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Children's Interest in Learning English Through Picture Books in an EFL Context: The Effects of Parent–Child Interaction and Digital Pen Use

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Abstract: In recent years, the ways in which to read English picture books to young children has become diverse in English as a foreign language (EFL) context. The present study examined the effect of parent-child interactions and digital pen use during English picture book reading in the child's interest in learning English. A total of 320 Korean mothers of three to five year old preschool children participated in the study. The results revealed the following. First, children's interest in learning English was higher when they used digital pens and engaged in frequent parent-child interactions during English picture book reading. Second, parent-child interaction was a more significant variable in children's interest in learning English compared to digital pen use. Third, the moderator effect of digital pen use in the relation between parent-children interaction and children's interest in learning English was insignificant. In other words, parent-child interaction was important in increasing children's interest in learning English, regardless of digital pen use. While rapid advances in technology enhanced teaching pedagogy, parent-child interaction in foreign language learning still remains as a crucial factor. Further implications and future directions are discussed.

Keywords: parent-child interaction; digital pen; interest in learning English; young children; EFL

1. Introduction

Picture books are one of the most widely used materials for early childhood language education [1]. Young children can gain opportunities for language development by listening to what adults read, observing pictures, and expressing their thoughts [2]. Additionally, picture books provide advancements in vocabulary with interesting images that go beyond here-and-now contexts [3]. Through picture books, young children can learn new vocabulary that is not regularly used. A lot of research has been conducted on the effects of picture book reading on first language development, such as phonological awareness, vocabulary, and story comprehension [4,5].

For young English learners in English as a foreign language (EFL) context, a cohort rarely exposed to English in everyday life, the feature of picture books that enables decontextualized language acquisition can be more beneficial. This is because reading picture books gives them chances to experience a new language and culture [6]. When children with Portuguese as their first language learned English as a second language, the frequency of English picture book reading at home enhanced their English vocabulary [7]. According to a study on Chinese preschool children [8], rich instruction through storybook telling resulted in an improvement of receptive and expressive knowledge of English words. Despite the advantages that picture books have over foreign language learning, research on the effect of picture book reading on foreign language learning is still in its infancy compared to studies of first language acquisition.

The way children read English picture books in an EFL environment is changing rapidly. While English teachers usually read picture books to young children in classroom settings in the past, there has been a change in the paradigm with increased education and technology. Nowadays, parents are also active figures and read picture books to their children. Along with the increased educational levels of parents, the Internet has also made it easier than ever to obtain resources for English education for young children [9–12]. Kang and colleagues [10] reported that younger mothers with higher levels of educational attainment were more likely to use English picture books at home with their children. These mothers were interested in creating an English educational environment at home to provide more opportunities for their children to be exposed to English in an EFL context. Taiwan studies also reported similar results [11,12]. Taiwan mothers preferred to read English picture books with their young children at home for English education, and the level of educational resource provided by mothers was different according to their educational attainment levels [11].

Among the various technological devices that have been developed to aid children's picture book reading, digital pen is one of the most representative devices [13]. Digital pens are similar in appearance to ordinary pens but feature additional highly technological functions. Hybrid paper-digital interfaces through digital pens connect pens and picture books with the processing, memory, and multimodal capabilities of computers [13], and supply multimedia materials that are interesting to young children. For example, when a child taps a particular area on a picture book with the digital pen, the pen narrates the text, sings a song, makes sounds, or shows animations through an additional display device. These audiovisual stimuli are especially helpful for young readers who are not yet familiar with reading on their own. Digital pens are widely used for language learning in early childhood because they are easy to use, even for preschoolers, and provide interesting multimedia material related to classic picture books [14,15].

Additionally, in South Korea's English learning context, there is clear favoritism towards North American English [16,17]. Especially because pronunciation is considered a vital aspect of successful English learning, some Korean mothers prefer using native speakers' recorded voices rather than their own when it comes to exposing their children to English [18]. As a result, digital pens have been gaining popularity in replacement of audiotapes and CDs. 'Say pen', a representative commercial digital pen for young children, has sold about 3 million in Korea [19].

