Parental involvement in Chinese preschool children's mobile-assisted foreign language learning

Jiapei Xia
University of New South Wales
Xuesong Gao
University of New South Wales

Received:10/10/ 2022 / Accepted: 01/11/2022
DOI: 10.30827/portalin.vi.23840
ISSN paper edition: 1697-7467, ISSN digital edition: 2695-8244

ABSTRACT: This paper reports on an exploratory study examining parental involvement in preschool-level English language learners' use of smartphone apps in a Chinese context. The study aimed at understanding the challenges that Chinese parents experienced, and how they responded to these in their engagement with their children's mobile-assisted language learning. We collected data from 12 Chinese parents using surveys, daily records, and semi-structured interviews. The data analysis revealed that the parents participated in their children's smartphone-based English learning by regulating their involvement time and selecting the learning content in response to their children's needs. The findings suggest that Chinese parents' knowledge of using smartphone apps and their awareness of the English language, as essential cultural capital, increased their active involvement in their children's English learning. They also faced challenges such as English knowledge constraints and the perceived risks associated with children's smartphone exposure. The results highlight the need for schools and teachers to support parents' efforts to get effectively involved in their children's smartphone-based language learning through modelling, reinforcement, and direct instruction. Implications for English language teachers, schools, and app developers are discussed in relation to the application of smartphone apps in supporting young language learners' learning.
Key words: parental involvement, young Chinese ELLs, MALL, Chinese parents, smartphone learning apps

Participación de los padres en el aprendizaje de idiomas extranjeros asistido por dispositivos móviles de los niños en edad preescolar chinos

RESUMEN: Este trabajo trata de un estudio exploratorio que investiga la participación de los padres en el uso de aplicaciones móviles por parte de estudiantes de inglés de nivel preescolar en el contexto chino. El estudio tenía como objetivo entender los desafíos que los padres chinos experimentaron y cómo respondieron a estos al participar en el aprendizaje de idiomas asistido por dispositivos móviles de sus hijos. Se recogieron datos de 12 padres chinos mediante encuestas, registros diarios y entrevistas semiestructuradas. El análisis de datos mostró que los padres, a través de regular el tiempo dedicado y seleccionar el contenido de estudio, participaban en el aprendizaje de inglés basado en los smartphones de sus hijos según las necesidades de estos. Los resultados también sugieren que los conocimientos de los padres chinos sobre el uso de aplicaciones móviles y su conciencia del idioma inglés, como capitales culturales esenciales, aumentaron su participación activa en el aprendizaje

del inglés de sus hijos. Además, se enfrentaron a retos como limitaciones de conocimiento del inglés y riesgos percibidos relacionados con la exposición de los niños a los dispositivos móviles. Los resultados también ponen de manifiesto la necesidad de que las escuelas y profesores apoyen los esfuerzos de los padres para que estos puedan participar de forma efectiva en el aprendizaje de sus hijos mediante técnicas de modelado, refuerzos e instrucción directa. Al final del trabajo se discuten las implicaciones para los profesores de inglés, las escuelas y los desarrolladores de aplicaciones en relación con el empleo de smartphones para apoyar el aprendizaje de los jóvenes estudiantes de idiomas.
Palabras clave: participación de los padres, jóvenes estudiantes de inglés, MALL, padres chinos, aplicaciones de aprendizaje para teléfonos inteligentes

1. Introduction

The rise of high-speed internet, smartphones, and educational apps has facilitated the emergence of mobile-assisted language learning (MALL) as an essential pedagogical approach in language education. For instance, 72 percent of recorded smartphone users in China in 2019 were under 18 (Slotta, 2021), while in the United States, 60 percent of US parents of children aged 11 or younger reported their children's frequent use of smartphones at home (Auxier et al., 2020). Compared with other technological media, MALL presents specific advantages, such as convenience, immediacy, portability, and sensitivity (Callaghan & Reich, 2020; Pérez-Paredes & Zhang, 2022; Wang & Xing, 2018). Thus far, most MALL studies have focused on language learners in secondary schools and universities (Ahmadi, 2018). However, limited research has examined young language learners' engagement with technologies in primary and pre-primary educational settings (Chen et al., 2019; Sundqvist & Sylvén, 2014). Yet, young learners' engagement with MALL to facilitate their "language skill development is the most common application" as identified by a systematic review of journal publications on the use of mobile devices in early childhood education from 2010 to 2019 (Liu & Hwang, 2021, p. 8).

Since young language learners require assistance in using technology in learning, previous research has investigated language teachers' use of technology to teach young language learners. However, as MALL involves learning engagement beyond the classroom, and parents are often closely involved in their children's learning, it is essential for researchers to understand how this involvement takes shape in the context of MALL. Recent studies also shed light on parents' perceptions and strategies to incorporate digital technologies for education at home to facilitate their young children's use of technology (e.g., Zaman et al., 2016). However, research on parental involvement in young language learners' MALL is scarce, and there is little knowledge about their experiences and the challenges they face in such involvement and their strategic responses. To address this critical gap, we undertook this exploratory study to explore Chinese parents' involvement in young language learners' smartphone-based MALL in the context of early childhood education. The study addresses the following research questions:

1. How do Chinese parents construct their engagement with young language learners' MALL?

2. What challenges do parents face during their involvement?
3. How do they overcome challenges to support young language learners' MALL?

