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## Promising Effects of an Intervention: Young Children's Literacy Gains and Changes in Their Home Literacy Activities from a Bilingual Family Literacy Program in Canada

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**Abstract** The goal of this paper was to examine promising effects of a bilingual family literacy program: to track the changes of families' literacy activities through a bilingual family literacy intervention, and to examine the children literacy gains in both Chinese and English across socioeconomic sub-groups. The intervention was an eight-week, two hours per week, literacy program in three Chinese communities in Toronto. Parents, with their children, participated in the program. The extremely high attendance rate provided evidence that families enjoyed the family literacy intervention and felt that the sessions were worthwhile. For their families' literacy activities, the three sites followed the same trend: reaching the peak of activity at week four, slightly dropping down at weeks five and six, and then increasing to a second peak at week seven or week eight. Results also showed that across the three groups, children of mothers with lower education levels made fewer gains in their English expressive vocabularies and their Chinese expressive vocabularies, than children whose mothers had a higher level of education.

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## Introduction

In his bioecological model, Uri Bronfenbrenner (1979) suggested that the relationship between the home and school is integral to a cohesive and effective learning environment for children. Important to this relationship is parents' understanding of how their children are educated in the school, and how they can be involved at home in supporting their children's education. This is particularly important for preschool children whose native language is not English, because the transition to school may be more stressful for young children learning in a new language. Having parental support and connection to the school may offset some of these challenges (Constantino, Cui, & Faltis, 1995; Swap, 1990). In a society in which literacy is highly valued, learning to read and write is one of the most important skills for young children to acquire. Early experiences with literacy occur through interactions with parents or siblings in everyday activities of family life. Research has demonstrated the importance of the family in the development of children's literacy (Bus, Van IJzendoorn, & Pellegrini, 1995; Phillips, Hayden, & Norris, 2006; Purcell-Gates, 1996; Snow, 1991; Whitehurst & Lonigan, 1998). In an effort to provide support to families in enhancing their home literacy environments, numerous programs have been developed and tested. They have shown that intervention programs may provide parents with meaningful support in fostering effective home literacy environments (Baker, Piotrkowski, & Brooks-Gunn, 1998; Cairney & Munsie, 1995; Doyle, 2009; Fagan & Cronin, 1998; Jordan, Snow, & Porche, 2000; Wagner, Spiker, & Linn, 2002).

The term "family literacy" was coined by Taylor (1983) to describe the repertoire of literacy practices that take place within families. In subsequent years the term "family literacy" became more closely associated with programs for enhancing the quality of literacy interactions between parents and their children. In practice, there is a wide array of program offerings that span the varied approaches to programming (Morrow, Tracey, & Maxwell, 1995; Nickse, 1993; Phillips, Hayden, & Norris, 2006; Thomas, 1998; Wasik & Herrmann, 2004). Auerbach (1989) argued that in order to be successful, family literacy program practitioners must recognize what it is that families want to learn, and work collaboratively with them to develop the kinds of programs that meet their needs. Auerbach's approach is based on the belief that children and parents learn best when the learning is meaningful to them and is situated in the context of their social environment. This model acknowledges the positive contributions of family members and takes into account the influence that cultural values and

practices have on literacy development. Some parents, however, might have difficulties in providing such supports, whether due to lack of literacy skills themselves, lack of knowledge about how to support their children's literacy development, or both (Wasik, Dobbins, & Herrmann, 2001).

### **Family Literacy in Canada**

By the early 1980s family literacy programs began to appear in Canada, and many programs under the family literacy umbrella focused on the parents as literacy mentors of their children. Canadian programs such as Parents' Roles Interacting with Teacher Support (PRINTS) (Fagan & Cronin, 1998), which focus on helping parents enhance their skills as the literacy mentors of their own children rather than focusing simultaneously on child and adult literacy, have been shown to be effective. As Hannon and Bird (2004) have pointed out, there needs to be room under the umbrella of "family literacy" for programs that allow parents to develop their capacity for mentoring their children's literacy, while acknowledging that parents may not want or need to address their own literacy abilities.