The way young children read English picture books is becoming diverse, but little is known about the effects of these methods. This seems to be related to the fact that parent-child interaction or digital pen use during English picture book reading is a phenomenon that has recently emerged. Therefore, the effects of new picture book reading methods need to be examined to provide practical implications that parallel young children's developmental needs.

When we investigate the effect of new methods to read English picture books with young children, their interests in learning English mainly need to be addressed. One of the basic principles of early childhood education is interest-based learning [20]. That is, children focus and learn something when they are interested in it. Additionally, since early childhood marks the beginning stage of learning English, it may be more important to be interested in learning the language rather than to be fluent in it. This is because learners need to have a positive attitude and maintain interest in learning the language in order to learn the language successfully in the long run [21,22]. Krashen [22] explained the importance of attitudes in foreign language learning through the concept of 'the affective filter'. According to his study, learners can learn a second language better when they pass through the affective filter with high levels of competence, interest, and motivation. Affective factors influence how much effort is spent on second language learning and ultimately determines future learning outcomes.

Based on the discussion so far, this study aims to examine the effects of parent-child interaction and digital pen use during English picture book reading on young children's interest in learning English. We anticipate that both methods will have a positive effect on improving interest in learning English of young children. According to previous studies [9,23], frequent interactions between parents and children using English, such as reading books, singing songs, and watching videos together, can promote young children's interest in learning English. This is presumably due to the

fact that parents, who have intimate ties with their children within the attachment relationship, have a significant influence on children's learning and development. In addition, social interaction with parents during picture book reading such as asking, answering, and paying attention to attention (i.e., joint attention) deepens children's understanding of the content and promote their interest in the picture books [23,24].

Digital pen use during picture book reading is also expected to increase children's interest in English learning. According to a study interviewing Korean mothers [23], they used a variety of educational materials such as video, sound, and games related with the book content to draw the interest of children when they read English picture books. Especially when introducing difficult vocabularies, mothers applied multimedia materials to English picture book reading. Multimedia materials not only help learners increase attention but also promote their interest and motivation in learning [25]. The digital pen is a very useful tool for providing interesting multimedia materials while reading picture books, which may increase the interest in learning English of young children.

In short, both parent-child interaction and digital pen use during English picture book reading are expected to enhance young children's interest in learning English. If so, the question arises as to which of the two methods is more effective. Previous studies have revealed that the influence of parent-child interaction is greater than that of digital device use in the case of first language learning. One study comparing the effect of a parent reading a book and a digital device narrating a story reported that children learned best when their parent read to them [24]. This may be due to the fact that reading by parents itself implies that the content is important and allows more attention of children [24]. Also, when parents read books, social interactions actively happen, which promote children's understanding of the book content [26]. However, little research has been conducted to identify whether the same results are found for the interest in learning a foreign language. In other words, questions can be raised about whether parent-child interaction during book reading is more effective in enhancing children's interest in foreign language learning than digital pen use. We can anticipate that parent-child interaction is a more effective way of increasing the interest of young children in learning English by improving their attention and understanding of the book contents compared to digital pen use, based on previous studies on first language learning. However, there is a possibility that the digital pen may be a more useful tool in increasing interest. This is because digital pens can provide children with interesting multimedia materials such as songs, sounds, and animation that parents cannot supply and help children read books by themselves. The current study seeks to answer these questions.

This study not only compares the effects of parent-child interaction and digital pen use during English picture book reading, but also further examines the synergistic effects of using both methods. In other words, if both parent-child interaction and digital pen use during English picture book reading can increase the English learning interest of young children, it is likely that children's interest can be the highest when the two methods are used together. This hypothesis is based on the study [25] reporting that the use of multimedia materials, which can be supplied by digital pens, can extend social interaction between parents and children during picture book reading.

