help ESL elementary school students develop their language skills? To answer these question, I utilized a questionnaire with ESL parents at Unity Point Elementary School in Carbondale, Illinois. I also conducted in-depth interviews with eight ESL parents from Unity Point School. Statistical analysis of the quantitative data involved both descriptive and inferential statistics. According to Howell (2012), descriptive statistics are important because they help the researcher summarize, organize, and present the data in a meaningful way. In this study, I used measures of central tendency (e.g., mean), frequency and percentage, distributions, and dispersion measures (e.g., range and standard deviation). Then I presented the data in tables (Gliner et al., 2009). Howell (2012) also stated that inferential statistics help researchers make inferences or come to conclusions about the target population. Some of the inferential statistics I used in the survey data analysis included analysis of variance (ANOVA), Levene’s test for equality of variances, using educational mobile applications in the teaching and learning process, and educational mobile applications and language acquisition, I used five responses (strongly disagree, disagree, undecided, agree, and strongly agree). For positive items in the survey, I coded the responses accordingly: strongly disagree = 1, disagree = 2, undecided = 3, agree = 4, and strongly agree = 5; and for negative items, I used reverse codes accordingly: strongly disagree = 5, disagree = 4, undecided = 3, agree = 2, and strongly agree = 1.

Research Question: Research Question was, “What are the perceptions among ESL parents regarding the use of ESL educational mobile applications to help ESL elementary school students develop their language skills?” To answer this question, data from parents were collected through a parent perception survey and in-depth interviews. The parent instrument included two sections. The first section, consisting of seven items, gathered demographic information about the participants that could be semantic indicators for the results.

The second section consisted of 34 items divided into three subsections

- 1-PARENT SELF-EFFICACY (5 ITEMS).
- 2- USING EDUCATIONAL MOBILE APPLICATIONS IN THE TEACHING AND LEARNING PROCESS (21 ITEMS).
- 3- EDUCATIONAL MOBILE APPLICATIONS AND LANGUAGE ACQUISITION (8 ITEMS).

Parent Demographics: The parent survey (see Appendix B) was emailed to the ESL parents at Unity Point. Out of 95 questionnaires sent, 72 were completed and returned (75.78% response rate). Tables 1 - 6 describe parent participants’ distribution by gender, number of children, primary language, level of education, number of mobile devices in household, and their children’s screen time. Tables 1-2 show participants’ distribution by gender and number of children.

<table>
<thead>
<tr>
<th>Table 1. Number of Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
Table 2. Number of Children

<table>
<thead>
<tr>
<th>Children</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>24</td>
<td>33.33</td>
</tr>
<tr>
<td>Two</td>
<td>21</td>
<td>29.16</td>
</tr>
<tr>
<td>Three</td>
<td>15</td>
<td>20.83</td>
</tr>
<tr>
<td>Four</td>
<td>5</td>
<td>6.94</td>
</tr>
<tr>
<td>Five or more</td>
<td>7</td>
<td>9.74</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 1 shows that 41 female parents (56.95%) and 31 male parents (43.05%) completed the survey. In total, 83.32% of parents reported having three or fewer children, while 16.68% reported having four or more. Tables 3–4 show participant distribution by primary language and level of education.

Table 3. Primary Language

<table>
<thead>
<tr>
<th>Language</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic</td>
<td>41</td>
<td>56.96</td>
</tr>
<tr>
<td>Bangla</td>
<td>5</td>
<td>6.94</td>
</tr>
<tr>
<td>Chinese</td>
<td>9</td>
<td>12.5</td>
</tr>
<tr>
<td>Kurdish</td>
<td>5</td>
<td>6.94</td>
</tr>
<tr>
<td>Spanish</td>
<td>8</td>
<td>11.11</td>
</tr>
<tr>
<td>Telugu</td>
<td>4</td>
<td>5.55</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 3 shows that participants speaking Arabic as a primary language comprised the majority of parent participants (56.96%), with other primary languages including Chinese (12.5%), Spanish (11.11%), Bangla (6.94%), Kurdish (6.94%), and Telugu (5.55%). Table 4 shows that nearly two thirds of parent participants (65.28%) reported having a postgraduate degree, while 30.56% reported having a bachelor’s degree. Very few participants (4.16%) reported only having a diploma or less. Tables 5–6 present participant distribution by number of mobile devices in household and children’s screen time.