Chinese parents are known for their active involvement in and commitment to supporting their children's education (e.g., Duan et al., 2018; Sun & Ng, 2021). In addition, Chinese parents have long recognized the importance of learning English for their children. In China, English has been introduced as a school subject in primary schools nationwide since 2001 (Hu, 2007) while families with resources have been sending their children to private tutoring or international kindergarten even before they start primary school (Nunan, 2003).

2. Literature Review

Research has maintained that successful MALL, or the effective use of composite socio-technical tools for language learning relies on various stakeholders' cooperation and concerted activities (e.g., Admodisastro et al., 2021; Loewen et al., 2019; Okai-Ugbaje et al., 2020; Pfenninger, 2022). These stakeholders may include key players such as parents and teachers, who interact directly with the children in their immediate environment. In the case of young language learners, parents are critical stakeholders whose involvement is needed to ensure that they benefit from MALL. Research has acknowledged the importance of the parental role in assisting children's learning (e.g., Liu & Hwang, 2021; Sun & Ng, 2021). For example, Neumann (2018) revealed that young children require significant scaffolding support from their parents during their learning. Meanwhile, Chen et al. (2019) examined parents' motivation toward supporting their young children's language education through MALL. Nevertheless, despite the rapid rise in the number of young smartphone users, few studies have examined how parents participate in young language learners' MALL.

It must be noted that parental involvement in children's learning has long been discussed in research from various perspectives. Multiple studies have found that parental involvement effectively improves children's learning and motivation in general (e.g., Chen et al., 2019; Majoral, 2018). Parents are taking an essential role in selecting appropriate smartphone apps for young children's learning (e.g., Disas & Brito, 2021; Montazami et al., 2022). Studies have revealed that parental involvement can have a positive direct effect on children's academic performance and school activity engagement (e.g., Chung et al., 2020). Regarding language learning, parental involvement was also found to be more strongly associated with academic achievement compared to scientific learning due to the subjectivity of language mastery (Tan et al., 2020). Parents' beliefs on multilingualism can shape their home language policy accordingly (Wan & Gao, 2021).

Research on parental involvement has also identified that parents can face barriers and challenges, such as limited language proficiency, unfamiliarity with technology, and a desire to avoid interfering with their child's learning (e.g., Chen et al., 2019). Other research has noted that parents may consciously apply different involvement strategies in their children's learning process, such as mentoring, rewarding (Aquino et al., 2019), or taking on the roles of facilitators and collaborators (Raguindin et al., 2021). Hoover-Dempsey and Sandler (1995) presented three major types of parental involvement, namely modelling, reinforcement, and direct instruction. Modelling refers to parents acting as role models for learning-related

behaviours, beliefs, and interests. Reinforcement describes parents' use of developmentally appropriate strategies for their child's learning efforts and behaviours. Direct instruction encompasses any form of direct instruction engaged in or organised by parents (e.g., tutoring, teaching, correcting). As very little has been done to understand parental involvement in young Chinese language learners' MALL, this study draws on Hoover-Dempsey and Sandler's (1995) conceptualisation of parental involvement to explore how Chinese parents participate in and support young language learners' MALL through smartphone app use.

3. THE ENQUIRY

To explore Chinese parents' involvement in young language learners' MALL through smartphone app use, we adopted an interpretative, exploratory approach as the methodological approach in the study. The study took place in a private kindergarten, a pre-primary, early childhood education institution, in a Central Chinese province. While English is not mandatory for all students until the third year of primary school, many Chinese parents want their children to start learning English as early as possible. In this kindergarten, children have two English lessons (a total of 90 minutes) every week. One lesson is instructed by an English teacher whose first language is English, and the other lesson is taught by a Chinese English teacher.

3.1. The Smartphone App

Since 2019 the kindergarten has experimented with an English learning app called "Newstar". This app is free to download for all parents and contains learning resources such as an English read-aloud audio story animated with pictures and words as well as interactive educational games. The replay function of the pre-recorded audio allows children to read along and practice. The app provides complete units composed of word learning, story listening, sentence speaking, review games, and English letter learning. The interactive games allow students to team up with each other online. The format of the game is either picture matching or translation matching based on word cards. Additionally, the kindergarten provides the parents with access codes. The children can then use the virtual classroom platform with the teacher, who sends daily audio-based review tasks in English for parents and children to review the learning content together.

3.2. Participants

A total of 12 parent participants were recruited, using purposive sampling to ensure that the study involved parents of various backgrounds who participated in their children's MALL (Lavrakas, 2008). They were selected according to the following criteria at the time of data collection: 1) their children were enrolled at the kindergarten; 2) their children had already started English language learning at least 5 months before the commencement of data collection; and 3) they were using the digital learning option (e.g., the smartphone learning app) to support their children's learning of English. Among these 12 participants, 9 were aged 30 to 40, while 3 were in their 20s. According to the selection survey results, the

participants' occupations included homemaker, legal representative, teacher, actress, business owner, nurse, and fitness coach. Their education level ranged from high school diploma, associate degree to bachelor's degree. The study involved 11 mothers and one father.

