Research Paper

The Effect of Print-rich media on Learning Language in Kids

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Abstract
Emergent literacy research has demonstrated that literacy development begins early in literate environment of family settings. This qualitative case study explored how literacy development in early years was enhanced in a print-rich multilingual environment. It involved 3 children from 3 families in a multilingual context. Data collection focused on emergent literacy of children and how home environment and family practice supported their literacy development. Data were collected through methodological triangulation of interviews; on-site observation of authentic interactions and literate environment; as well as an audit of home literacy resources. The data were analyzed, within and across cases, before identifying discrepancies and commonalities among participants. Three prominent themes emerged from the general research questions: (1) Quality parent-child or adult-child interaction and exchanges; (2) Immersion in language and print-rich environment; and (3) Intentional explicit instruction. In conclusion, insights gained from children’s early literacy challenges teachers and educators to think more broadly and inclusively about family literacy.

Keywords: Emergent literacy; Print-rich environment; Family literacy, Multilingual

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1. Introduction
The process of learning to read and write begins as early as children have contact with forms of written communication in the surrounding. Emergent literacy research demonstrates that children’s oral language, reading, and writing develop concomitantly in literate environment in early family settings (Razfar & Gutierrez, 2003). Many studies have acknowledged the significant effects of family literacy support and home environment on children language development and reading ability (Aulls & Sollars, 2003; Deckner, Adamson & Bakeman, 2006; Hoff, 2006). However, most studies on early literacy development focus on monolingual children and children from low-income families (Marvin & Mirenda, 1993; Payne, Whitehurst & Angell, 1994; Roberts, Jurgens, & Burchinal, 2005). There is limited research examining how language and literacy environment at home support the emergent literacy of young children in a bilingual or multilingual family setting (Soltero-Gonzalez, 2008). Furthermore, there are significant gaps in our understandings of the antecedents of early literacy skills between birth to 3 (Parlakian, 2010). The issue of linguistic diversity needs to be addressed so that there will be a smooth transition from home to school setting. Besides, as teachers work with increasing numbers of children and families from different cultural and linguistic background, it is essential that they recognize and value the different ways literacy is supported in homes and communities (Mui & Anderson, 2008). This qualitative study, therefore, aimed to extend research on emergent literacy from a sociocultural perspective. The questions guided this inquiry were:
what is the emergent literacy development of the children in a multilingual context and how do the home environment and family practice support the children's literacy development.

1.1 Contextual Framework
To contextualize this study, we framed literacy in a cognitive and sociocultural perspective in which reading and writing are considered both cognitive or linguistic skills as well as a complex social practice (Barton et al., 2000). Vygotsky claims that language is first experienced around the child and it is the participation experience that language is internalized (Gillen & Hall, 2003). Similarly, emergent literacy research also shows that young children learn literacy skills by observing and participating in different print literacy practices that are considered "important and integral to their own communities" (Purcell-Gates, Jacobson & Degener, 2004, p.167). From this perspective, it is essential to observe how the young children's environment scaffolds their literacy development and bring them to the zone of proximal development.

Following this notion, we addressed parents' beliefs and attitude about language development and literacy support in the family. We believe literacy as enacted by the three families in this present study should challenge teachers and educators to think more broadly about family literacy especially in linguistically and culturally diverse home settings so that they can build on these diverse experiences and support a link between home and school literacy (Lynch, 2010; McNaughton, 2001).

This study took place in three Chinese families of a southern city in Peninsular Malaysia. In Malaysia, Malay is the national language and the mother tongue of the majority Malay ethnic group. Other main ethnic groups within Malaysia are the Chinese, Indian, Iban and Kadazan. There are two types of public-funded elementary schools: national schools (the medium of instruction is the National language, Malay) and national-type schools (the medium of instruction is either Chinese or Tamil). In all schools, national language is a compulsory subject and English is taught as a second language. Malaysian Chinese citizens can choose to attend either Chinese or Malay medium schools in primary and secondary level. Therefore, Malaysian Chinese are generally bilinguals or trilinguals and can speak at least two languages.