Many family literacy programs have focused on providing opportunities for lower income parents and children to learn and practice strategies that were shown to be successful for middle-class families (Sample Gosse & Phillips, 2006). In most family literacy programs native English speakers have been the target audience, and the programs have not specifically been designed to address the needs of families from diverse cultural backgrounds. Like most other parents, lower income parents and racial minority parents want to learn how to help their children and may seek specific assistance to overcome the difficulties they have in supporting their children's literacy development if appropriate supports are provided (Edwards, 1995; Newman & Beverstock, 1990; Sample Gosse & Phillips, 2006). The increasing diversity of the Canadian population is changing the face of family literacy programs offered in this country and thus requires program practitioners to rethink what it means to support parents in fostering their children's literacy development. Sample Gosse & Phillips (2006) suggest that a diverse population makes the implementation of family literacy programs more challenging because parents of different cultural backgrounds may hold perceptions of literacy learning that are inconsistent with either a traditional perspective or an emergent literacy perspective. Some parents, for example, may support their children's learning by more formal, sequential teaching of skills and literacy behaviors than through informal, discovery-based approaches to learning. In a study of Chinese-Canadian and Indo-Canadian families (Anderson, 1995), parents in both groups agreed that encouraging children to discuss what is read helps them learn to read; however, the Indo-Canadian parents did not endorse the

idea that children should be encouraged to engage in reading-like behavior such as flipping through books or pretending to read. These parents believed that these behaviors would not aid in children's reading development. Such parental beliefs are important to consider and to discuss with program participants and facilitators in order to forge better understandings of, and respect for, stances and practices within the homes. From such a context, parents may be willing to consider alternative literacy practices and incorporate some of these practices within their repertoire of interactions with their children.

A growing body of evidence suggests that literacy practices within socio-cultural groups are influenced by the groups' beliefs about the nature and functions of literacy (Heath, 1983; Purcell-Gates, 1996; Teale, 1986), and the styles of literacy interactions (Hammer, 2000; Hammer, Nimmo, Cohen, Draheim, & Johnson, 2005; Heath, 1983; Phillips, Norris, & Anderson, 2008). According to the cultural or contextual perspective, socialization goals may vary across cultures because different qualities and outcomes in children may be valued and emphasized (Rogoff, 2003). Socialization beliefs and values may, in turn, affect parenting styles, and literacy practices and strategies at home, which constitute important aspects of the socio-cultural context for child development. Immigrant children are among the most educationally vulnerable groups of children (Gibson & Bejinez, 2002; Gonzalez, Reid, Synhorst, O'Kane, & Tostado, 2006). Although parents from these immigrant families value education, and have very high expectations for children's academic outcomes, some immigrant families face particular challenges in supporting their children's transition to school. Moving to a new country, immigrants are more likely to encounter difficulties such as underemployment or unemployment, social isolation, and barriers to accessing support services (Shimoni & Baxter, 2001; Yu & Chao, 2002). These stresses may affect immigrant families financially, emotionally and psychologically, resulting in parents' challenges in preparing children for successful school adaptation. This situation may be exacerbated if parents do not have the English- or French-speaking skills to enable them to adapt to their new environment in Canada. Focused efforts are greatly needed to support these parents in bridging their own knowledge and abilities with those of their new community. A family literacy program is one example of such a bridge.

The differences in English proficiency among parent participants may vary substantially in ways that are not easily predictable (Strucker, Snow, & Pan, 2004) because the level of proficiency in English has been found to relate to English-reading fluency and comprehension (Devine, 1988), as well as to the use and effectiveness of reading strategies (Cziko, 1980). Not surprisingly, adults who are more proficient in English can more fully engage in programs offered in English, and benefit from them more than those participants whose English is not

as proficient. Furthermore, parents may enter family literacy programs having diverse experiences with literacy instruction in their native language (McKay & Weinstein-Shr, 1993). These differences not only include the amount of explicit instruction, but also the nature of that instruction. These experiences influence the participants' expectations of what constitutes instruction (Cochran-Smith, 1984), and also shape their literacy practices at home.

