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Book-Reading Practices at Home and the Development of Phonological Awareness Skills in the First Grade

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Abstract

Children's phonological awareness and literacy development are enhanced by book-reading activities. However, it is unclear how these book-reading practices relate to the development of phonological awareness skills among first graders in the Zambian context. The study aimed to investigate the association between book-reading activities at home and first graders' phonological awareness, specifically blending and end-sound discrimination. A cross-sectional study was conducted in which 79 children (mean age of 96.47 months; SD = 15.26) were randomly sampled from 14 low-resource public primary schools in Lusaka Province. The Basic Skills Assessment Tool (BASAT) was used to evaluate the children's phonological awareness skills whilst the Family Literacy questionnaire was used to gather information on the child's reading practices at home. Since the data collected were non-parametric, Spearman Rank Correlation was used to evaluate the association between book-reading practices at home and the phonological awareness skills of first graders. The findings suggest that blending was associated with child engagement in reading short stories, and parents reading picture books to the child had a significant association with children's end-sound discrimination. These results suggest that reading practices in the home are very important as they support the development of phonological awareness skills. The study recommends that parents should continue to engage in reading activities with their children.

Keywords: book reading, phonological awareness, first graders, blending, end-sound discrimination.

Introduction

Book-reading practices in the home may facilitate children's literacy development specifically phonological awareness skills (Elmesalamy & El-Ater, 2020; Ngorosho & Lahtinen, 2010). Several aspects of the home contribute to children's literacy development. These include parental literacy, parental beliefs, parental

education, parent-child literacy interactions, socioeconomic status, literacy resources, and reading activities, (Farkas, 2017; Crook, 1997; Friedlander, 2020; Mumba & Mkandawire, 2020; Ndijuye, 2020; Shen & del Tufo, 2021). Studies confirm the importance of home literacy activities in promoting children's literacy skills (Chansa-Kabali 2014; Dong et al., 2020; Ngorosho & Lahtinen, 2010; Senechal et al., 1998). This study focuses on book-reading practices in the home and their relationship with phonological awareness, specifically end-sound discrimination and blending skills of first graders. The book-reading practices include reading words, picture books and stories with children at home, and the frequency of reading. Reading activities were done by children themselves, and their parents or an adult caregiver in the home. Book-reading engages children directly with print through activities such as teaching letters and words by pointing at them directly, and decoding skills (Nuswantara et al., 2022). Exposure to words in the home environment is an important aspect of the home literacy environment while reading stories exposes children to new sounds, syllables, words, phrases, and rhymes thereby increasing their sensitivity to sound and broadening their vocabularies (Matafwali & Bus, 2013; Tambulukani & Bus, 2012). Exposure to stories further helps children establish an extensive phonological awareness base required for building reading and literacy skills (Phillips, 1999). Empirical research conducted on children in Zambia has examined home literacy activities and children's literacy acquisition (Chansa-Kabali, 2014; Mwanza-Kabaghe, 2015, 2022). However, the association of book-reading activities with phonological awareness (blending and end-sound discrimination) remains unclear. This study sought to establish the association between book-reading practices in the home and the phonological awareness skills of first graders. This study focused on children's phonological awareness skills because these, among other skills, are basic to supporting reading and literacy skills in first grade and beyond. This study contributes to the discourse on the home literacy environment and children's literacy acquisition. It further highlights the invaluable contribution of book-reading practices in the home and the influence they may hold in fostering children's phonological awareness skills.

Book-Reading Practices in the Home and Phonological Awareness Skills

Phonological awareness is one of the important predictors of reading and literacy development for young children (Alcock et al., 2018; Bradley & Bryant, 1983; Goswami & Bryant, 1990; MESVTEE, 2014; Sá et al., 2022). Phonological awareness is the understanding that oral language can be broken down into sentences, then