The participants' children were younger than six years old. In the kindergarten, children were grouped into different classes based on their Common European Framework of Reference for Languages (CEFR) assessment outcomes. The participants' children were all taking classes at the A1 level (beginner), who can grasp and apply common everyday idioms and very simple words to meet specific requirements (Europass, 2017).

3.3. Data Collection

A variety of data were collected following ethical clearance by the researchers' institution. First, a selection survey was distributed to potential participants who might be willing to participate. The questions included were related to the frequency of their children's smartphone use at home, attitudes toward smartphone usage, as well as their availability to participate in the enquiry by compiling daily records and being interviewed about their experiences.

After the parents had confirmed their participation, a daily documentation form was sent to each participant. The participants were asked to record all activities related to their involvement in their children's English learning through smartphone use for a week (seven days). The form asked the participants to include details such as date, time, duration, the app used, learning content, task difficulty level, child's task, and their involvement.

Finally, semi-structured 30-minute interviews were conducted in Chinese with the participants. The interviews consisted of 16 questions divided into three sections. The first section contained two questions derived from the parents' demographic information collected from the selection survey. These questions focused on the participants' education history, occupation, prior experience of learning English, and perceptions of English language learning. The second section contained questions that varied according to different participants' daily documentation forms, focusing on their involvement in their child's MALL learning, and the learning content introduced through a smartphone. For example, Huang recorded herself switching between four different apps to use with her child. One of her interview questions was therefore "How did you decide which apps to use every day?" The third section contained ten questions related to the participants' experiences, challenges, and strategies. They were designed to follow up with the information that different participants provided in their daily documentation forms.

3.4. Data Analysis

The data recorded in the daily documentation forms and interviews were analysed and interpreted using NVivo 10, thematic analysis (Braun & Clarke, 2006), and the inductive approach. Data were coded thematically in relation to the challenges that the participants experienced and their strategic responses in facilitating their child's MALL. The first round of coding happened after participants completed the daily documentation form. Initial codes were then produced to generate questions for the semi-structured interviews. The open-coding method was used to assemble the categories defining the different dimensions of the parents' involvement. These codes were then categorized into groups and given themes related to

the research questions. The daily documentation forms were examined and grouped into three types of parental involvement for further analysis, namely modelling, reinforcement, and direct instruction.

The next data analysis step was theoretical coding (Glaser, 2005), which was conducted on the semi-structured interview scripts. The interview recordings were transcribed verbatim by the first author. The challenges the parents faced during their involvement were analysed as the interview questions guided the participants to address questions related to these two topics. The participants also discussed how they overcame these challenges, which later became one of the essential foci of the coding analysis. The theoretical coding method was used to see how the produced categories and codes combined to form possible themes. Briefly, the themes reviewed in this research are, first, parental involvement in English language learning through MALL, second, challenges in parental involvement, and third, parental involvement strategies. The generated codes (with samples from the interviews and observation forms) are presented in Table 1. For the final data analysis step, themes were generated to answer the three research questions.

Table 1. *Coding according to the research questions*

Research Questions	Sample Codes from the interview	Sample Codes from the Daily Observation Forms
Question 1: How do Chinese parents construct their engagement with young language learners?	• Set English learning goals • Importance of regulation • Goals: Academic and social goals; acceptance of English in life	• Modelling: parents' control and monitoring • Direct instruction: high frequency of English learning through apps at home
Question 2: What challenges are faced by parents during their involvement process?	• Newstar app dysfunction • Parents' limited use of English • Risks of smartphone exposure	• Parents consider smartphones as interfering factors (3 out of 12) • Parents' unfamiliarity with smartphone apps (2 out of 12)
Question 3: How do they overcome challenges to support young language learners' MALL?	• Parent modelling; monitoring strategy • Smartphones to reinforce, and guide learning and teaching	Smartphones as facilitators and assistive tools during their daily involvement

4. Results

The data analysis revealed details about the parents' involvement in their children's language learning through smartphone use. The results showed how participants actively used strategies in response to the challenges and perceived risks associated with smartphone use in monitoring, regulating, and strengthening their children's smartphone-based language learning.

4.1. Chinese Parents' Engagement with Young Language Learners in MALL

It was found that the participants engaged with their children during MALL by selecting the learning content and managing their time to support their child's learning through smartphone app use.