### **Parental Beliefs about Their Roles as Literacy Mentors of Their Children**

In addition to the differences in parent participants' English proficiency and their concept and experience of instruction, parents from diverse cultural backgrounds also have different beliefs about their roles in the education of their children. This may lead to confusion in understanding the unwritten rules of parent versus school responsibility for children's educational development, for parents who are encountering a school system that is different from their own schooling experiences. Parents' confusion may be further compounded by their understandings of the rules for communicating with the school (Strucker et al., 2004).

Pelletier and Brent (2002) compared three parent factors—parent involvement, parental self-efficacy, and parenting style—in English as Second Language (ESL) and English-speaking groups who participated in preschool parenting and readiness centers. They investigated the interrelationship among these three factors as well as teacher strategies to promote parent involvement and children's school readiness. The study yielded two important results: (1) Parents' self-efficacy significantly predicted their level of involvement in their children's early education; (2) language and cultural supports were crucial in facilitating parental involvement and self-efficacy. These findings suggest that it is imperative that family literacy practitioners provide culturally relevant programming for minority communities, if the objective of supporting these parents in enhancing the home literacy environment is to be achieved. Delivery of appropriate programming is also integral to the issue of program evaluation. Unless a program is well matched to the cultural group(s) toward whom it is directed, it may be difficult to draw conclusions and implications from studies that are confounded by a poor fit between programs and their participants.

In addition to the myriad factors relating to parent-level differences, child-level factors are also important to consider. In developing literacy skills in English, children from different linguistic backgrounds bring differences in their emergent literacy experiences in their native languages. The relations between the children's first language and English, in both their oral and written forms, can have important implications for the degree and kind of cross-linguistic transfer

that is possible (Cummins, 1984; Cummins, 2000; Schwartz, Geva, Share, & Leikin, 2007).

The provision of family literacy programs which target minority families as one group clearly is a challenging endeavor in terms of program design and implementation. Often, family literacy programs that have taken native English speakers as the norm, cannot fully address the needs of families who are from other cultural and linguistic backgrounds. Taking these challenges into account, one solution is to offer the family literacy program within the local community, geared to its specific cultural and linguistic context. Collaborating with the local ethnic community, and utilizing program facilitators that share that linguistic background, family literacy programs can be offered in a bilingual format. Parent-facilitator discussions can be conducted in the language spoken in the community, and child-facilitator interactions can be bilingual to facilitate children's English literacy development as well as their first-language development.

### **Chinese Immigrants in Canada**

Both the landing records from Citizenship and Immigration Canada and the 2007 census confirm that the Chinese have become the largest group of immigrants in Canada. Between 1998 and 2007, nearly 400 000 Chinese immigrants landed in Canada (Citizenship and Immigration Canada, 2007). They now account for almost 30 per cent of Canada's total immigration intake. Given the importance of language and culture to family literacy programs, a program for Chinese children and their parents is a sensible and appropriate way to welcome them to their new country. A first step toward adapting family literacy programs for a specific cultural immigrant background is to understand the specific culture and language, in this case, Chinese, as well as the demographic characteristics of this population.

Chinese immigrants move to Canada for a variety of reasons that include the opportunity for a better career, to enjoy a more peaceful life, and to live in a cleaner environment (Wang & Lo, 2004). In addition to these reasons, moving to Canada and staying for the purpose of enhancing their children's future is not uncommon among Chinese immigrants. More and more parents in China are concerned about the stress that their children will encounter in China and would like to immigrate to other countries so that their children can avoid the extensive stress of academic and lifelong competition in the school, workplace, and physical environments. These parents realize, however, that they themselves would face a more challenging life in a new country (Wang & Lo, 2004).