individual words, and these individual words into syllables, and these syllables into individual sounds or phonemes (Bradley & Bryant, 1983; Sá et al., 2022; Ngorosho & Lahtinen, 2010). Phonological awareness tasks include syllable and phoneme segmentation, alliteration, phoneme counting, phoneme isolation, phoneme deletion, rhyme oddity, syllable and phoneme blending and rhyme judgment (Grofcikova & Macajova, 2020; Heroman & Jones, 2010; Sá et al., 2022; Torppa et al., 2022). Thus, young children should have capabilities such as identifying, isolating, segmenting, blending, deleting, adding or substituting the sounds of the smaller units of language. These units include words, syllables, onsets, rimes and individual phonemes (Jamshidifarsani et al., 2019). In this study, we focused on two aspects of phonological awareness, end-sound discrimination and blending skills. End-sound discrimination involves children distinguishing or isolating the end sound of a word. The child needs to understand that a word consists of a phoneme sequence and that every phoneme in the word can be isolated, in this case, the end sound. For instance, the child may be asked, “What is the ending sound in *leg*?” The expected response would be */g/.* Blending skills require children to listen and blend individual phonemes to form a word. To achieve this, children need to listen and hold every phoneme/individual sound mentally when a word is being formed (Herlambang & Supri, 2020). For instance, the child may be presented with */m/ /a/ /t/* and asked to blend these sounds or phonemes into a word. When sounding the word, the child must repeat the phonemes */m/ /a/ /t/* first, and then, blend the phonemes into a word “mat”.

To support the development of phonological awareness in the home, there ought to be an enabling home literacy environment that will expose children to opportunities to acquire phonological awareness skills alongside other pre-literacy activities. Bus & IJzendoorn (1995) state that for instruction in phonological awareness skills to be more effective, children should have some experience with these skills at an earlier age. The home environment is vital in this process because this is where children encounter their first literacy opportunities before formal schooling (Niklas et al., 2020; Tong et al., 2021; Wang & Chen, 2018).

Studies indicate that children’s exposure to story-book reading and parental involvement in teaching children to read is important for children’s phonological awareness and reading ability (Dong et al., 2020; Foy, 2003; Ngorosho & Lahtinen, 2010). In a study by Elmesalamy and El-Ater (2020), they found that parent-child reading interactions where the child actively participated contributed to sound-letter

association, and it is this process that facilitates the child's ability to segment spoken words into phonemes. They further report that stories and reading frequency of parents with their children influence developmental differences in phonological awareness processes. Senechal et al. (1998) found that parental reports of the frequency of shared reading predicted performance in both kindergarten and first-grade onset–rime awareness. Agius and Misfud (2019) studied word blending skills of 6-7-year-old Maltese children and concluded that frequent reading, and reading enjoyment result in better word blending abilities.

Foy and Mann (2003) examined whether aspects of the home literacy environment are differentially associated with phonological awareness, and they found that a teaching focus and exposure to reading-related media in the home are directly associated with phoneme awareness and indirectly associated with letter knowledge and vocabulary. They concluded that exposure to reading-related media and parents' active involvement in children's literature were also directly and indirectly linked with rhyme awareness skills through their association with letter and vocabulary knowledge. Foy and Mann (2003) further argue that mere exposure to literacy materials or reading-related media is insufficient for the acquisition of phonological awareness skills, instead specific aspects of the exposure, such as emphasis on letter names or sounding out words, maybe more critical for the acquisition of phonological awareness skills. Mol and Bus (2011) report that literacy activities in the home that involve active interaction between parents and children, such as shared reading, teaching letter names and reading, are among the most influential factors of literacy activities in the home.

The current study sought to understand the association between book-reading practices in the home and the phonological awareness skills of first graders. The study was guided by two research questions: (I) Is there a significant association between book-reading practices at home and end-sound discrimination skills of first graders? (II) Is there a significant association between book-reading practices at home and the blending skills of first graders? Therefore, we hypothesised that there is a significant association between book-reading practices and phonological awareness (end-sound discrimination and blending) skills of first graders.

Methods

Participants

The study sampled 79 typically developing first-grade children, with an average age of approximately 96.47 months and a standard deviation of 15.26 months, from 14 public primary schools within the Lusaka province. The females accounted for 53% of the sample. About 68 parents participated in the family literacy questionnaire. The sample was predominantly of low socio-economic status, with 91.4% of parents having only basic education or lower, and only 29% were in formal employment.

Data Collection Procedure

This cross-sectional study randomly selected children in first grade. Before conducting the study, ethical approval was obtained from the Ethics Committee of the Humanities and Social Sciences at the University of Zambia. Parents provided informed consent for their children to participate. Children with any form of impairment were not included in the research. Data were collected at the end of first grade in 2019. All assessments of the children and parent interviews were conducted within the school premises. The assessments took place in the schools, and children were individually tested from designated rooms. Book-reading activities in the home were collected from the parents using the family literacy questionnaire. The assessments and interviews were all conducted by a team of researchers with the help of well-trained research assistants.