Table 4. Level of Education

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School</td>
<td>2</td>
<td>2.77</td>
</tr>
<tr>
<td>Diploma</td>
<td>1</td>
<td>1.39</td>
</tr>
<tr>
<td>Bachelor’s</td>
<td>22</td>
<td>30.56</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>47</td>
<td>65.28</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 5 shows that 27.77% of parent participants reported having one mobile device in their household, and 72.23% reported having two or more. Table 6 shows that 66.66% reported that their children spent two hours or less per day in front of a screen (e.g., TV, tablets, smartphones), while 33.34% reported that their children spent three or more hours in front of a screen.

Table 5. Number of Mobile Devices in Household

<table>
<thead>
<tr>
<th>Devices</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>2</td>
<td>2.77</td>
</tr>
<tr>
<td>Two</td>
<td>36</td>
<td>51</td>
</tr>
<tr>
<td>Three</td>
<td>13</td>
<td>18.46</td>
</tr>
<tr>
<td>Four or more</td>
<td>20</td>
<td>27.77</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100</td>
</tr>
</tbody>
</table>

Parents’ Perceptions: Data from parents were collected through a parent perception survey that was divided into three main domains: parent self-efficacy, the use of educational mobile applications in the teaching and learning process, and educational mobile applications and language acquisition. Rank order, level, mean, and standard deviation of parent responses to the items of the self-efficacy domain are presented in Table 7.

Table 7. Children’s Screen Time in Hours Per Day

<table>
<thead>
<tr>
<th>Screen Time Hours</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>20</td>
<td>27.77</td>
</tr>
<tr>
<td>Two</td>
<td>28</td>
<td>38.89</td>
</tr>
<tr>
<td>Three</td>
<td>15</td>
<td>20.84</td>
</tr>
<tr>
<td>Four or more</td>
<td>9</td>
<td>12.5</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 7 shows that the majority of parent participants reported a strong sense of self-efficacy regarding using mobile technologies in general and ESL educational mobile applications in particular (M = 4.13, SD = 0.49). The questionnaire items 4 (“I promote, monitor, and model the ethical use of mobile technologies in my household”) and 5 (“I want to learn about educational mobile applications and can support my children’s English language progress”) obtained the highest rank in this domain (M = 4.29, SD = 0.76). Item 3 (“I know how to solve technical problems with mobile technologies”) obtained the lowest rank (M = 3.56, SD = 0.82). Table 8 shows the statistics for parent responses to the domain of using educational mobile applications in the teaching and learning process. Table 8 shows that most parent participants reported that using educational mobile applications could improve the English language learning of ESL children (M = 4.80, SD = 0.83, RO = 1) and provide opportunities for enjoyable and stimulating learning (M = 4.11, SD = 0.83, RO = 3). They also reported that these applications could support individual learning (M = 3.96, SD = 0.83, RO = 4), different styles of learning (M = 3.90, SD = 0.85, RO = 5), more frequent practice (M = 3.86, SD = 0.76, RO = 6), and satisfy the learner’s individual needs (M = 3.78, SD = 0.74, RO = 7). However, a few of parent participants agreed that using such applications in language learning and teaching might be harmful (M = 3.10, SD = 1.08, RO = 18) and distracting (M = 2.77, SD = 1.06, RO = 19). A very few of them also reported some concerns about their children becoming socially disconnected as a result of using these applications for language learning (M = 1.99, SD = 0.62, RO = 20). The overall mean of the scale was 3.56 with SD 0.41. The statistics for the parent responses to the educational mobile applications and language acquisition domain are given in Table 9.