As previously stated, the Newstar app provides the following resources and activities for learning English:

- Stories aligned with learning content in class
- Vocabulary
- Sentence reading
- English songs related to the unit topics (see Figure 1)
- Assigned homework tasks from the teacher

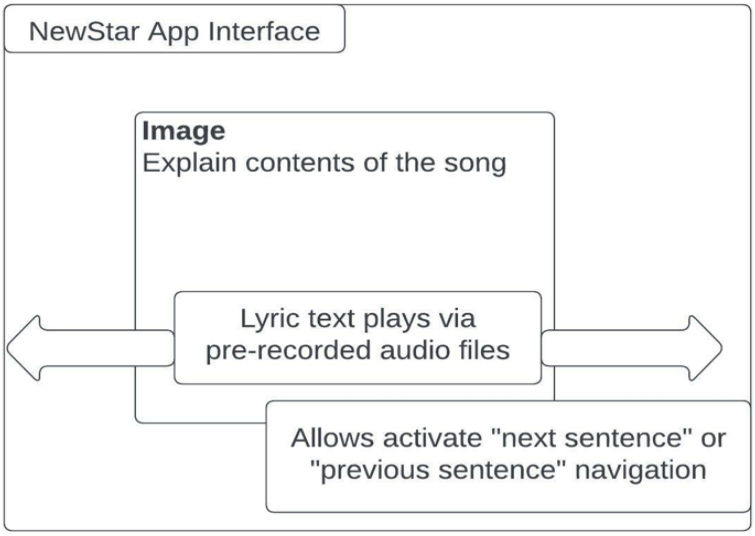

Figure 1. *Newstar App*

The daily documentation forms (see Appendix) showed that the parents often chose to get involved in the vocabulary, sentence reading, and stories section, whereas they were least involved in the English song content. The parents' preferences regarding their involvement in content areas could be explained by their perceived difficulties in using these learning resources and opportunities. For instance, Deng described her preference for helping her child with vocabulary and sentence learning:

> I preferred helping with these two tasks because they are straightforward to work with. The English song is too difficult for my child to learn. (Deng Interview, July 2, 2021)

The participants also explained how they decided to manage the length of their daily involvement. As recorded in the daily documentation forms, the average time reported by the participants in the interviews was 15 to 30 minutes each day. Only Lu reported being involved for one to two hours each day, while Wu referred to her involvement time as "unlimited" (whenever her child needed assistance). At least three parents (Hu, Meng, and Yin) explained that they considered their children's feelings when deciding how long they should be involved.

The analysis also identified that their engagement was facilitated by their familiarity with smartphone apps, the perceived importance of parents' involvement, knowledge of English, and smartphone learning experiences. During the interviews the parents discussed significant benefits originating from their experiences with their children's MALL. At first their familiarity with smartphone apps helped them to better support their children's MALL. Ten parents, all except for Wen and Wu, expressed familiarity with smartphone learning apps. For example, Huang already used the JiLiGuaLa app to supplement her child's English grammar learning. The participants' familiarity with smartphone apps can be seen as a technology-based fund of knowledge that is critical to their involvement in their children's learning process. According to Moll et al. (1992), technology-based funds of knowledge describe the knowledge and skills accumulated by individuals, families, and communities, specifically in the field of technological experiences. The participants' familiarity with smartphone apps also sustained their beliefs in the importance of using smartphone apps to learn English. Hence, participants such as Yang explained in the interviews that the smartphone app provided adequate fun content for young children to learn English, including interactive games for vocabulary review. As Liu commented:

> Parents can get involved by helping with reinforcing certain knowledge. I think this could benefit the child in developing a better understanding of the learning content. (Liu Interview, July 2, 2021)

The second benefit was their involvement's positive influence on keeping children effectively focused on the task. They believed that their children paid much more attention to the learning content when they were involved than when they were not. For example, Deng said:

> The child may just refuse to continue with the learning on smartphones without their parents' help, at least that is what my child would do. (Deng Interview, July 2, 2021)

Meanwhile, participants were passionate about learning with their children, as they recognized the importance of the English language. All parents mentioned that their children needed to learn English for a good education in China as well as for future academic studies abroad. In addition, the participants also felt that they could improve their own English by supporting their children's learning through smartphone use. During her interview Huang stated that she was also learning and making progress in the language by being involved in her child's learning process. At least five parents (Lu, Wen, Huang, Wu, and Meng), who were passionate about learning English themselves, recorded learning English with their children on the daily documentation forms (see Appendix). Their passion for learning English created opportunities for them to acquire valuable cultural capital by participating in their children's learning of English through smartphone app use.

4.2. Challenges Experienced by Parents During Their Involvement

As documented above, the participants noted that their familiarity with smartphone apps and their passion for learning English helped them to recognize the benefits of MALL for their children. Nevertheless, the analysis of the interview data also revealed that they experienced challenges in using smartphones. Echoing findings from previous studies (e.g., Chen et al., 2019), the participants reported challenges in their efforts to support their child's smartphone-based MALL, including their limited smartphone knowledge and the perceived risks of children's smartphone use.

Wen and Wu claimed to be unfamiliar with the smartphone learning app in the selection survey. This was confirmed in the interviews, where both parents stated that their involvement was undermined by their lack of smartphone app knowledge. Wu said: "I think I have failed in the role of a good parent in my child's English learning through the smartphone app… Secondly, I don't know how to use the smartphone app" (Wu Interview, July 5, 2021).