2. Literature Review
2.1 Emergent Literacy Paradigm
The concept of emergent literacy gained popularity at the end of the 1970s and the beginning of the 1980s. Studies found that young children before formal schooling were strategically developing hypotheses about how the literacy system worked when engaged in literacy (Gillen & Hall, 2003). This sheds light of the continuous process in active sense making which takes place before formal schooling. In other words, literacy begins to emerge at an early age, long before children begin to read and write conventionally. Emergent literacy refers to the skills, knowledge, and attitudes that are developmental precursors to reading and writing (Whitehurst & Lonigan, 1998). This is important as research studies indicate that children’s reading success throughout elementary school can be predicted from their emergent literacy skills (Lonigan et al., 2000; Storch & Whitehurst, 2002). Whitehurst and Lonigan (1998) distinguish emergent literacy from the “reading readiness” approach which focuses on natural maturation or the acquisition of specific sets of discrete perceptual skills. The emergent literacy perspective emphasizes the child’s ongoing development. It includes not only the specific skills that are the focus of reading readiness but also a wide variety of precursors to reading that occur during the preschool years. Thus it is inclusive and developmentally grounded. In this light, the notion of literacy is a much more dynamic and interactive process. In recent years, emergent literacy researchers have used cognitive and socio-psycholinguistic theories to shift the field’s research focus from convention to intention (Senchak, LeFevre, Smith-Chant & Colton, 2001). This means that children are seen as active participants with intentions who assign meaning to print based on their experiences.

2.2 Socio Cultural Framework
While emergent literacy paradigm focuses on children’s intentions in meaning-making; social participation is highlighted in the sociocultural perspectives (Brandt & Clinton, 2002). Vygotskian theory supports the notion that through interaction with others in the environment, a child constructs his knowledge. His work also recognises the role of culture in learning and how children use many mediational tools, such as cultural artefacts or tools and symbols to construct meaning (Razfar and Gutierrez, 2003). Following this perspective, literacy learning is a socially mediated process that cannot be understood away from its context of development, the forms of mediation available and the nature of participation. Many studies have shown that home literacy environments of toddlers and preschoolers
have considerable effects on later literacy skills (Marvin & Mirenda, 1993; Payne, Whitehurst & Angell, 1994; Weinberger, 1996). Thus, children’s development is supported and scaffolded by the interaction with more expert members in routine literacy or discourse practice. When children have ample opportunities to use language to interact, their oral language development is facilitated. In addition, ethnographic studies illustrate how reading, writing and oral language develop simultaneously in formal and informal context and highlight the importance of studying literacy in situ (Razfar & Gutierrez, 2003). The perspectives on the social dimensions of literacy have led to the emerging knowledge of family literacy and its critical role in supporting literacy experiences (Bennet, Weigel & Martin, 2002; Chairney, 2003). Furthermore, the social context in literacy learning also encompasses the physical environment where the children grow. Research on the home literacy environment shows positive effect on children’s vocabulary scores and reading comprehension (Steensel, 2006) and significant relationship between shared reading and vocabulary development (Burgess et al., 2002 & Wood, 2002). As Goldenberg (2004) maintains, measures of home literacy environment could be better predictors of children’s literacy scores than socio-economical status and ethnicity. From the literature review, we positioned our study in view of literacy as a developmental, dynamic and interactive process in a sociocultural context which encompasses social participation as well as physical environment.

3. Methodology

The data presented in this article are based on a 5-month period. This time frame was embedded within a larger three-year longitudinal qualitative case study. This study employed a qualitative case study methodology which had an exploratory and descriptive focus and aimed to produce an in-depth description that is rich and holistic (Ary, Jacobs & Sorenson, 2010).

