
Title	Home literacy environment and English reading related skills among Malay children in Singapore
Author(s)	Li Li, Zhang Dongbo, Chin Chern Far and Mohammad Khalid Bin Bari
Source	<i>5th Redesigning Pedagogy International Conference, Singapore, 3 - 5 June 2013</i>

This document may be used for private study or research purpose only. This document or any part of it may not be duplicated and/or distributed without permission of the copyright owner.

The Singapore Copyright Act applies to the use of this document.

**Home Literacy Environment and English reading related skills among Malay
children in Singapore**

LI Li,

Zhang Dongbo,

Chin Chern Far,

Mohammad Khalid Bin Bari

Introduction

Home literacy environment (HLE) is a combination of various factors that have impact on children's language and literacy development (Hart & Risley, 1995).

Many studies have found that HLE factors, such as availability of reading materials, reading activities with parents or children's independent reading, significantly predicted children's learning to read and overall reading achievement (e.g., Sénéchal, Lefevre, Thomas, & Daley, 1998).

Several analytical skills underpinning reading development, such as different types of metalinguistic awareness, have also been found to be associated with HLE, and they could mediate the relationship of HLE with various reading-related competencies. For instance, Foy and Mann (2003) found HLE significantly predicted American preschoolers' phonological awareness, an ability that facilitates the transcoding from speech to print. Frijters, Barron, and Bunello (2000) reported that the effect of HLE on Canadian preschoolers' letter-name knowledge was mediated by phonological awareness. Zhang and Koda (2011) surveyed Chinese immigrant

children's HLE in Chinese in the U.S., and tested their Chinese morphological awareness or the metalinguistic awareness pertaining to the structure of morphologically complex words. They found significant correlations of various HLE indicators, including frequency of Chinese reading-related activities, with children's vocabulary knowledge and morphological awareness, and an indirect relationship of HLE to vocabulary knowledge via morphological awareness was also suggested.

A few existing studies have examined HLE and language/literacy development among bilingual children in Singapore. Dixon (2011), for instance, found several factors of English exposure at home, such as caregiver language and English TV programs, significantly predicted Singaporean preschoolers' English oral vocabulary. It is interesting to note that, in Dixon's (2011) study, the Malay ethnicity, when entered as the sole predictor in regression analysis, also significantly predicted English vocabulary. It implied that Malay children tended to score less in English oral vocabulary than did Chinese and Indian students. One explanation for this may lie in Malay children's less access to oral and printed English, as opposed to Malay, at home. In Aman, Vaish, and Bokhorst-Heng's (2006) study on Singaporean fifth graders' language use at home, only 24% of the Malay students reported their dominant home language as English, and the percentage was much smaller than that of Chinese (53%) and Indian students (49%). In contrast to that low percentage, over

78% of the Malay students reported English as the language of their favorite books, songs, TV shows and comics, etc.

The intriguing findings of the above sociolinguistic surveys posed further needs of enquires into the profile of Singaporean Malay children's HLE and its relationship with their literacy abilities. This was the focus of the present study, which aimed to profile Malay school-aged children's HLE in English and examine how that HLE predicted their metalinguistic awareness, both phonological and morphological, and reading of morphologically complex words. We were also interested in exploring a possible indirect effect of HLE on word reading via metalinguistic awareness, which had been revealed in previous studies that were largely conducted in monolingual settings.

Methods

Participants

Participants were 123 Primary 3 Malay students sampled from three neighborhood schools in Singapore. They included 60 boys and 63 girls with an average age of 9.42 ($SD=0.35$).

Measures

HLE. Children responded to a HLE questionnaire with questions covering availability of reading materials, children's individual as well as parent-child shared reading-related activities. Two questions asked about availability of reading

materials for children (e.g., storybooks) and for adults (e.g., cook books), respectively. Children were to choose an answer from a 5-point scale (1 = almost none; 2 = about 10; 3 = about 20; 4 = about 30; 5 = about 40 or more books). Children's frequency of individual reading and that of parent-child shared reading were both elicited with two questions, one asking about reading practice related to schoolwork and the other unrelated to schoolwork. For all four frequency-based questions, children were to choose an answer from a 4-point scale (1 = 1-2 times a month; 2 = 1-2 times a week; 3 = 3-4 times a week; 4 = daily).