The participants also complained about specific design features of the Newstar app, which combined with their limited smartphone knowledge to increase their confusion. The main problem that all twelve parents encountered was the frequent dysfunction of the voice recognition feature. In the sentence reading and vocabulary review section, learners are asked to record themselves reading a sentence aloud; the app's built-in voice recognition programme then grades the students' audio immediately (Hidalgo, 2021). However, all participants complained that their children's audio recordings were not being recognised by the app. As a result, the children were unable to obtain scores that matched their performance, which demotivated them. Yin commented:

> The scores produced by the app were mostly inaccurate, but I don't know exactly how the audio was not recognised because I don't know much about the smartphone app. (Yin Interview, July 5, 2021)

The participants were also concerned about whether young children could self-regulate their learning process when learning English through the smartphone app. Bereiter and Scardamalia (as cited in Pellerin, 2014) define self-regulation as "the ability to arrange and plan one's learning: to track success and to plan" (p. 15). At least three parents (Yang, Meng, and Deng) regarded smartphones as a potential source of distraction in young children's learning,

echoing findings from Chen et al. (2019). During the interview, Deng added: "I have to be there to monitor usage because my child will just launch other entertainment apps or games without my supervision" (Deng Interview, June 30, 2021).

In addition, the participants also expressed their concerns about the risks of children's exposure to smartphones. First, they perceived that using smartphones too much can be harmful to children's physical health (particularly eyesight). Liu, Hu, and Yang specifically related this risk to young children's low level of self-regulation ability. Second, they also expressed a concern that the risk of the children being exposed to inappropriate content increases with their increased smartphone usage (Huang, Liu, Lu, Meng, and Wu). They were worried that their children might become dependent on smartphones due to their constant exposure to them.

> There is some content in other smartphone apps that may be inappropriate for children. He might click on other apps on the smartphone by mistake and see this information sometimes. (Huang Interview, June 30, 2021)

These perceived risks motivated the participants to take action to manage and regulate their children's smartphone use during MALL.

4.3. Parents' Strategies to Support Young Language Learners during MALL

In response to the challenges encountered, participants reported using a variety of strategies to facilitate their children's learning of English via MALL. These strategies helped to compensate for limitations such as the parents' lack of English proficiency and time constraints. They also helped to maximize the positive impact of MALL on their children's learning through monitoring, reinforcing, and explicit instruction.

4.3.1. Strategies to compensate for parents' limited English proficiency

As identified in the analysis, all participants regarded smartphones as facilitators and assistive tools in their children's English language learning process. The participants used smartphone apps to provide direct instruction and reinforce their children's learning of English, roles that they would have otherwise felt obliged to take on themselves. Due to the parents' reported inadequate knowledge of English lexis and phonology (Deng, Huang, Lius, Meng, Wen), the app's built-in read-aloud function was useful. For example, Lius explained: "I use the audio function [pronunciation] of the app to correct my child's pronunciation because my English is not good enough to provide corrections" (Lius Interview, July 2, 2021).

The participants also discovered that the smartphone app could provide pronunciation audio for vocabulary and sentence readings (Marecka et al., 2021). Some parents then actively learned these sections to gain a knowledge foundation before instructing their children (Deng, Liu, Wu, Yin). As Yin described:

> The app has pronunciation audio for all words and sentences. I can click on the play button on the interface anytime. If time permitted, I would learn these contents ahead of time to teach my kid later when needed. (Deng Interview, July 7, 2021)

Based on the interview quotes, the participants felt it was necessary to clearly understand how well their children were progressing with their English learning. The smartphone app enabled them to monitor their children's learning progress and provide direct instruction, even though they did not have enough English proficiency to teach their children the language themselves. Some participants even took the initiative to learn relevant knowledge from the app ahead of time to compensate for their limited English proficiency.

4.3.2. Strategies to tackle the risks of using smartphones

The participants adopted some strategies to mitigate their concerns about young children's lack of self-regulation as a significant risk associated with smartphone use. They actively monitored their children's learning through a smartphone app and monitored for the potential harm caused by smartphone apps. Time control and parental presence during the smartphone time were two of the most common strategies employed among the 12 participants. For instance, Yang kept a close eye on how long her child spent on smartphone use:

> I think the monitoring of time is quite necessary because my child is too young to plan his time spent on smartphones appropriately, especially when he could experience all the interesting content on the smartphone. (Yang Interview, July 5, 2021)

Other participants such as Deng decided to rely on face-to-face teaching to balance the potential negative impact of smartphone use on their children's learning of English in MALL:

> The face-to-face instruction of the English class can provide much more vivid learning experiences for children because children can receive direct feedback on the pronunciation right away. However, it is not possible for the teacher to be available for feedback 24 hours every day. Therefore, this is when the smartphone app can be used to supplement this vacancy. (Deng Interview, July 2, 2021)

As can be seen in the interview extract above, Deng regarded the use of smartphones for learning as complementary to face-to-face, in-class, offline teaching. While the use of the smartphone app fills the gap left by limited offline, face-to-face contact hours, face-to-face instruction also gives learners a vivid learning experience that they are unable to have through smartphone apps.

4.3.3. Strategies for modelling, reinforcement, and direct instruction

To support their children's learning of English, the participants also found ways to strengthen their involvement in the learning process by adopting strategies to model, reinforce and offer direct instruction for their children's MALL.