Although Chinese speakers make up the largest single language minority in

Canada (Statistics Canada, 2008), the Chinese culture is diverse and represents not only a broad range of socioeconomic class, but also a range of Chinese cultures with varied histories, cultural sensibilities, and social dilemmas (Yu & Chao, 2002). At the same time, it should be emphasized that recent Chinese immigrants to Canada are from different parts of the world. These distinct places of origin have varying political, social, and economic conditions. Chinese immigrants, therefore, are by no means a homogeneous group, and significant differences exist among them. A large number of Chinese immigrants arrive from three primary locations: China's mainland, Hong Kong, and Taiwan. Some come to Canada as independent immigrants with high levels of education. Others come as investment immigrants with good economic stability, while others come as refugees with disadvantages in both education and economic background (Lo & Wang, 1997). The study described in this article acknowledges the heterogeneous nature of the Chinese immigrants, and the intervention program described, reflected this in its design.

The goal of the study was to implement and evaluate a family literacy program that was designed to reflect the complex cultural and linguistic factors that have been identified. This program was developed for young children and their families from Chinese communities in Toronto, Canada. The overall objective of the larger study on which the current paper was based was to provide a Chinese family literacy program in the Chinese community using Chinese as the language of instruction, and to evaluate the impact of this culturally-oriented family literacy program in terms of children's gains in both languages. The current paper has two specific purposes: (1) to track the changes of these families' literacy activities through the intervention; (2) to examine the ways in which children benefit from the intervention across socioeconomic sub-groups by examining their vocabulary development in both Chinese and English.

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## **Method**

### **Participants**

The participants were 42 children and their families from three Chinese community centres who comprised the family literacy treatment group. The participants from the first site, Site 1, were people who speak very little English. Many Chinese refugees with limited English language knowledge choose to settle in the area around this site because they can access most items and services they need in this Chinese-speaking neighbourhood. Family doctors, store and bank clerks, lawyers and other important service providers speak Chinese, thus

making the initial transition to life in Canada much easier for them. At this site, 11 children with a mean age of 49.93 months participated in the intervention program with their parents. The highest level of education achieved by the mothers at this site was high school completion, and the lowest level of mothers' educational achievement was middle school.

The second site was referred to as Site 2. Most Chinese people who live in this neighbourhood around this site were newly-landed independent skilled immigrants, meaning that at least one of the family members in the household has a university degree and several years of work experience in their home country. This is the basic requirement for status as an independent skilled immigrant (Citizenship and Immigration Canada, 2009). These Chinese parents, therefore, can speak English well enough to be able to function in an English-speaking environment. At this site, 14 children with a mean age of 48.82 months participated in the intervention program with their parents. The highest education level obtained by the mothers at this site was a Master's degree or other advanced degree, and the lowest level of mothers' educational achievement was college.

The third site, referred to as Site 3, is the Greater Toronto Area's newest major Chinatown, a community located about 25 kilometres east of downtown Toronto. Over 80 percent of the population in this neighbourhood has a Chinese background. People living here usually have their own house, which indicates they have established a relatively stable life in Canada. At this site, 17 children with a mean age of 52.17 months and their parents were assigned to the intervention program. The highest education level achieved by the mothers at this site was a Master's degree or other advanced degree, and the lowest level of mothers' educational achievement was middle school. Thus there was a greater range of maternal education levels at this site. Table 1 summarizes mothers' educational level across the three sites.