The aim of this study is to compare the effects of parent-child interaction and digital pen use during English picture book reading on young children's interest in learning English and to examine the synergistic effects of the two methods. We expect that the results of the present study can provide implications for effective picture book reading methods to enhance young children's interest in foreign language learning. The research questions are as follows.

- Research question 1: Do parent-child interaction and digital pen use during English picture book reading have effects on young children's interest in learning English?
- Research question 2: How is the relative effect of parent-child interaction and digital pen use on young children's interest in learning English?
- Research question 3: Does digital pen use moderate the effect of parent-child interaction during picture book reading on children's interest in learning English?

2. Materials and Methods

2.1. Subjects

Participants for this study were collected from 14 institutions in Korea across Seoul, Busan, Gyeonggi province, Jeonla province, and Kyungsang province. We surveyed 454 mothers and 51 teachers of 3 to 5-year-old children. Of the 454 mothers, 320 mothers who responded to using English picture books for their children at home were selected for analysis. Of the 320 mothers, 22 cases that did not fully respond to the questionnaires were excluded, resulting in a total of 298 cases. All participants submitted written informed consent. The present study has been approved by Institutional Review Board. Table 1 shows detailed participant characteristic.

Table 1. Participant characteristic (*n*=298).

		Kindergarten	English immersion institution
		n (%)	*n* (%)
Gender	Male	58 (47.5)	75 (42.6)
	Female	64 (52.5)	100 (56.8)
	No response	0 (0.0)	1 (0.6)
Age	3-year-old	38 (31.1)	46 (26.2)
	4-year-old	40 (32.8)	56 (32.4)
	5-year-old	44 (36.1)	72 (40.9)
	No response	0 (0.0)	2 (0.6)
Total		122 (100.0)	176 (100.0)

2.2. Measures

2.2.1. Parent-child Interaction and Digital Pen Use During English Picture Book Reading

We used mothers' self-report questionnaires to measure parent-child interaction and digital pen use during English picture book reading. Parent-child interaction frequency was measured by a 4-point Likert scale with the options: (1) none (2) barely (3) sometimes, and (4) often. The use of digital pens was coded as 0 when the pen was not used, and 1 for when it was used.

2.2.2. Children's Interest in Learning English

Children's interest in learning English was assessed with a questionnaire devised by Choi, Cho, Kang, and Sheo [27] based on previous studies [28–33]. This scale was developed for Korean preschoolers in an EFL context, and the reliability and validity were verified. The questionnaire consists of 15 items measured using a 4-point Likert scale ($\alpha = 0.91$). Of the 15 items, 3 are responded by English teachers, and 12 are responded by mothers. Some examples of teacher-report items are "attempts to ask questions and respond in English during class time.", "responds confidently when asked questions in English.", and "asks questions when the student does not understand or is curious about something during class.". Some examples of mother-report items are "uses English learned during class time on own", "waits for English classes", and "enjoys speaking or singing in English".

2.2.3. Possible Confounders

The possible confounders considered for this study include the institution type the children attended, parent's socioeconomic status (SES), and child's gender. Institution type was categorized as regular kindergartens and English immersion institutions. Regular kindergartens run all programs in Korean with children being exposed to English approximately four times a week (20-30 minutes per class), only during English classes. English immersion institutions on the contrary, run most of the programs in English with four to five classes (40 minutes per class). Children who attended regular kindergartens were coded as 0 and 1 for those who attended English immersion institutions. In addition, parent's SES was assessed by their educational level and monthly income of the household. Educational levels were coded as 1 for less than middle school, 2 for high school graduate,

3 for two- to three-year college graduate, 4 for university graduate, 5 for master's graduate, and 6 for PhD graduate. Monthly income was coded as 1 for less than $2000, 2 for around $2000, 3 for around $3000, 4 for around $4000, 5 for around $5000, 6 for around $6000, 7 for around $7000, and 8 for over $8000. Child's gender was coded as 1 for male and 2 for female.