Table 9. Children’s Screen Time in Hours Per Day

<table>
<thead>
<tr>
<th>Screen Time Hours</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
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<tr>
<td>Four or more</td>
<td>9</td>
<td>12.5</td>
</tr>
<tr>
<td>Total</td>
<td>72</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 9 shows that most parent participants reported that using educational mobile applications improved the language skills of ESL children, including listening (M = 4.08, SD = 0.84), vocabulary (M = 4.06, SD = 0.73, RO = 2), reading (M = 3.85, SD = 0.73, RO = 3), pronunciation (M = 3.83, SD = 0.90, RO = 4), constructing new forms of meaning (M = 3.75, SD = 0.87, RO = 5), spelling (M = 3.68, SD = 0.92, RO = 6), speaking (M = 3.46, SD = 1.01, RO = 7), and writing (M = 3.22, SD = 1.02, RO = 8). The overall mean of the scale was 3.74 with SD 0.52. Table 10 summarizes the statistics for parent responses on the three domains of the questionnaire. Table 10 shows that most parent participants reported high perceptions toward the three domains of the questionnaire, including parent self-efficacy (M = 4.13, SD = 0.49, RO = 1), educational mobile applications and language acquisition (M = 3.74, SD = 0.52, RO = 2), and the use of educational mobile applications in the teaching and learning process (M = 3.56, SD = 0.41, RO = 3). The overall mean score was 3.81 out of 5.0, which generally indicated positive perceptions toward using educational mobile applications to improve ESL student language skills.
Gender comparisons of parents’ perceptions: Table 12 shows the means and standard deviations of parent responses within the domains of the parent survey: parent self-efficacy, teaching and learning process and language acquisition based on gender. The total number of parent participants who completed the survey was 72 (41 females and 31 male).

The overall mean of male parent participant responses was 3.87 with SD 0.42. The overall mean of female parent participant responses was 3.80 with SD 0.30. Table 13 assesses the equality of variances and means for the male and female parent groups.

The results of the t-test for equality of means revealed no significant differences between male and female parents on parent self-efficacy, \(t(70) = 1.317, p = .192\), teaching and learning process, \(t(70) = .898, p = .372\), or language acquisition, \(t(70) = -.227, p = .821\).
process and language acquisition.

Significant differences in two subscales of the survey: using educational mobile applications in English language learning helps ESL children improve their listening skills and children enhance their vocabulary.

ANOVA for the entire survey revealed no significant differences (α = 0.05) between parents’ perceptions of using educational mobile applications in teaching and learning process.

Results of an ANOVA for the components of the parent questionnaire based on education level.

Table 29 presents statistics for the components of the parent questionnaire.

Gender did not affect ESL parents’ perceptions of using educational mobile applications in English language learning and teaching.

Educational-level comparisons of parents’ perceptions:
Table 29 presents statistics for the components of the parent questionnaire based on education level. Table 14 presents the results of an ANOVA for the components of the parent questionnaire. The confidence interval calculations and the ANOVA for the entire survey revealed no significant differences (α = 0.05) between parents’ perceptions of using educational mobile applications in teaching and learning English based on educational level. The results revealed no significant differences in two subscales of the survey: using educational mobile applications in the teaching and learning process and language acquisition.

However, there were significant differences (α = 0.05) in the first subscale: parent self-efficacy based on educational level. Although the questionnaires provided a large amount of data in the first phase of the study, they did not allow parent participants to provide more detailed information and to clarify their responses. Accordingly, the open-ended questions and conversational discussions in the in-depth interviews in the second phase of the study gave me the opportunity to collect more comprehensive information about parents’ perceptions. Eight ESL parents were purposefully selected and interviewed. Parent participants were selected based on their scores on the first subscale: parent self-efficacy based on educational level.

The significance level was α = 0.05. These results suggested that gender did not affect ESL parents’ perceptions of using educational mobile applications in English language learning and teaching.

Table 12. Equality of Variances and t-test for Equality of Means for Gender in Parent Questionnaire
Table 13. Statistics for Education Level in Parent Questionnaire

<table>
<thead>
<tr>
<th>Questionnaire Components</th>
<th>Education Level</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Std. Error</th>
<th>95% Confidence Interval for Mean</th>
<th>Min</th>
<th>Max</th>
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<td>2</td>
<td>5.000</td>
<td>.0000</td>
<td>.0000</td>
<td>5.0000</td>
<td>5.0000</td>
<td>5.0000</td>
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<td>3.600</td>
<td>3.600</td>
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<td>3.9925</td>
<td>4.3337</td>
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<td>4.6000</td>
<td>4.6000</td>
<td>6.000</td>
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<td>3.6930</td>
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<td>.49497</td>
<td>.05833</td>
<td>4.0087</td>
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<td>2</td>
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<td>.0000</td>
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<td>3.00</td>
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<td>.0000</td>
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<td>3.7467</td>
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</table>