Assessment measures

Demographic Data

Biographic information form*.* This was used to collect the participants' demographic information: child's name, age in months, sex, residence, and the child's primary language spoken at home.

Book Reading Activities at Home

The Family Literacy Questionnaire. This was adapted from the Home Literacy Environment (HLE) questionnaire used by Chansa-Kabali (2014) and Mwanza-Kabaghe (2015). This instrument was used to collect information on the home literacy environment, specifically the book-reading practices in the home. Other components of the questionnaire include parental education and parental literacy levels. The book-reading practices were assessed using the literacy activities component of the family literacy questionnaire. Parents were asked if they read to their child, how often they read with the child within a week and the types of reading books

available in the home. Parents were also asked about the reading activities they engaged in with their children. To establish which reading activities they interacted in with the child, parents responded using "yes" or "no" to each of the reading activities.

Phonological Awareness

The phonological awareness component of the Basic Skill Assessment Tool (BASAT), a standardised instrument for first and second grade, was used to measure the phonological awareness of first graders. This tool measures a broad range of children's literacy skills (alphabet knowledge, phonological awareness, reading and writing). This tool has been used in prior research (Kalindi, 2005; Matafwali, 2010; Mwanza-Kabaghe, 2015, 2022). The following two phonological awareness tests were used to measure grade-one children's phonological awareness in this study:

Blending sub-test. This test measured the learners' blending skills. Learners had to blend the given sounds and syllables into words. For instance, an example item in the BASAT asks the child to blend the following sounds i/n/a/ into the word "ina". The test consisted of 10 items. The Cronbach Alpha (α) was .930.

End-Sound Discrimination sub-test*.* The learner had to identify the ending sounds of words. For instance, words such as "ta*te*" "mala*ya*" and "ambi*ri*" were given to the child to identify the end sounds. It must be noted that in the Cinyanja version of the BASAT, the end sounds are syllabic. Thus, focusing only on the last grapheme-phoneme correspondence to produce the end sound may imply that all words given would end in any of the following five vowel sounds /a/e/i/o/u/. The inclusion of this subtest is informed by research which shows that languages in Zambia are transparent, mostly consisting of consonant-vowel (CV) end-sounds that have distinct boundaries and always end in a vowel. It is these syllables that are utilised to construct words (Jere-Folotiya et al, 2014; Kaani & Joshi, 2023; Kaani et al, 2016). This test consisted of 10 items. The Cronbach Alpha (α) was .942.

Data Analysis

Data in this study were analysed quantitatively using SPSS V23. Cronbach Alpha reliability scale was used to establish the internal consistency of the tests. Normality tests were run to check for Skewness and Kurtosis, and data that had extreme outliers were winsorised. Descriptive statistics such as means scores, standard deviations, minimum and maximum scores, frequencies and percentages were generated for all variables. However, the statistical analysis opted for non-parametric measures because outcome measures were skewed. Thus, to determine

the relationship between book-reading practices at home and phonological awareness, Spearman's rank correlation coefficients were obtained for the variables of interest.

Results

Descriptive statistics

Book-reading activities in the home and phonological awareness skills

The book-reading variables examined in Table 1 reveal that parents participated in reading activities with their children. However, only 41% of parents reported looking at picture books or reading books with their children. Notably, of the 49 parents who reported engaging frequently in reading words and stories, only 43% read words to their children and 33% read children's stories. Additionally, only 19 parents reported reading three or more times per week with their children as reported in Table 1.

Table 1

Descriptive Statistics of Book Reading Activities at Home

Variable	**Yes**		**No**		**Total**
	n	%	n	%	N
Reads (picture) books with the child	28	41	40	59	68
Reads with the child (words and stories)	49	72	19	28	68
Reads words	21	43	28	57	49
Reads stories	16	33	33	67	49
Reading frequency 3+ times/week	19	46	22	54	41

Phonological Awareness Skills of First Graders

Scores for the end-sound discrimination task ranged from 0 to 10. The findings indicate that around 18% of the children achieved a perfect score of 10 on the end-sound discrimination task, while approximately 30% scored 0, indicating no correct responses. Similarly, for the Blending task, scores ranged from 0 to 10. Approximately 20% of the children attained a full score of 10 on the blending task, whereas around 19% scored 0, signifying no correct answers (see Table 2).