In alignment with the typology of parental involvement proposed by Hoover-Dempsey and Sandler (1995), the participants modelled their children's use of smartphones. For instance, Yin expressed her concerns related to the risks of young children using smartphones during the interview. These concerns made her decide to minimise her own smartphone use in front of her child at home so that he would recognise her as a model to guide his smartphone use:

> I seldom use the smartphone in front of my child at home. Even if I do, I usually just open an e-book or listen to the news on podcasts. I make sure I act as good role model with wise usage of my smartphone. (Yin Interview, July 5, 2021)

Additionally, most participants (10 out of 12) recorded using a smartphone to reinforce their children's English learning outcomes. Specifically, Lu believed that the Newstar app was primarily designed for reviewing the learning content from the classroom. Most parents typically used the smartphone to help their children review what they had learned. For example, Yin stated:

> My child just couldn't remember all words in the drama story learned in class. He's too young, so we still need to review it at home and practice it together. (Yin Interview, July 5, 2021).

The participants also offered direct instruction, such as correction and providing guidance for learning. As an example, Lu corrected her child's pronunciation errors when the Newstar app failed to provide the correct pronunciation audio (Lu Interview, June 29, 2021). Wen provided segmentation guidance for her child, but only when her child asked for help. She stated that some sentences in the English story section were "too long for children to read aloud in one single time" (Wen Interview, July 2, 2021). By breaking long sentences into two to three chunks of semantic units, the child could recite the long sentence in segments.

5. DISCUSSION

This study investigated parents of kindergarten children learning English in the Chinese context, focusing on the challenges and opportunities they faced during involvement in their children's MALL. The study revealed that the parents mainly engaged with their children during MALL by choosing the learning content they were comfortable dealing with, and by managing the time spent on MALL (RQ1) (e.g., Admodisastro et al., 2021; Callaghan & Reich, 2020; Disas & Brito, 2021; Montazami et al., 2022). The analysis also helped to identify a number of challenges that the participants experienced in the process, such as limited smartphone knowledge and perceived risks associated with children's smartphone use (RQ2) (e.g., Chen et al., 2019). The analysis also addressed various forms of parental involvement, including modelling the appropriate use of smartphones, offering direction instruction in using smartphone apps, and judiciously selecting smartphone app content to reinforce their children's learning (RQ3) (Chung et al., 2020; Hoover-Dempsey & Sandler, 1995; Raguindin et al., 2021).

While these findings enrich the understanding of parental involvement in young language learners' MALL (e.g., Chung et al., 2020; Duan et al., 2018; Sun & Ng, 2021; Tan et al., 2020), the study does have a few limitations, which researchers or end-users should consider when using the findings for pedagogical improvement. First, the study is exploratory in nature and involved a small number of participants, which limits the generalisability of the findings to other contexts. Second, the study relied on the participants' self-reporting to examine their involvement in their children's MALL.

Despite these limitations, the findings have important implications for language teachers, schools, and smartphone learning app developers. Suggestions for app development include upgrading the voice recognition feature and integrating levels of assessment to monitor the children's learning progress. Early childhood education institutions may consider establishing a reward system and providing presentation opportunities for young language learners to practice and reinforce their learning outcomes. To further enhance young language learners' learning, the teachers should provide correction, feedback, and instruction to both the child and the parent. They may also need to work closely with parents to support young language learners' MALL through mobile phone apps:

1) Language teachers need to recognize that parents play an important role in modelling the appropriate use of smartphone apps for young language learners. Their modelling of self-monitoring or regular strategy use is foundational to young children's effective use of smartphone apps in MALL (Swendeman et al., 2020).
2) Language teachers may consider conducting workshops to help parents develop critical knowledge and strategies for MALL so that they can effectively manage and support young children's use of smartphone apps. Language teachers may need to advise parents on how to use smartphones strategically in MALL.
3) Parents will be a great source of feedback on how smartphone apps and MALL programmes can be improved. Language teachers work together with parents to ensure that MALL facilitates young language learners' learning.

6. Conclusion

It is hoped that this exploratory study will add to the body of knowledge on language education and MALL in terms of young English language learners and parental involvement. Future research should involve a greater number of participants with equal gender representation, over an extended time span and in a variety of educational contexts. These studies should also adopt other methods of data collection such as observation to triangulate our self-report data on parental involvement. Such studies will allow additional critical insights to inform the collaborative efforts of language teachers and parents in supporting young learners' learning of languages other than English, such as Chinese, Japanese, and Spanish.

7. References

Admodisastro, N., Fung, C. K., & Hamid, S. S. A. (2021). Evaluation of Disleksia Belajar mobile app for assisting dyslexic junior school students to learn the Malay language. *Turkish Journal of Computer and Mathematics Education, 12*(3), 2230-2235. https://doi.org/10.17762/turcomat.v12i3.1172

Ahmadi, D. M. R. (2018). The use of technology in English language learning: A literature review. *International Journal of Research in English Education*, *3*(2), 115-125. https://doi.org/10.29252/ijree.3.2.115

Aquino, A. M., Sabio, C. J., Vigonte, F. G., & De Leon, N. R. (2019). Parental involvement strategies vis-à-vis academic performance of junior high school students in mathematics. *International Journal of Information and Education Technology, 9*(11), 815–819. https://doi.org/10.18178/ijiet.2019.9.11.1310