**Table 1** Percentage of Mother's Educational Level at Each Site

Mother's educational level	Site 1	Site 2	Site 3
Middle school	35.74	9.09	17.64
High school	57.12	36.37	41.16
College	7.14	45.45	23.56
Undergraduate	0	9.09	11.76
Graduate	0	0	5.88
Total	100	100	100



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## The Intervention

### Overview of the Intervention

The intervention was an eight-week, two hours per week, literacy program in each of the three sites. Parents, with their children, participated in the program. Each workshop began with parents, children, and facilitators sharing in the reading of a big book. Then the parents and children met separately in the breakout sessions with trained facilitators. The breakout sessions were designed for parents and children to have separate learning experiences, within each session attended. One facilitator led the parents' workshop on the topic for that session in Chinese, while the children worked with the other facilitator both in Chinese and English, on child-centered activities related to the topic. In the remaining part of the session, the parents engaged in joint activities with their children to implement practices found in the key messages that had been discussed in the parent-only segment of the session.

Each week, families were given two rhyming stories that were printed from a web-based reading program entitled "Reading A-Z" (Reading a-z, 2008). The parents were shown how to make these rhyming books, and the children were encouraged to personalize the book in order to facilitate their feeling like participants in the book-making. The parents then were asked to read these books with their children. By the end of eight weeks, each family had a substantial collection of rhyming books. The parents were given take-home literacy materials (children's books, writing materials, magnetic letters, etc.) each week to use with their children to assist them in various areas of literacy development. The program used was based on a family literacy program developed by Pelletier, Hipfner-Boucher and Doyle (in press), but was adapted culturally and linguistically specifically for Chinese families. The content for each of the eight sessions are described in the following section.

### The Intervention Program Content and Activities

Workshop 1: *Children's Literature for Enjoyment and Literacy Development*. This session included an overview of the program and the schedule of each session. Key messages included an introduction to children's literature, a discussion of genre in children's literature, and suggestions for parents in choosing books for their young children.

Workshop 2: *Talking with Your Child (Oral Language Development)*. This session provided an overview for parents regarding how children's language develops throughout their early years, and how their language development

relates to their later reading and writing development. The key messages also included information on ways that children's first language development supports their second language development. Suggestions for supporting children's language development were also provided.

Workshop 3: *Environmental Print*. The key messages in this session included an introduction to environmental print and why it is important for children to be aware of it. Another important component of this session was the introduction of personalized photograph books based on children's home environments and neighborhoods (e.g., Pelletier et al., 2006). Disposable cameras were sent home with each family. Parents were asked to take photographs with their children, and to work with their children to look for an object whose name (spelling) began with each of the letters of the child's first name. Parents were also asked to bring the cameras back in two weeks for film developing.

Workshop 4: *Numeracy is Literacy Too*. The key messages included a discussion of three important concepts that children can be taught about numbers in their preschool years: number sequences, one-to-one correspondence, and the concept of "quantity" of objects.

Workshop 5: *Phonological Awareness*. The concept of phonological awareness, including phonemes and syllables, and why these are important for later reading development were discussed with the parents. Discussion also focused on the importance of teaching children to think about the features of the sounds of words, such as rhyming words, the number of beats (syllables) in a word, or the sound at the beginning or end of a word.

Workshop 6: *Letters and Sounds*. The key messages in the session focused on introducing the concept of letter-sound correspondence and how this skill supports children's reading achievement in the early primary grades. An audio CD with the letter and sound recorded by a native English-speaking kindergarten teacher was also distributed to each family for use at home. Interestingly, many Chinese families reported that they used these recordings while driving in the car in order that their child could practice the sounds.

Workshop 7: *Reading and Writing with Your Child*. The key messages for parents included the connection between reading and writing, the developmental stages of children's early writing, the value of helping children grow in understanding the symbolic nature and functions of print, and the importance of cultivating children's perceptions of themselves as developing readers and writers.

Workshop 8: *Chinese Character Reading and Morphological Awareness*. This session focused on the unique characteristics of Chinese characters, and the concept of morphological awareness. The parents were also shown how to use Chinese resources, although difficult to obtain in Canada, to support their child's

Chinese reading and writing in an English-speaking environment.