Table 14. ANOVA Related to Components of Parent Questionnaire

<table>
<thead>
<tr>
<th>Questionnaire Components</th>
<th>between Group</th>
<th>Within Group</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent Self-Efficacy</td>
<td>Between Groups</td>
<td>Within Groups</td>
<td>4038</td>
<td>6</td>
<td>.673</td>
<td>3.276</td>
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<tr>
<td></td>
<td>Total</td>
<td>13.357</td>
<td>65</td>
<td>.05</td>
<td>1.458</td>
<td>.207</td>
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<tr>
<td>Using Educational Mobile Applications in the Teaching and Learning Process</td>
<td>Between Groups</td>
<td>Within Groups</td>
<td>1.445</td>
<td>6</td>
<td>.241</td>
<td>1.525</td>
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<tr>
<td></td>
<td>Total</td>
<td>12.179</td>
<td>71</td>
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<td></td>
<td></td>
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<tr>
<td>Educational Mobile Applications and Language Acquisition</td>
<td>Between Groups</td>
<td>Within Groups</td>
<td>2.356</td>
<td>6</td>
<td>.393</td>
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<tr>
<td></td>
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<tr>
<td>Overall</td>
<td>Between Groups</td>
<td>Within Groups</td>
<td>1.049</td>
<td>6</td>
<td>.175</td>
<td>1.445</td>
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<tr>
<td></td>
<td>Total</td>
<td>7.863</td>
<td>65</td>
<td>.121</td>
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</table>

Table 15. Background of Interviewees (ESL Parents)

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Grade level of children</th>
<th>Number of children</th>
<th>Highest level of education</th>
<th>Primary language</th>
<th>Number of mobile devices in household</th>
<th>Hours of child’s daily screen time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ESLP 1</td>
<td>4 and 5</td>
<td>2</td>
<td>Bachelor</td>
<td>Arabic</td>
<td>4 or more</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>ESLP 2</td>
<td>7</td>
<td>1</td>
<td>Master</td>
<td>Bangla</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>ESLP 3</td>
<td>5</td>
<td>1</td>
<td>Doctoral</td>
<td>Chinese</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>ESLP 4</td>
<td>6 and 7</td>
<td>2</td>
<td>High School</td>
<td>Kurdish</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>ESLP 5</td>
<td>8</td>
<td>1</td>
<td>Bachelor</td>
<td>Spanish</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>ESLP 6</td>
<td>8 and 5</td>
<td>2</td>
<td>High School</td>
<td>Telugu and English</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>ESLP 7</td>
<td>5 and 7</td>
<td>2</td>
<td>Master</td>
<td>Arabic</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>ESLP 8</td>
<td>6</td>
<td>1</td>
<td>Master</td>
<td>Kurdish</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Tables 15 presents detailed information about the interviewees. The results of the in-depth interviews indicated that most parent participants did not have clear guidelines for their children’s usage of mobile devices. As ESLP 3 commented, “It depends on my time, I allow them to use iPad for three hours daily, but when I have exams or assignments, they use it until I finish my work.” Only three participants stated that they had conversations with their children about when, where, and how to use mobile devices. The rest stated that they took the devices away from their children or used software that blocked applications in the child’s device. ESLP 4 stated, “I use an application called ‘Our Pact’ that allows me control my son
device from everywhere without screaming.” Most parent
participants tried to learn how to help their children improve
their learning, particularly English language learning. ESLP 1,
for example, “read articles about language learning for
children.” ESLP 6 stated, “I try to find extra resources for
English language learning.” In addition, parent participants
reported using educational mobile applications as a resource to
help children improve their language skills, particularly
listening and pronunciation. As ESLP 1 stated, “Unfortunately,
I speak English with strong accent, so I used an audio
storytelling application to improve listening of my son. When
he is listening to people speak English he will improve
listening and speaking rather than listening to my poor
English.” Similarly, ESLP 4 stated, “I mostly use applications
that offer pronunciation and translation to words because I
pronounce some words wrongly and I do not want them to
learn from me.” Furthermore, some participants claimed that
using educational mobile applications increased learner
motivation and engagement. ESLP 4 stated, “They offer
different types of activities and my children continue doing
them without complaints. When I use paper activities, only
after 10 minutes, they start to complain that they feel bored.”
They also reported that using these applications supported
autonomous learning. As ESLP 2 commented, “I just
download the appropriate app. Then, they take decisions
regarding what to learn and how to learn.” In addition, they
reported that many educational mobile applications took into
account the learner’s level and learning style. As ESLP 6
stated, “You can choose the level you want ‘beginner,
intermediate, or advanced’ […] also, some of them offer
different options to users, such as watching videos, pictures,
playing games…” However, some parent participants voiced
concerns about using such applications for English language
learning, which will be discussed under Questions 4 and 5.