3.1 Participants

This study employed a multiple case purposive sample. Three children and their families participated in the study. The participants were selected due to similarities in parents’ linguistic and education backgrounds as well as the parents’ passion and concern in children’s learning and education. All the parents (n=6) involved in the study were University graduates. The first author had known the three families for years and it was thus not difficult to gain access to the settings. Most importantly, the children and the families were very comfortable in the presence of the first author as she already had a trusting relationship with them.

At the onset of the study, Leon were 28 months, Shannon 22 months and John 14 months (in keeping with ethical considerations, pseudonyms are used in place of real names of people, places and events). Permission was obtained and participants were assured of confidentiality. Leon and Shannon’s mothers were full time housewives while John’s mother spent most of the working hours at home. Although all the mothers involved in the studies possessed a university degree, they had made their career choices by putting the children’s welfare and education as priority.

3.2 Data Collection

The data were collected through methodological triangulation of interviews with parents (both through on-line chats on Skype and face-to-face interviews during on-site visits); observation of authentic interactions and literate environments; and an audit of home literacy resources. The first author gained access to the setting as a participant observer. To aid in data collection and analysis, the researchers maintained an audit log (to detail field notes) as well as prepared transcripts of interviews, photographs, and audio or video recordings of significant literacy events (some of which were requested from the participated families). In total, 14 interviews and 8 on-site visits were carried out during the reported course of study.

3.3 Data Analysis

The data were analyzed, within and across cases, and discrepancies and commonalities among participants were identified. The transcribed field notes and interviews were first analyzed deductively to provide an overview of factors determined a priori to be relevant to the research questions. The deductive coding later led to the inductive coding process. Analysis of the field notes inductively helped us identify the common practices in the home settings. Inductive codes emerged by way of repeated reading and review of the data. After lists of codes were identified, they were examined in detail and grouped into categories to form themes. Quotations were used for exposition and clarification of major themes. Data analysis was done concurrently with data collection through an interactive, recursive and dynamic process.
3.4 Validity and Trustworthiness
Creswell (2010) claims that establishing the rigour or trustworthiness of qualitative research is necessary. Therefore, internal validity in this study was maintained through structural corroboration of data. Triangulation by using the multiple sources of data and methods was employed to ensure corroboration. According to Ary et al. (2010: p.499), “Convergence of a major theme or pattern in the data from these various sources lends credibility to the findings”. Furthermore, member checks were administered to enhance referential adequacy. This helped to clear up miscommunication, identify inaccuracies and obtain additional useful data. To avoid researcher bias, the researcher employed reflexivity strategy to recognize biases and to actively seek them out by frequently referring to the journal reflections during the process of data analysis.

3.5 Participants’ Home Language
In Malaysia, it is not uncommon to see two or three languages co-exist in a typical Chinese family as observed in the three families in the study. Shannon and John were exposed to three languages (English, Chinese and Indonesia/Malay) while Leon two languages (Chinese and English) (See Table 1).
Choice of language spoken to the child was based on personal preference for Leon’s parents but for Shannon & John’s parents, there were some reasons and consideration for the choice of language. Shannon’s mother chose to speak to her mainly in English as she thought that it was more convenient for social purpose (the family’s circle of friends were mainly English speaking). However, Shannon’s mother advised her domestic helper to speak Indonesian Language to Shannon as she found that it was not easy to correct Shannon for the “broken English” learnt from the helper. “The 'unlearning' process is very frustrating.” (Interview transcript S1).
As for John’s case, the mother deliberately chose to speak English to John as she felt the importance of English in the globalised world. However, they decided to balance the child’s language exposure by “assigning the Chinese speaking task” to the father (Interview transcript J2). Nevertheless, due to more mother-child interaction, John’s dominant language was found to be English.
It was observed that all the children could comprehend most of the routine use of languages. Shannon could communicate with the domestic helper in Indonesian Language which was very similar to Malay Language.