2.3. Statistical Analysis

We conducted correlational and frequency analyses to identify the characteristics of each variable. Next, we performed regression analysis to observe whether parent-child interaction and digital pen use during English picture book reading affected children's interest in learning English, along with stepwise analysis to identify the relative effectiveness of the variables, including possible confounders. Finally, we used hierarchical regression to assess the moderating effect of digital pen use on the relationship between parent-child interaction during English picture book reading and children's interest in English learning. All statistical analyses were completed using SPSS 19.0.

3. Results

3.1. Frequency and Correlation Analysis

A descriptive statistic was performed to examine parent-child interaction frequency and digital pen use during English picture book reading. Of the 298 participants, 13 (4.4%) parents did not interact at all, 37 (12.4%) parents rarely interacted, 176 (59.1%) parents sometimes interacted, and 72 (24.2%) parents frequently interacted (Figure 1). For digital pen use, 169 (56.7%) children used digital pens and 129 (43.3%) children did not use digital pens during English picture book reading.

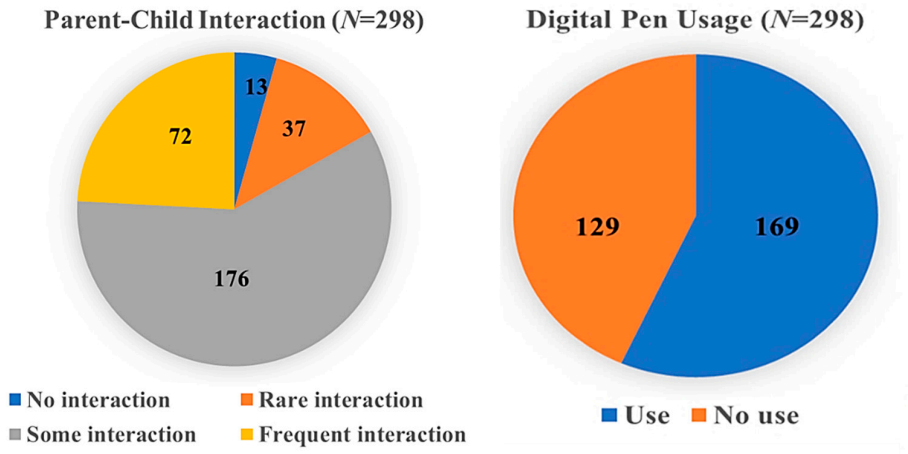

Figure 1. Descriptive statistics for parent-child interaction and digital pen use during English picture book reading.

Next, frequency and correlational analyses were conducted to observe the characteristics of the variables. As shown in Table 2, the absolute values of skewness for all variables ranged from 0.21 to 0.79, and the absolutes values for kurtosis ranged between 0.49 and 1.97. We have confirmed that all values fell within an acceptable range for normal distribution (skewness < 2, kurtosis < 7) [15]. The correlations among the variables were as follows. The more parent interacted with a child during English picture book reading, the more digital pen usage was found ($r = 0.17$, $p < 0.01$). When a parent frequently interacted with a child during English picture book reading, the child showed more interest in English learning ($r = 0.36$, $p < 0.01$). Additinoally, children using digital pens when they read English picture books showed more interest in learning English than children not using them ($r = 0.20$, $p < 0.01$). Children who attend English immersion institutions showed higher levels of parent-

child interaction, digital pen use, and interest in English learning compared to children who attend regular kindergartens (r = 0.13–0.27, p < 0.01). Parents of children who attend English immersion institutions also had higher levels of educational levels and monthly household income (r = 0.25–0.43, p < 0.01). Furthermore, children of parents with higher SES had higher levels of interest in English learning (r = 0.14–27, p < 0.05, 0.01). Digital pen use was only related to the mother's educational level from other measured SES variables and mothers of higher levels of education used digital pen more frequently (r = 0.20, p < 0.01). The child's gender was not significantly correlated with any other variables.