### **Facilitator Background and Training**

There were three program facilitators and all were proficient in both Chinese and English. In order to reduce possible facilitator effects among sites, the same parent facilitator led the parent-only segment at all three sites. The facilitators were given extensive training before the program started. In this training, the researcher introduced the program goals, content, format, and roles of the facilitators in the program. The facilitators also studied the Chinese version of the Family Literacy Curriculum manual in order to fully familiarize themselves with every aspect of the program. Before each session, the facilitators met for a half hour to one hour to review the key messages of that session, the methods to best convey these key messages, how to organize the parents' discussion, and how to organize the children's activities. At each site, the local community centers provided two more child-facilitator assistants who are also bilingual to help the lead child facilitator with the child activities.

### **Procedure**

Data were collected from both parents and their children. The parents' data included three measures—the Parents' Questionnaire, the Home Literacy Activity Log for each week, and the focus group discussion after the program. The Parents' Questionnaire was collected before the intervention program started, and the focus group discussions were conducted after the intervention program ended. Children's data were collected three times—before the intervention program started, immediately after the intervention program ended, and six months after the program ended. Each of the measures is described in this section.

### **Parent Measures**

#### *The Parents' Questionnaire*

A questionnaire in Chinese was sent to parents before the program began, to obtain family-demographic information and information about the home literacy environment, as well as to gauge the level of parents' confidence about their own literacy skills, their confidence in helping to support their children's literacy development, and their evaluation of their children's literacy interests and motivation. Copies of the questionnaire can be obtained from the first author. For the purpose of this paper, only the demographic data from this questionnaire were used.

### *The Home Literacy Activity Log*

The Home Literacy Activity Log was distributed to the families every week after the session. The log was used to track their family literacy activities during each week. Designed with a simple structure by which home activities could be categorized, and supported with pictures depicting different kinds of language or literacy activities that parents could engage in with their children, the log could easily be filled in by both parents and children. The four categories focused on looking at and talking about print, writing activities, games and outings, and songs, stories and rhymes. Families simply needed to keep a tally of the frequency with which they engaged in the various types of activities. Families were asked to submit the log during the following week's session. The total number of activities was coded for each family for each week.

### **The Child Measures**

*Peabody Picture Vocabulary Test*, Third Edition (PPVT-III) (Dunn & Dunn, 1997). This is an individually administered measure of receptive vocabulary for Standard English and a screening test of verbal ability. The child was asked to point to the picture corresponding to the word spoken by the researcher. The task was administered and scored using the normal procedures. Only raw scores, however, were used in this study since the PPVT normative sample is not representative of the children in the study sample, whose first language was not English.

*Peabody Picture Vocabulary Test*, Third Edition (Chinese version). The English version (PPVT-III) was translated into Chinese by the principal researcher. All the original items in the English PPVT were retained in the Chinese version. All children were asked to start from the first item on the list. The task was discontinued when the child made eight consecutive errors. One point was given for each correct response. The total number of correct answers that the child gave was credited in calculating the final score for this measure.

*Expressive Vocabulary Test* (EVT) (Williams, 1997). This is a measure of expressive vocabulary for Standard American English as well as a screening test of verbal ability. It is administered individually. It contains two types of items—labeling and synonym production. For labeling task items, children are asked to name the object represented by each picture. For the synonym task items, children are asked to provide a synonym for a word spoken by the tester that was also depicted in a picture.

*Expressive Vocabulary Test* (EVT, Chinese version). The EVT was translated into Chinese by the principal researcher. The labeling task was consistent with the English version. One point was given for each correct response. The test was discontinued when a child made six consecutive errors. The total number of

correct answers was recorded as the final score for this test.

## Results

### Changes of Home Literacy Activities

Attendance tracking records revealed a very high attendance rate. Ninety-five percent of families attended all sessions. In order to track parents' interaction with their children, the mean total number of literacy related activities was tracked across the three sites. Although paired t-tests did not show significant changes from week one to week eight, the descriptive data showed an increase in the total number of activities. Fig. 1 presents the mean total literacy activity by each week, showing a very clear trend in changes. An analysis of variance (ANOVA) test did not show significant differences across three sites. The three sites followed the same trend: reaching the peak of activity at week four, slightly dropping down at weeks five and six, and then increasing to a second peak at week seven or week eight.