When John was asked in Chinese during the grandparents’ visit, “爸爸在哪里 (Where is your father?)” “Papa kerja (Papa is working),” John answered spontaneously in Malay Language. His mother later explained that it was the routine exchange between the domestic helper and John. However, it was interesting to note that even when asked in Chinese (not Malay or Indonesian) he could answer instinctively in Malay Language (Field notes #17).

3.6 Research Findings
When the data was transcribed, coded and triangulated, three prominent themes emerged from the general research questions: (1) Quality parent-child interaction and exchanges; (2) Immersion in literacy-rich environment; and (3) Intentional explicit instruction. Although these themes were not exhaustive, they did provide some depth and breadth of literacy beliefs and practices of the three families.

3.7 Quality Parent-child Interaction and Exchanges
One prominent feature across all three cases was the quality adult-child interaction and exchanges.

3.8 Quality Exchanges
Mothers were found to have engaged most frequently and used most quality exchanges with the children.

This was especially apparent in John and his mother’s interaction. John’s mother showed great patience in explaining things and events occurring around him. For example, when she noticed that John was showing interest of Malay neighbour kids playing skateboard, she spoke to John (16 months then). “Look, John. Abang (brother in Malay Language) is playing skateboard. You see, they are having fun. Do you like to play skateboard?” (Field note J #2-24).
The same applies to Shannon’s exchanges with her mother. As the mother was playing a puzzle game with Shannon, she was observed talking to Shannon using a polite and complete sentence. “Excuse me, Shannon. I need the blue piece over there. Could you pass it to me?” (Field note S #3-28). It was therefore not surprising when Shannon was observed using the phrase “excuse me” when she wanted her mother’s help as her mother was talking to the first author (Field note S #2-44). “This was the natural way we communicate at home,” her mother commented (Interview transcript S3).
The parents were observed constantly extending the children’s language through modeling, explaining and demonstrating in a natural way. This
helped in expanding vocabulary and we could see it affected the lexical choice and sentence structure discourse in the children.

3.9 Cognitively Provoking Conversation  
The mothers were observed using conversations which connected experiences and provoked thinking. They would ask questions besides telling and explaining. "Look at this boy in the book. He has a ball. Yeah. John has a blue ball, too, right? Look, the boy is smiling. Why is he smiling? Yes, he likes his ball. Do you like your ball?"  
(Field note J #1-25)

"Mummy, help (in Chinese)," Leon asked for the mother's help when he could not put the triangular block into the box. Leon's mother did not help him with the task immediately. Instead, she guided him to solve the problem by cueing and suggestion (Field note L #2-13). The constant use of questions was observed in the mother-child interactions. This would not only expand their language but also provoke their thinking through stimulating ways.

3.10 Warmth and Responsiveness  
The warmth relationship between parents and child was apparent. The parents were very encouraging and always shower the children with loves and praises. One occasion when Shannon's mother was able to fix a puzzle correctly, Shannon spontaneously exclaimed with a clap, "Clever mummy." (Fieldnote S#3-32). Shannon's immediate response to show encouragement and celebrate success clearly reflected how she was treated in her routine interaction. In another situation when Leon's mother accidentally knocked against the table, Leon showed concern by saying, "Mummy, 有痛痛吗 (Is it painful)? 擦药 (Apply medicine)" The empathy demonstrated close relationship between parent and child. (Field note L #4-38).

3.11 Immersion in Language and Print-rich Environments  
Another lucid commonality among the observed families is the abundant opportunities of exposure to books, stories reading, singing and drawing or writing activities.

3.12 Prints around the Surrounding  
In the participants' home setting, we could see word labels (both English and Chinese words). There were also wall charts showing pictures and words of interest to the children. These were not for decoration purposes as they were constantly referred to and would be taken down when the children did not show interest any more. Besides, there were prints on the colourful playing mats on the floor.

3.13 Books  
All the three families possessed lots of reading resources. The children had the opportunities to physically manipulate books since young. The books were mostly in English and Chinese with large prints and colourful pictures. Leon and John had their favourite story books which they would spend time flipping and repeatedly requested the parents to read with them (Interview transcript L3 & J2). The books were easily accessible as they were placed at lower shelves.