Table 2. Frequency and correlations of variables (N=298).

.	1	2	3	4	5	6	7	8
1	–							
2	0.17**	–						
3	0.36**	0.20**	–					
4	0.27**	0.13*	0.24**	–				
5	0.26**	0.04	0.15*	0.25**	–			
6	0.38**	0.21**	0.27**	0.33**	0.55**	–		
7	0.26**	0.06	0.14*	0.43**	0.24**	0.32**	–	
8	0.13*	0.09	0.11	0.05	–0.01	0.04	0.05	–
Mean	3.03	0.57	3.01	0.59	3.93	3.79	6.41	1.55
SD	0.74	0.50	0.57	0.49	0.87	0.85	1.82	0.50
Max	4.00	1.00	4.00	1.00	6.00	6.00	8.00	2.00
Min	1.00	0.00	1.17	0.00	2.00	2.00	1.00	1.00
Skewness	–0.71	–0.27	–0.023	–0.37	–0.34	–0.44	–0.79	–0.21
Kurtosis	0.80	–0.194	–0.49	–1.88	0.80	0.48	–0.66	–1.97

Note: 1 = parent-child interaction, 2 = digital pen usage, 3 = interest in learning English, 4 = institution type, 5 = father's educational level, 6 = mother's educational level, 7 = monthly income, 8 = child's gender; *p < 0.05; **p < 0.01.

3.2. Factors that Affect Children's Interest in Learning English

Stepwise regression analysis was used to confirm whether parent-child interaction and digital pen use during picture book reading affected children's interest in learning English. During this stage, possible confounders (institution type, parent's SES, child's gender) were entered as independent variables to compare the independent variables' relative effectiveness. In order to check for multicollinearity issues, the tolerance and Variance Inflation Factor (VIF) were examined. Tolerance values ranged from 0.80 to 1.00, and 1.00 to 1.26 for VIF, confirming that there were no multicollinearity issues. The Durbin-Watson value was 2.04, verifying that there was no correlation between the error terms.

As shown in Table 3, statistically significant explanatory variables for children's interest in learning English were parent-child interaction, institution type, and digital pen use. The adjusted R-squared value shows that these explanatory variables account 16% of the variation in children's interest in learning English (F = 18.48, p < 0.001). To specify, children showed more interest in learning English with more parent-child interaction during English picture book reading (β = 0.30, p < 0.001), and children attending English immersion institutions showed more interest in learning English than children attending regular kindergartens (β = 0.14, p < 0.05). Additionally, children who used digital pens during English picture book reading showed higher levels of interest in learning English than those who did not use it (β = 0.13, p < 0.05). Parent's SES and child's gender did not significantly account for children's interest in learning English.

The results of the stepwise regression analysis (Table 3) showed that, in the first step, parent-child interaction was found to have the highest explanatory power of 12.8% (F change = 41.59, p < 0.001). In the second step, the institution type variable increased the explanatory power by 1.9%, resulting in a total of 14.7% (F change = 7.18, p < 0.01). In the third step, the digital pen use variable increased the explanatory power by 1.3%, resulting in a total of 16.0% (F change = 5.01, p < 0.05). Of

the three factors that affect children's interest in learning English, parent-child interaction during English picture book reading had the strongest effects.

Table 3. Factors that affect children's interest in learning English during picture book reading (*N*=298).