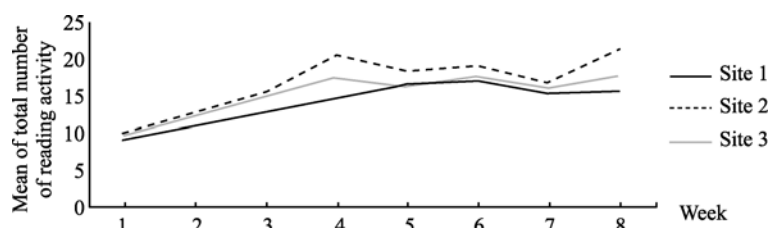


Fig. 1 Trend of Literacy Activity Log Each Week

### Children's Literacy Gains

Table 2 presents the descriptive data for all outcome variables at pre-test, post-test, and delayed-post test across the three sites. A series of analysis of covariances (ANCOVA) was computed to analyze child outcome, using pre-test as the covariate. To examine children's Chinese expressive vocabulary at the conclusion of the program, an ANCOVA was carried out with Chinese EVT (Post Test) as the dependent variable and using Chinese EVT (Pre-test) as the covariate. The ANCOVA showed a moderate yet significant effect of the intervention,  $F(2, 38) = 3.07, p \leq .05, \eta^2 = .14$ . However, the ANCOVA for the delayed post-test on Chinese EVT was not significant. To examine children's English expressive vocabulary immediately following the program, an ANCOVA was conducted with English EVT (Post Test) as the dependent variable and using English EVT (Pre-test) as the covariate. The ANCOVA was significant,  $F(2, 38)$

= 3.89,  $p = .05$ .  $\eta^2 = .17$ . Paired comparisons showed that children from Site 1 (with the lowest maternal education level) scored significantly lower at the post-test than children from Site 2 (with the highest maternal education level). To examine the effect on children's English expressive vocabulary over a longer time, an ANCOVA with delayed post English EVT as the dependent variable was conducted, using English EVT (Pre-test) as the covariate. The ANCOVA was not significant.

**Table 2** Means and SDs for All Outcome Variables at Three Time Points across Different Sites

Measures	Site 1 <i>N</i> = 14		Site 2 <i>N</i> = 11		Site 3 <i>N</i> = 17	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
PPVT_English_Pre	37.14	17.58	45.45	29.23	42.18	25.13
PPVT_English_Post	41.93	20.14	49.09	27.89	49.12	27.67
PPVT_English_De_Post	45.57	20.61	51.64	28.57	52.44	26.79
PPVT_Chinese_Pre	33.43	17.31	45.44	20.63	25.36	31.88
PPVT_Chinese_Post	36.57	17.90	50.09	21.87	27.36	31.88
PPVT_Chinese_De_Post	39.86	18.95	54.73	21.46	28.25	27.72
EVT_English_Pre	31.86	16.19	34.55	20.36	34.88	15.81
EVT_English_Post	37.36	17.95	47.18	22.56	43.47	17.40
EVT_English_De_Post	46.14	17.24	58.30	21.92	52.50	18.86
EVT_Chinese_Pre	31.86	12.00	38.18	8.99	15.41	21.28
EVT_Chinese_Post	37.64	14.55	47.00	8.43	17.53	21.13
EVT_Chinese_De_Post	42.21	16.91	56.20	11.87	18.62	24.81

In order to examine the impact of the program on children's receptive vocabulary in both languages across three sites, two ANCOVAs were carried out. Using the Chinese PPVT pre-test as the covariate, and the Chinese PPVT post-test and the delayed Chinese PPVT as the dependent variables, the ANCOVA was not significant. The ANCOVA for the English PPVT was not significant either, using the English PPVT pre-test as the covariate, and the English PPVT post-test and the delayed English PPVT as the dependent variables.