Phonological awareness. Phonological awareness was measured with a Phoneme Deletion task that had 17 items. Children were to drop a phoneme (e.g., /k/) from a word (e.g., /maik/) and orally produce the correct answer. Cronbach's α was 0.84.

Morphological awareness. Morphological awareness was measured with an Affix Choice task wherein children were to fill a simple sentence by selecting an appropriate derived form of a base that was either a real (e.g., *bright* in *brighten*, *brightly* and *brightness*) or a decodable, pseudo word (e.g., *dright* in *drightness*, *drightly* and *drightsomeness*). There were 15 items with real word bases and 15 with pseudo bases. Cronbach's α was 0.77.

Word reading. Children were asked to read aloud 40 English derived words printed on cards (e.g., *employment*, *applicable*). Cronbach's α was 0.91.

Vocabulary knowledge. Children's oral, receptive vocabulary was measured with five age-appropriate sets of 12 words selected from PPVT-4 (Dunn & Dunn, 2007). Children were to listen to the 60 words and circled from 4 pictures the one that was closest to the meaning of each word they heard. Cronbach's α was 0.90.

Results

Home Literacy Environment

Table 1 lists the means and standard deviations of children's responses to the questions in the HLE questionnaire, their English phonological awareness (PA), morphological awareness (MA), vocabulary knowledge and word reading.

Insert Table 1 about here

The children reported an average of about 30 English books for children ($M = 3.61$; close to 4 = about 30 books) and about 20 English books for adults ($M = 2.76$; close to 3 = about 20 books) at home. Children's independent reading unrelated to schoolwork was slightly more frequent ($M = 2.50$; around 3-4 times a week) than that related to schoolwork ($M = 2.25$). Shared reading with parents remained at a level of once or twice a week, $M = 2.29$ and 2.23 for reading related to schoolwork and unrelated to schoolwork, respectively.

Relationship of HLE Factors with Reading Related Skills

Table 2 shows that two of the six HLE factors, i.e., number of books for children and child independent reading unrelated to schoolwork, significantly correlated with all measured English competencies. In addition, PA and MA were significantly correlated, and both correlated significantly with English word reading.

Insert Table 2 about here

Regression analyses as shown in Table 3 further revealed that the two HLE factors, entered into the regression equation as a block, significantly predicted English PA, MA and word reading. As the sole predictor, they explained 7.7%, 10.1% and 11.6% of the variance in the three criterion variables, respectively.

Insert table 3 about here

A further hierarchical regression analysis with word reading as the criterion variable (see Table 4) showed that over and above vocabulary, PA made a unique contribution to word reading and accounted for an additional 11.8% of the variance. After controlling for both vocabulary and PA, MA still uniquely and significantly predicted word reading and explained about 3.2% of its variance. After vocabulary,

PA and MA were all in the model, HLE factors' contribution to word reading failed to be significant.

Insert table 4 about here

Discussion and Conclusions

This study profiled school-aged Malay children's HLE in English in Singapore. Overall, children reported a high level of availability of English reading materials at home, but the frequency of their reading-related activities tended to be low, particularly that of shared reading with parents. A plausible explanation for the infrequent shared reading practices at home may be that the participants were Primary 3 children, who might have developed a level of reading proficiency that allowed them to read on their own instead of requiring the parental involvement that is often desired for preschoolers or beginning readers.

The finding of HLE predicting children's PA is in line with previous research on monolingual English learners (e.g., Foy & Mann, 2003). The present study also documented the contribution of HLE to morphological awareness, a crucial analytical skill that supports learning and reading new words but had been rarely examined in relation to HLE. It thus extends the research literature on the relation between HLE and metalinguistic awareness. While HLE predicted word reading

significantly as a sole predictor in the regression model, the prediction failed to be significant after controlling for PA and MA. Given the significant relationship of HLE with PA and MA (see Tables 2 and 3), and that of PA and MA with word reading (see Table 2), it can be inferred that HLE had an indirect impact on English word reading through the mediation of PA and MA. Such a finding corroborates some previous research on English monolingual children.