Step	Independent Variable	B	SE	*β*	*t*	adj. R^2	*F* Change
1	Parent-child interaction	0.28	0.04	0.36	6.45***	0.128	41.59***
2	Parent-child interaction	0.24	0.05	0.32	5.47***	0.147	7.18**
	Institution type	0.18	0.07	0.16	2.68**		
3	Parent-child interaction	0.23	0.05	0.30	5.12***	0.160	5.01*
	Institution type	0.17	0.07	0.14	2.49*		
	Digital pen use	0.15	0.07	0.13	2.24*		

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

3.3. Moderating Effects of Digital Pen Use on the Relation Between Parent-child Interaction During English Picture Book Reading and Children's Interest in Learning English

Since the previous results (Table 3) confirmed that interacting with a parent and digital pen use during English picture book reading positively affected children's interest in learning English, we further examined whether digital pens strengthened the relation between parent-child interaction and children's interest in learning English. That is, we tested whether the positive effects of parent-child interaction during English picture book reading on children's interest in learning English could be enhanced when children use digital pens during English picture book reading. In order to prevent multicollinearity, the parent-child interaction variable was centered. The centered parent-child interaction variable was multiplied with digital pen use variable to construct the interaction term. Furthermore, we examined tolerance and VIF. The tolerance values from 0.51 to 0.96, and VIF values from 1.04 to 1.95, showed that a multicollinearity problem did not exist. Additionally, the Durbin-Watson value of 2.06 verified that there was no correlation between the error terms. Institution type, which was found to be a significant variable that affected children's interest in learning English (Table 3), was entered as a confounding variable.

Table 4 shows that parent-child interaction and digital pen use during English picture book reading had primary effects on children's interest in learning English. In other words, the more parent-child interaction, the higher children's interest in English learning ($t = 5.30$, $p < 0.001$). Additionally, children showed a higher interest in English learning when digital pens were used, as compared to when digital pens were not used ($t = 2.35$, $p < 0.05$). The second step of the model (Table 4) entered the interaction variable, which was made by multiplying the parent-child interaction and digital pen use variables. However, F change in the second step was not significant compared to the value in the first step, and hence, the moderating effect of digital pen use on the relationship between parent-child interaction during English picture book reading and children's interest in learning English was not significant. Simply put, the effect of parent-child interaction did not increase with the use of digital pens during English picture book reading.

Table 4. Moderating effect of digital pen use on the relation between parent-child interaction during English picture book reading and children's interest in learning English (*N*=298). *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Step	Model		B	SE	*β*	*t*	adj. R^2	*F* change
1	Confounding variable	Institution type	0.17	0.06	0.14	2.57*	0.156	19.33***
	Independent variable	Parent-child interaction	0.23	0.04	0.30	5.30***		
		Digital pen use	0.15	0.06	0.13	2.35*		
2	Confounding variable	Institution type	0.16	0.06	0.14	2.55*	0.157	1.33
	Independent variable	Parent-child interaction	0.19	0.06	0.24	3.23**		
		Digital pen use	0.15	0.06	0.13	2.36*		
		Parent-child interaction x Digital pen use	0.10	0.08	0.08	1.15		

4. Discussion

This study examined the effects of parent-child interaction and digital pen use during English picture book reading on young children's English learning interest in an EFL context. The main results are as follows.

First, as we expected, young children who interacted with parents more often during picture book reading were more interested in learning English. These results are consistent with previous studies. That is, parent-child interaction seems to enhance the English learning interest of young children by increasing their concentration and understanding of English picture books [9,23]. Also, children who used digital pens while reading English picture books showed higher levels of interest in learning English than those who did not use it. Digital pens are advanced forms of cassette tapes and CDs; digital pens can be used in hybrid forms with traditional picture books and support young children to interact with picture books without adults' help by simply tapping them on the book. A variety of interesting multimedia materials provided by digital pens may boost the English learning interest of young children [23,25]. These results are meaningful in that they showed the newly appeared methods to read English books with children are effective in improving young children's interest.