Table 2

Descriptive statistics for phonological awareness tests (N=79)

	End Sound		Blending	
Scores				
	n	%	n	%
0	24	30.4	15	19
1	14	17.7	8	10.1
2	3	3.8	1	1.3
3	2	2.5	6	7.6
4	3	3.8	3	3.8
5	1	1.3	4	5.1
6	6	7.6	4	5.1
7	5	6.3	5	6.3
8	3	3.8	7	8.9
9	4	5.1	10	12.7
10	14	17.7	6	20.3

Bivariate Correlations

To establish the relationship between book-reading practices and phonological awareness, the Spearman correlation coefficient was used. The analysis demonstrated a positive correlation between reading picture/children's books and end-sound discrimination (r = .317) and reading frequency (r = .425). Similarly, children reading short stories exhibited a positive correlation with blending (r=.340). These results confirmed the hypothesis that book-reading practices in the home are associated with the phonological awareness skills of first graders. Small correlations were also noted between reading short stories and end-sound discrimination (r=.146), and weekly reading frequency and end-sound discrimination (r=.190). However, there was no discernible association observed between phonological awareness and the other reading activities (reading to the child and reading words), as indicated in Table 3. Consequently, the alternative hypotheses were not substantiated in this context.

Table 3**:** *Intercorrelation between Book Reading Activities at Home and Phonological Awareness*

	1	2	3	4	5	6	7
1. Blending	1.000						
2. End sound discrimination	.338**	1.000					
3. Read to child	-.009	.059	1.000				
4. Read (picture) books	.055	.317**	.225	1.000			
5. Read words	-.136	-.033	.141	-.024	1.000		
6. Read short stories	.340*	.146	-.085	-.164	.188	1.000	
7. Weekly reading frequency	-.147	.190	.192	.425**	.007	-.172	1.000

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Discussion

This study sought to assess the association between book-reading practices and phonological awareness skills of first-grade children. It was hypothesised that there is an association between book-reading practices in the home and phonological awareness (end-sound and blending) skills of first graders. The current study revealed an association between book-reading practices and phonological awareness, specifically between end-sound discrimination and reading picture/children's books to children, as well as blending and reading short stories. Similarly, as reported by other researchers, home literacy activities support the development of phonological awareness (Dong et al., 2021; Elmesalamy & El-Ater, 2020; Ngorosho & Lahtinen, 2010). This finding reinforces the critical role that home reading activities play in enhancing phonological skills. According to Niklas et al. (2020), children encounter their first literacy opportunities before formal schooling in the home environment. Hence this importance cannot be overemphasised.

In the current study, parents reported getting involved in varied reading activities with their children. The findings reveal that parents do read to their children and engage in different reading activities such as words, picture books and short stories. Studies reviewed indicate that parents engage their children in reading activities such as letters, words (Elmesalamy & El-Ater, 2020; Nuswantara et al., 2022) and stories which in turn expose children to new sounds, syllables, words, phrases and rhymes thereby increasing their sensitivity to sound (Phillips, 1999; Raheim,

2021). Literacy interactions in the home are mainly centred on book-reading between parents and children (Kurcikova et al., 2019; Chansa-Kabali, 2014; Mwanza-Kabaghe et al., 2022). Such activities include exposure to, and reading letters of the alphabet, identifying and talking about print in the homes, reading words and story reading.

However, the current study did not reveal any association between reading words, and phonological awareness. This is contrary to Elmesalamy & El-Ater (2020) who reported an effect of words on phonological awareness processes. Furthermore, in the current study, although most of the parents reported that they read with children, there was no association of reading with phonological awareness. Several factors could explain these results such as the frequency of exposure to reading and the content of what is being read. In the current study, it was noted that very few parents indicated they read three or more times a week with their children. Elmesalamy & El-Ater (2020) report that stories and reading frequency of parents with their children influence phonological awareness processes. Specifically, Agius and Misfud (2019) reported better word-blending skills in children who were exposed to frequent reading. Another study by Senechal et al., (1998) reported the significance of reading frequency in predicting the onset–rime awareness of grade one children. However, the sample in Senechal's study was that of middle-class parents. Research shows that differences in parental reading habits based on socioeconomic status can affect literacy outcomes (Farkas, 2017; Mumba & Mkandawire, 2020; Mwanza-Kabaghe, 2022; Neuman & Celano, 2001).