3.14 Flashcards  
Shannon and John were exposed to flashcards since birth using a similar commercial product. However, the parents stopped flashing when the children started to move around and lost focus at about 6th month (Interview transcript S2 and J3). Shannon's mother continued this activity in a game when she was 18 months. Shannon showed interest especially in things she liked. She was able to recognize words about colours in English and some Chinese words like 爸爸 (father), 妈妈 (mother), 姐姐 (sister), 奶奶 (paternal grandmother), 外公 (maternal grandfather), 外婆 (maternal grandmother), etc.(Fieldnote S#4-56). John’s mother reported that it was still unclear if John had learnt the words as he did not show recognition through expressive oral language (Interview transcript J4). However, she believed that it might emerge later as in the case of Shannon who was reported to be able to recognise many words "suddenly" in her 19 months (Interview transcript S4). Leon's mother tried using flashcards but she gave up as Leon did not show interest.

3.15 Literacy Tools  
There were lots of other literacy tools observed such as pens, crayons, and easels, drawing books, notepads and non-toxic paints. All three families had child-size furniture for writing. In fact, the children had plenty opportunities to scribble and explore the meaning making prints. In a session, the first author initiated the drawing game with Shannon by saying, "Shannon, let's draw an apple." Shannon took another marker and started scribbling. It turned out to be in a diamond shape
with a tail as her pen manipulative skill had not fully developed. Unexpectedly, she commented, “Shannon draw(s) (a) kite.” (Field note S#5-2). This showed that at the age of 26 months, she had developed intentionality in semiotic relation (Rowe, 2010).

3.16 Technology-Assisted Literacy
Technology-assisted literacy could be found in the home environment of all three settings. John’s father who was an information technology engineer commented that “It is amazing how young kids can operate the technology gadgets without sweat.” (Interview transcript J5). On-site observation verified the statement when John was seen scrolling and tapping on the icons to play a game on i-Pad. All three children enjoyed watching children videos, especially those with music and songs. The parents commented that their children learn languages and songs from the videos. However, the parents did not let the children watch long hours of videos, as they were afraid of children getting addicted to television (Interview transcript L4 & J5), developing shorter attention span (Interview transcript S5) and harming their eyesight (Interview J5).

3.17 Intentional Explicit Instruction
While the central concern of the emergent literacy paradigm has been children’s intentions (Rowe, 2010), intentionality on the parents part could also be observed when they thoughtfully provide children with fun literacy experiences.

3.18 Reading to Children and Story Telling
Bed time story was John’s routine with his mother. She would read to him favourite stories before sleep (Interview J3). Shannon needed more “add-on” activities to keep her engaged in the stories (Interview S4). Her mother used soft toys as props to act out the story read. (Field note S#4-14). Leon also enjoyed a reading routine with the father every night. Leon liked to ask a lot of questions and he enjoyed reading about vehicles and dinosaurs (Interview L4).

3.19 Singing and Games
All three children enjoyed singing, especially Leon and Shannon. Both of them could sing many Chinese and English children songs. Shannon enjoyed changing the lyrics according to her like, such as “one for my mummy (my master) and one for Shannon (my dame)” in “Baa baa Black Sheep”. This shows her understanding of the meaning in the song context and experimenting with the language. Besides singing, the parents also exposed the children with language in games such as word-picture matching game.

3.20 Learning in a Fun and Self-Directed Way
All the parents shared the same opinion that learning should be fun. They did not rush the children. There were no attempts observed to push the children into academic learning. There were no worksheets, drills and any kinds of academic exercises to start them on basic literacy skills. As we could compare, Leon enjoyed playing toy cars. He could name many types of transportation in English and Chinese. Shannon was interested in people and colours. She could talk about and recognise the written words. John was interested in games and tools. He could name many different tools like spanner, hammer, screwdriver, etc. In other words, they showed different repertoire of vocabulary and schema based on their interest and the scaffolding by the adults.