Second, parent-child interaction during English picture book reading was the most influential factor on children's interest in learning English when possible confounders (institution type children attended, parent's SES, and child's gender) were considered. The use of digital pens was also an effective method, but parent-child interaction had much greater effects. These results are in line with previous research findings that parent-child interaction in first language learning helps children improve learning outcomes more than digital devices [24]. Even in foreign language learning, the effect of parental interaction on young children's learning was found to be very significant. This finding is interesting as it shows that parental influence is dominant in children's learning despite the advanced development of digital technology. Although parents cannot provide interesting multimedia materials or native speakers' pronunciation like digital pens, social interaction with parents can be a more influential way of stimulating young children's interests. This seems to be because parents, who have an intimate attachment relationship with children, are the most influential factors in the learning and development of young children. In addition, since the innate desire of humans to communicate and interact with others is a major driver of language learning from infancy [34], it is possible that social interaction with parents is more influential in language learning compared to digital devices. Some Korean mothers prefer using recorded voices by native speakers rather than their own while reading English picture books to their children to provide native pronunciations [18]. However, these mothers need to reconsider the impact of parent-child interactions on young children's learning interest.

Recent studies on the benefits of using digital pens in foreign language learning interest have been conducted, but these studies are limited in that the effect of digital pen use has not been compared with other reading methods. For example, Chen and colleagues [14] found that digital pen technology improved learning motivation and learning satisfaction of Taiwanese high school students. According to Yoon [35], digital story telling promoted primary school children's motivation, interest, and confidence in learning English. However, if we only investigate the effect of digital pens, there is a limitation that it is difficult to examine their relative effects considering other reading methods. The current study compared the effects of parent-child interaction and digital pen use, suggesting that, although digital pens are effective in enhancing preschoolers' interest in learning English, their effects are less powerful than social interaction with parents.

Finally, the moderating effects of digital pen use on the relationship between parent-child interaction and children's interest in learning English were not significant. We anticipated that digital pen use could increase the positive effects of parent-child interaction during picture book reading on children's interest in learning English by expanding the social interaction [25], but this hypothesis was rejected. This result reaffirms the second research finding, which highlights the importance of parent-child interaction compared to digital pens. Today's commercially available digital pens do not appear to be able to extend the experience of social interaction between parents and children. Keeping in mind the importance of parent-child interaction in early childhood learning, future digital devices

need to be developed in a way that extends and supports social interaction with parents rather than helping children to read alone. Depending on the functionality provided by digital pens, the frequency of interaction between parents and child during picture book reading can vary. In Korat and Or's study [36], which compared mother-child interactions during reading commercial e-books and educational e-books, it was found that educational e-books led to higher discussion levels during parent-child interaction than commercial e-books. This is because educational e-books provided more expansion activities that induced a greater level of parent-child interaction.

The current study has several limitations. First, parent-child interaction and digital pen use were only measured in terms of quantity. Future studies need to examine the qualitative aspects of parent-child interaction digital pen use. Additionally, this study only examined the effect of parent-child interaction and the use of digital pens on young children's interests in learning English. Considering that early childhood learning interests are associated with long-term performance, it is needed to investigate their relevance to future English ability of children. Finally, while the current study focuses on how digital pens affect young children, the study lacks understanding of the parents' stance toward digital pens. As the English education method provided by parents for early childhood is closely linked to parents' perceptions [9], it would be interesting to examine parents' perceptions on using the digital pen during English picture book reading with their children. Despite these limitations, this study is meaningful in that it examined the effects of parent-child interaction and digital pen use during English picture book reading on children's interest in learning English reflecting recent changes in the field of English education for young children in an EFL context, which was rarely examined. The current study has great implications in that it confirmed parent-child interaction in foreign language learning as a crucial factor among various digital tools developed to enhance children's learning interest. Furthermore, future directions for the development of digital devices to support children's language learning were suggested.

5. Conclusions

This study showed that both parent-child interaction and digital pen use during English picture book reading are significant methods to improve young children's English learning interest in an EFL context. In particular, the interaction between a parent and a child was a more effective way compared with digital pen use. The current study revealed that parent-child interaction is a critical factor for young children's language learning, not only for first language, but also for a foreign language. The results of this study reflect the recent trend in examining the effects of new methods to read English books with young children. We suggest that digital devices for young children's foreign language learning should be developed to expand their interaction with parents.

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