Implications

Findings of this study have implications to teachers as well as parents in Singapore. Firstly, it is important for parents to recognize the impact of HLE on different aspects of children's literacy development and thus maintain a supportive HLE. Secondly, teachers should be informed of the importance of home experiences in the development of various reading and its related skills, and thus establish school-home collaboration to facilitate children's literacy development.

References

- Aman, N., Vaish, V., & Bokhorst-Heng, W. (2006). *The sociolinguistic survey of Singapore 2006*. Singapore: CRPP, NIE.
- Dixon, L. Q. (2011). The role of home and school factors in predicting English vocabulary among bilingual kindergarten children in Singapore. *Applied Psycholinguistics*, 32, 141-168.
- Dunn, L. M., & Dunn, D. M. (2007). *PPVT-4 Manual*. Bloomington, MN: NCS Pearson, Inc.
- Foy, J. G., & Mann, V. (2003). Home literacy environment and phonological awareness in preschool children: Differential effects for rhyme and phoneme awareness. *Applied Psycholinguistics*, 24, 59-88.
- Frijters, J. C., Barron, R. W., & Brunello, M. (2000). Direct and mediated influences of home literacy and literacy interest on prereaders' oral vocabulary and early written language skill. *Journal of Educational Psychology*, 92, 466-477.
- Hart, B., & Risley, T. (1995). *Meaningful differences in everyday parenting and intellectual development in young American children*. Baltimore: Brookes.
- Sénéchal, M., Lefevre, J. A., Thomas, E. M., & Daley, K. E. (1998). Differential effects of home literacy experiences on the development of oral and written language. *Reading Research Quarterly*, 33, 96-116.

Zhang, D., &Koda, K. (2011). Home literacy environment and word knowledge development: A study of young learners of Chinese as a heritage Language. *Bilingual Research Journal*, 34, 4-18.

Table 1. *Means and standard deviations of HLE factors and reading related skills*

	<i>Mean</i>	<i>SD</i>
Number of Books for Children	3.61	1.41
Number of Books for Adult	2.76	1.39
Individual Reading (related to schoolwork)	2.25	1.01
Individual Reading (unrelated to schoolwork)	2.50	1.16
Shared Reading (related to schoolwork)	2.29	1.14
Shared Reading (unrelated to schoolwork)	2.23	1.19
Phonological Awareness(n = 17)	12.03	3.49
Morphological Awareness (n = 30)	15.64	6.25
Vocabulary Knowledge (n = 60)	38.74	9.91
Word Reading (n = 40)	24.89	6.19

Table 2. *Correlations between HLE factors and reading related skills*

	1	2	3	4	5
1. Number of books for children	--				
2. Individual reading (unrelated to schoolwork)	.220*	--			
3. Phonological Awareness	.198*	.222*	--		
4. Morphological Awareness	.216*	.274**	.352***	--	
5. Receptive Vocabulary	.425***	.195*	.402***	.457***	--
6. Word Reading	.289***	.231*	.458***	.570***	.579***

* $p < .05$ ** $p < .01$ *** $p < .001$.

Table 3. *Regression Analyses with HLE predicting PA, MA, and word reading*

	<i>PA</i>		<i>MA</i>		<i>Word Reading</i>	
	R^2	ΔF	R^2	ΔF	R^2	ΔF
HLE	.077	5.02**	.101	6.71**	.116	7.94***

** $p < .01$ *** $p < .001$.

Table 4. *Hierarchical regression analysis predicting word reading*

Step	R^2	ΔR^2	ΔF
1. Vocabulary	.335	.335	60.91***
2. PA	.453	.118	25.85***
3. MA	.485	.032	7.43**
4. HLE	.487	.002	0.19 ($p=0.829$)

** $p < .01$ *** $p < .001$