Another factor that could explain the lack of association between reading words and merely reading to children could be the extent of parental involvement. Elmesalamy and El-Ater (2020) posit that interactive exposure to literacy experiences involves parenting behaviours that directly engage children in learning activities. Additionally, Foy and Mann (2003) advocate for active parental involvement in literacy activities with their children, as mere exposure is insufficient for the acquisition of phonological awareness skills. The implication is that parents ought to be literate to meaningfully participate in these reading activities with their children. Thus, parents may only get involved in these reading activities as long as their literacy capabilities can facilitate such reading activities. Thereby compromising their ability to fully engage with their children in literacy activities. However, book-reading may involve picture book reading, something that even parents who are unable to read can do, as this involves the use of picture books. In the current study, reading picture books

positively correlated with end-sound discrimination. In addition, the content and structure of what is being read affect how children's literacy development is supported. Research shows that children benefit more from stories and literacy activities that have familiar plots, items, and places, implying that the literacy activities should be culturally familiar and socially familiar to the children (Matafwali & Mofu, 2023: Phillips, 1999; Schull et al., 2021). In a study by Kjorholt et al., (2019) parents were reported to show more inclination of involvement in their children's early education if it promoted a local-oriented curriculum. Nonetheless, the issue of relevance and familiarity of the content of literacy activities may need further research.

Most of the parents indicated that they do generally read with their children, however, fewer parents indicated that they read stories with their children. Perhaps this can be understood from the cultural context of this study. It should be noted that the typical low socioeconomic status home environment within most Zambian homes does not provide adequate socialisation opportunities that foster emergent literacy skills, which are imperative for later reading in the children. Children are not socialised into a productive reading culture. One main underlying factor is that these home environments are epitomised by low socioeconomic status (Chansa-Kabali 2014; Mwanza-Kabaghe, 2022). Literacy materials such as children's books, magazines, newspapers, and technological gadgets are lacking in most homes. Another possible challenge is that the parents within these home environments may not be aware or have the know-how of the proper use of these materials concerning enhancing literacy opportunities for the children. Similar factors have been reported within the region among low socioeconomic status homes (Matafwali & Chansa-Kabali 2017; Ndijuye, 2020; Ngorosho & Lahtinen, 2010; Ngwaru, 2014).

Even though it was not the premise of this study, it was expected that after being in school for two years (from preschool to grade one) children would have acquired quite significant phonological awareness skills. This implies that even in school children may not be acquiring phonological awareness skills (Kamalata, 2016). In preschool, children are expected to be exposed to varying activities that support emergent literacy or pre-reading skills that are meant to prepare them for first grade. Among these activities are songs, stories and rhymes as well as exposure to the alphabet (Raheim, 2021; Sayakhan & Bradley, 2019; Serenje et al, 2023). Stories with embedded rhymes and repetitions expose children to sound patterns and cadence of the language of instruction (Tambulukani & Bus, 2012; Matafwali & Bus, 2013). When

stories have repeated short lines with a high frequency of similar words and children are often exposed to these, they start becoming aware of sound units in words, enhancing their phonological awareness skills and thus, preparing them for later reading skills. However, this current study did not assess the content of reading materials in the home environment.

Conclusion

This study focused on the association between book-reading at home and the phonological awareness skills of first graders. The findings revealed that the book-reading practices that children engaged in at home were significantly associated with phonological awareness. While a connection was observed between book-reading practices at home and phonological awareness, the children in this study displayed below-average performance in end-sound discrimination and blending. These tasks hold significance in the acquisition of reading, writing, and spelling abilities. When children struggle to blend sounds and syllables, their progress in reading skills becomes challenging, increasing the risk of future reading difficulties. Hence, for book-reading practices to hold greater significance, they need to be enhanced. This suggests that parents should engage in reading aloud to their children right from infancy, consistently and daily. These interactions related to literacy should occur frequently, with substantial time dedicated to these activities. Therefore, parents should prioritise reading alongside their children, engaging in activities that involve rhyming words, and wordplay, and ensuring the consistency and purposefulness of these efforts.

Limitations and Suggestions for Research

This study primarily identified an association between book-reading practices at home and phonological awareness. However, to thoroughly evaluate this relationship, it is essential to employ longitudinal cause-and-effect approaches. This would allow for a more in-depth analysis of how these activities impact phonological awareness over time, enabling a comprehensive understanding of the causal factors at play. Additionally, this study only focused on two components of phonological awareness, blending and end-sound discrimination. Therefore, a study looking at additional aspects of phonological awareness may provide more insight into the relationship between book-reading practices at home and the phonological awareness skills of first graders. Further research may be necessary to identify the most effective book-reading interventions, particularly in households with low socioeconomic status

where literacy resources are limited. In these settings, literacy interactions often compete with socioeconomic demands.

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