Auxier, B., Anderson, M., Perrin, A., & Turner, E. (2020, July). *Parenting Children in the Age of Screens*. Pew Research Center. https://www.pewresearch.org/internet/2020/07/28/parenting-children-in-the-age-of-screens/

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Callaghan, M. N., & Reich, S. M. (2020). Mobile app features that scaffold pre-school learning: Verbal feedback and leveling designs. *British Journal of Educational Technology*, *52*(2), 785-806. https://doi.org/10.1111/bjet.13055

Chen, Y., Mayall, H. J., York, C. S., & Smith, T. J. (2019). Parental perception and English learners' mobile-assisted language learning: An ethnographic case study from a technology-based funds of knowledge approach. *Learning, Culture and Social Interaction*, *22*, 100325. https://doi.org/10.1016/j.lcsi.2019.100325

Chung, G., Phillips, J., Jensen, T. M., & Lanier, P. (2020). Parental involvement and adolescents' academic achievement: Latent profiles of mother and father warmth as a moderating influence. *Family Process*, *59*(2). https://doi.org/10.1111/famp.12450

Europass. (2017). *Common European Framework of Reference,* European Union.https://europa.eu/europass/en/common-european-framework-reference

Dias, P., & Brito, R. (2021). Criteria for selecting apps: Debating the perceptions of young children, parents and industry stakeholders. *Computers & Education*, *165*, 104134. https://doi.org/10.1016/j.compedu.2021.104134

Duan, W., Guan, Y., & Bu, H. (2018). The effect of parental involvement and socioeconomic status on junior school students' academic achievement and school behavior in China. *Frontiers in Psychology*, *9*, 952. https://doi.org/10.3389/fpsyg.2018.00952

Glaser, B. (2005). *The Grounded Theory Perspective III: Theoretical Coding*. Sociology Press.

Hidalgo, M. (2021). Differences in the task-supported negotiations of younger and older EFL children: From repair into prevention. *International Review of Applied Linguistics in Language Teaching*, *59*(3), 395-419. https://doi.org/10.1515/iral-2018-0206

Hoover-Dempsey, K. V., & Sandler, H. M. (1995). Parental involvement in children's education: Why does it make a difference? *Teachers College Record: The Voice of Scholarship in Education*, *97*(2), 310–331. https://doi.org/10.1177/016146819509700202

Hu, Y. (2007). China's foreign language policy on primary English education: What's behind it?. *Language Policy*, *6*(3-4), 359–376. https://doi.org/10.1007/s10993-007-9052-9

Lavrakas, P. J. (2008). *Encyclopedia of Survey Research Methods*. SAGE Publications. https://doi.org/10.4135/9781412963947

Liu, C., & Hwang, G.J. (2021). Roles and research trends of touchscreen mobile devices in early childhood education: Review of Journal Publications from 2010 to 2019 based on the technology-enhanced learning model. *Interactive Learning Environments*, 1–20. https://doi.org/10.1080/10494820.2020.1855210

Loewen, S., Crowther, D., Isbell, D., Kim, K., Maloney, J., Miller, Z., & Rawal, H. (2019). Mobile-assisted language learning: A Duolingo case study. *ReCALL, 31*(3), 293–311. https://doi.org/10.1017/S0958344019000065

Majoral, F. B. (2018). Mobile learning for young English learners. *The Routledge Handbook of Teaching English to Young Learners*, 320-337. https://doi.org/10.4324/9781315623672-21

Moll, L. C., Amanti, C., Neff, D., & Gonzalez, N. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory Into Practice*, *31*(2), 132–141. http://www.jstor.org/stable/1476399

Montazami, A., Pearson, H. A., Dubé, A. K., Kacmaz, G., Wen, R., & Alam, S. S. (2022). Why this app? How parents choose good educational apps from app stores. *British Journal of Educational Technology*. https://doi.org/10.1111/bjet.13213

Neumann, M. M. (2018). Parent scaffolding of young children's use of touch screen tablets. *Early Child Development and Care*, *188*(12), 1654–1664. https://doi.org/10.1080/03004430.2016.1278215

Nunan, D. (2003). The impact of English as a global language on educational policies and practices in the Asia-Pacific region. *TESOL Quarterly*, *37*(4), 589-613. https://doi.org/10.2307/3588214

Okai-Ugbaje, S., Ardzejewska, K., & Imran, A. (2020). Readiness, roles, and responsibilities of stakeholders for sustainable mobile learning adoption in higher education. *Education Sciences*, *10*(3), 49. https://doi.org/10.3390/educsci10030049

Marecka, M., Otwinowska, A. & Jelec, A. (2021). Standardized and tailor-made tests probe different factors influencing the acquisition of second language vocabulary by children . *International Review of Applied Linguistics in Language Teaching*, *59*(3), 335-368. https://doi.org/10.1515/iral-2016-0140

Pérez-Paredes, P., & Zhang, D. (2022). Mobile assisted language learning: Scope, praxis and theory. *Porta Linguarum Revista Interuniversitaria De Didáctica De Las Lenguas Extranjeras*, 11–25. https://doi.org/10.30827/portalin.vi.21424

Pellerin, M. (2014). Language tasks using touch screen and mobile technologies: Reconceptualizing task-based CALL for young language learners. *Canadian Journal of Learning and Technology / La revue canadienne de l'apprentissage et de la technologie, 40*(1), Canadian Network for Innovation in Education. https://www.learntechlib.org/p/153324/.