DISCUSSION

The findings of the study and how the results relate to the
existing literature. This study explored the perceptions of
parents regarding the educational mobile applications used to
help ESL elementary school students develop their language
skills. Both quantitative and qualitative techniques were used
for data collection to answer the following research question,
what are the perceptions among ESL parents regarding the use
of educational mobile applications to help ESL elementary
school students develop their language skills? To answer these
research questions, the quantitative and qualitative results are
discussed below.

Discussion of the Findings

Parent Perceptions: The majority of parent participants
reported a strong sense of self-efficacy regarding mobile
technology in general and ESL educational mobile applications
in particular. Most parent participants reported that they could
use different types of mobile technologies and could promote
and monitor the ethical use of mobile technology in their
household. In addition, they were considering different ways to
support their children’s language learning, including
educational mobile applications and other technology.
According to Levy (2008), parents play a central role in
shaping the self-efficacy and attitudes of their children toward
technology. Thus, the role of parents should be taken into
account because they can help improve their children’s self-
efficacy and positive attitudes about technology integration in
classrooms. With respect to gender, the results revealed no
significant differences between male and female parents in
mobile technology self-efficacy. This result was consistent
with a study conducted by Levy (2008), which likewise found
no significant differences between male and female parents in
self-efficacy, perceptions, or attitudes toward using computers
in the teaching and learning process.

However, the results did reveal significant differences in
parents’ self-efficacy based on education level. According to
Kanthawongs and Kanthawongs (2013), parents with higher
levels of education have higher technology self-efficacy and
are more likely to use technology for teaching and learning
compared to parents with lower levels of education. In both the
quantitative and qualitative results, parents reported positive
perceptions toward using educational mobile applications in
the teaching and learning process. Most parent participants
reported that using such applications could improve the
English of ESL children and provide opportunities for
enjoyable and stimulating learning. They also reported that
these applications could support individualized learning and
different styles of learning, provide more frequent practice, and
satisfy the learner’s individual needs. These results were
consistent with those of Levy (2008) and Kanthawongs and
Kanthawongs (2013), which reported parents having positive
perceptions of using technology, such as computers,
smartphones, and tablets, to teach and learn English.
According to Levy (2008) and Kanthawongs and Kanthawongs
(2013), parents believed that technology provided a motivating
environment for students and supported a more learner-
centered approach because it gave them more control over the
learning process and more opportunities to choose the content
and activities that could best meet their needs. However, a few
parent participants suggested that using such applications in
language learning and teaching might be harmful and
distracting.

A small number of them also reported concerns about their
children becoming socially disconnected as a result of using
these applications for language learning. These results
supported Kanthawongs and Kanthawongs (2013), who
showed that parents had some concerns about the safety of
using mobile devices for children in elementary schools
because they might become addicted to those devices and
spend too much time on them. Mobile devices could also be
more harmful if there is a lack of communication between
parents and children about the risks of mobile technologies and
a lack of rules that promote the responsible use of technology.
According to Beale and Hall (2007), children and parents
should work together to create a safe environment for using
mobile devices at home. Parents should raise their children’s
awareness about the benefits and risks of mobile technology
through meaningful discussion. Parents should also identify
clear guidelines that promote safe and ethical use of
technology. Finally, most parent participants reported that
using educational mobile applications improved the language
skills of ESL elementary school children, including listening,
vocabulary, reading, pronunciation, constructing new forms of
meaning, spelling, speaking, and writing. These results
supported several studies (e.g., Kanthawongs and
Kanthawongs, 2013; Kukulska-Hulme and Shield, 2007; Merç,
2015) that found that mobile technology gave learners more
opportunities to find or create language materials and provided
activities that supported different language skills.
Conclusion

The purpose of this explanatory sequential mixed-methods study was to understand ESL parent perceptions and to identify the barriers they perceived might hinder the effective use of educational mobile applications to help ESL elementary school students develop their language skills.

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Morrison, D. E. 2009. Parent and student perceptions of using educational mobile applications to develop the language skills of ESL elementary school students in the state of Kuwait (Doctoral dissertation, University of Northern Colorado, Greeley, Colorado).


*******