4. Discussion
In a multilingual context, the children in this study acquired different languages. The dominant language of the child was the one mostly used by adults in the interaction with the child. The findings showed that acquisition of any languages seemed to be effortless. The children seemed to be able to comprehend any languages spoken by the caretakers. Nevertheless, as there was not enough expressive language spoken at this stage, the positive and negative transfers of bilingualism could not be compared as yet (Verhoeven, 2007). The language choice in the family was largely based on the communication function in the social circle as well as adults’ preference and proficiency in the language.

The findings were consistent with those of the sociocultural perspectives. It suggested that children’s literacy was supported through interactions with others (Corsaro & Nelson, 2003), especially parental sensitivity and responsiveness to children (Landry, Smith, Swank, & Miller-Loncar, 2000). The children were introduced to literacy within a warmth relationship before they were even able to read. These positive parental interactions and family member’s involvement provide a child with the encouragement and motivation to participate in literacyrelated activities. Subsequently, it was apparent that parents had created an interactional context which encouraged their child’s interest in literacy (Bus, 2003; Roberts et al., 2005).
In addition, the literacy-rich home environment provided ample opportunity for multilingual language experience and print exposure. The early introduction to literacy through books, charts, stimulating toys, and writing tools exposed the children with print awareness as well as the literacy functions. This would implicitly enhance their language and cognitive skills (Bradley, Corwyn, Burchinal, McAdoo, & Garcia, 2001).

As could be observed in all three cases in this study, the intentional and explicit, yet fun and non-threatening ways of language and literacy learning undoubtedly offered the children an enjoyable experience with literacy learning. Singing, playing games and story-telling activities which children enjoy doing were observed in the families. The right choice of developmentally appropriate activities was probably due to high educational background of parents and high concern with child learning which propelled the parents to invest in their children’s education with valuable materials and quality time.

Furthermore, the approaches and attitudes of parents were in line with the brain compatible principles proposed by Caine, Caine, McClintic & Klimek (2009). Parents seemed to be able to create the optimal emotional climate for learning and gave learning ownership to the children as the learning experience was self-directed and self-paced. The respect for the child’s autonomy has been one of the important factors in predicting children’s language and reading skills in early school years (DeJong & Leseman, 2001). In sum, the constant exposure to print and languages as well as the quality parent-child interactions would unquestionably enhance children’s awareness to print and most importantly created positive association of literacy learning to enjoyment (Frijters, Barron, & Brunello, 2000).

4.1 Study Limitation and Suggestion for Future Research

Although our study employed multiple sources and methods data collection to establish validity, there were some study limitations.

The authors were aware that this case study was socio culturally situated representations of phenomenon rather than a representation of the phenomenon itself (Stake, 1995). Therefore, it may not be representative of children from other ethnic, socioeconomic, and geographic backgrounds. Future quantitative studies can use the categories emerged from the research to add to the predictive value of the conceptualisation of home literacy environment (Burgess et al, 2002). Future research can also look into families with different socioeconomic, linguistic, ethnic or geographical background in Malaysia so that a more holistic picture of the literacy development in Malaysian children can be obtained. Such research could inform early childhood educators about effective ways to connect the standard curriculum with the children’s linguistic and cultural knowledge.

5. Conclusion

Language-rich environment and positive interactions are the cornerstones for literacy success in early years. This study provides an important glimpse of the emergent literacy of children and the family involvement in a multilingual context. The knowledge of what and how children learn at home can help teachers “build a cumulative literacy culture in the classroom that draws on each child’s home experiences with print” (Duke & Purcell-Gates, 2003, p.35). This challenges teachers and educators to think more broadly and inclusively about family literacy and thus be more ready to cope with such differences in students.

Table 1. Linguistic Background and Language at Home.

* Proficient but not dominant
**Comprehensible but not proficient
References