Pfenninger, S. (2022). Emergent bilinguals in a digital world: A dynamic analysis of long-term L2 development in (pre)primary school children. *International Review of Applied Linguistics in Language Teaching*, *60*(1), 41-66. https://doi.org/10.1515/iral-2021-0025

Raguindin, P.Z.J., Lising, R.L.S., & Custodio, Z.U. (2021). Strategies for parental involvement during emergency remote teaching scale: Its psychometric properties. *European Journal of Educational Research, 10*(1), 427-439. https://doi.org/10.12973/eu-jer.10.1.427

Slotta, D. (2021, December 6). *China: Smartphone users by age 2019*. Statista. Retrieved January 3, 2022, from https://www.statista.com/statistics/1133033/china-smartphone-users-by-age/

Sun, H., & Ng, E. L. (2021). Home and school factors in early English language development. *Asia Pacific Journal of Education*, 1–16. https://doi.org/10.1080/02188791.2021.1932742

Sundqvist, P., & Sylvén, L. (2014). Language-related computer use: Focus on young L2 English learners in Sweden. *Recall*, *26*(1), 3-20. doi: 10.1017/s0958344013000232

Swendeman, D., Sumstine, S., Brink, A., Mindry, D., Medich, M., & Russell, M. (2020). Smartphone self-monitoring by young adolescents and parents to assess and improve family functioning: Qualitative feasibility study. *JMIR Formative Research*, *4*(6), e15777. https://doi.org/10.2196/15777

Tan, C. Y., Lyu, M., & Peng, B. (2020). Academic benefits from parental involvement are stratified by parental socioeconomic status: A meta-analysis. *Parenting*, *20*(4), 241–287. https://doi.org/10.1080/15295192.2019.1694836

Wan, Z., & Gao. (2021). 'Home away from home': Understanding Chinese parents' ideological beliefs and involvement in international school students' language learning. *Current Issues in Language Planning*, *22*(5), 495–515. https://doi.org/10.1080/14664208.2021.1882767

Wang, X., & Xing, W. (2018). Understanding elementary students' use of digital textbooks on mobile devices: A structural equation modeling approach. *Journal of Educational Computing Research*, *57*(3), 755–776. https://doi.org/10.1177/0735633118758643

Zaman, B., Nouwen, M., Vanattenhoven, J., De Ferrerre, E., & Looy, J. V. (2016). A qualitative inquiry into the contextualized parental mediation practices of young children's digital media use at home. *Journal of Broadcasting & Electronic Media*, *60*(1), 1–22. https://doi.org/10.1080/08838151.2015.1127240

APPENDIX
Daily Observation Form Data (numbers indicate frequency)

Table C1. Observation form data for Lu, Liu, and Lius

NAME	LU	LIU	LIUS
Length of time involved	15 min (7)	10 min (6) 1 rest day	15 min (4) 20 min (3)
Learning content during involvement	Vocabulary (4) Sentence reading (2) Story (1)	Vocabulary (4) Sentence reading (3) Story (2) Homework task (6)	Vocabulary (3) Sentence reading (3) Story (1)
Involvement record	Learning together (4) Monitoring (7)	Pronunciation correction (7)	Learning together (4) Monitoring (6)

Table C2. Observation form data for Wen, Huang, and Deng

NAME	WEN	HUANG	DENG
Length of time involved	20 min (3) 30 min (4)	10 min (3) 15 min (2) 2 rest days	10 min (4) 15 min (1) 2 rest days
Learning content during involvement	Vocabulary (4) Sentence reading (6) Story (2)	Vocabulary (5) Sentence reading (2)	Vocabulary (3) Sentence reading (3) Story (3) Songs (2)
Involvement record	Learning together (4) Monitoring (6)	Learning together (2) Monitoring (4) Reviewing study report (3)	Monitoring (5)

Table C3. Observation form data for Wu, Yin, and Hu

NAME	WU	YIN	HU
Length of time involved	15 min (4) 20 min (3)	10 min (5) 15 min (2)	10 min (2) 8 min (5)
Learning content during involvement	Vocabulary (4) Sentence reading (4) Story (3) Songs (2)	Sentence reading (7)	Sentence reading (7) Homework task (7)
Involvement record	Monitoring (7) Help with operation (7)	Observing (7)	Monitoring (7)

Table C4. Observation form data for Jing, Meng, and Zhong

NAME	YANG	MENG	ZHONG
Length of time involved	30 min (1) 6 rest days	15 min (7)	10 min (2) 8 min (1) 4 rest days
Learning content during involvement	Homework task (1) Help with operation (1)	Vocabulary (5) Sentence reading (1) Story (6)	Sentence reading (3)
Involvement record	Monitoring (2) Teaching content (1)	Learning together (7) Monitoring the process (7)	Monitoring (2) Help with operation (2)