In summary, results showed that the program had a different effect on children's English expressive vocabularies and their Chinese expressive vocabularies across three groups.

### Beyond the Numbers

The high level of attendance suggests that families enjoyed the workshops where

they could use their first language to discuss topics related to their children's literacy development in their two languages. In fact, comments in the parents' focus group discussions confirm this impression. Parents expressed that they felt comfortable in an environment where they could understand one another without the barrier of language; they were comfortable being actively involved in the activities with their children and the discussions with other parents. Parents said they enjoyed meeting with other parents to discuss similar interests in parenting. One mother said:

“Both my child and I like to come to the program. School here is not like in China, where you can talk to other parents when you pick your kid up from the daycare. Here in Canada, I don't know how to talk to other parents about parenting, and I really need to talk with people about this. Here at this program is good. We all have children at same age, and we can talk in Chinese. I don't feel lonely.”

Parents said they felt more comfortable about coming to the program knowing that they could understand and communicate with facilitators because they speak the same language and share the same cultural background. Topics of discussion were not limited to language and literacy development. They also included school readiness and school rules. One parent said:

“My English is not good; therefore I am scared to talk to his teacher. I am afraid that they will laugh at my English. I have lots of questions, but I don't know where to start. I am glad that I can ask questions here. The teachers [i.e., the facilitators] understand my concerns, and they also know the school's rules. They explained these to me. This is very helpful.”

They were fascinated by the parent-child activities and believed that they could carry out these activities at home, too. Many parents said that they did not know how to help their children with their English, nor did they think they could because they do not speak English well enough. After participating in the program, they realized that there were many things that they can do. Many parents said they were learning new ideas; they especially liked the letter-sound CD that they brought home. One parent said:

“I really like the letter-sound CD. I also made some copies for my friends. It really helps my child; it also helps me and my husband to learn English.”

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## Discussion

The extremely high attendance rate provided evidence that families enjoyed the family literacy intervention and felt that the sessions were worthwhile. Timmons

(2008) reported that maintaining a high retention rate has been one of the biggest challenges in family literacy implementation. The high attendance rate in this study demonstrated that it is possible to retain families; we believe that one important facilitating condition was that both parents and children felt comfortable in the program. In addition, parents reported that they could learn something new from this program. Further, substantial efforts were made to establish and maintain relations with the families. The program facilitators telephoned the participating families once a week before the program day. They talked with parents about the literacy activities that they did during the past week, and reminded them about the program the next day. This was found to be very helpful. High attendance in family literacy programs is a key element of demonstrated program success. The attendance rate indicates that the family literacy program works well when cultural and linguistic supports are provided.

This study found that within this cultural and linguistic group, children from Site 1 scored significantly lower at the post-test than children from Site 2 in English expressive vocabulary which indicates that children from the more socioeconomically disadvantaged group (with lower average maternal educational levels) made fewer gains than those whose mothers had attained higher educational levels. These children also scored moderately lower in Chinese expressive vocabulary. This gap-widening effect of the intervention programs is a not uncommon finding in the domain of early reading (Nicholson, 1999; Shaywitz et al., 1995; Stanovich, 1986). Ceci and Papierno (2005) argued that the reason that universal interventions widen the gap is because they tend to reach the middle- or upper-level individual. The relation between family need and program benefit, however, may be curvilinear (Brooks-Gunn, Berlin, & Fuligni, 2000). The relation between participant needs and program effects raises important questions regarding whether or not programs should be targeted to groups that may have a greater number of risk factors, and how to best adapt programs to meet learners' needs and thus increase program effects.

Although the current family literacy program targeted Chinese immigrants in Canada, cautions are needed because of the diverse characteristics of this group. This group of mothers from Site 1 may need extra help in order to fully benefit from the key messages delivered during the workshop. One possible solution to remediate this situation is to invest more time and resources, and provide a more extensive intervention to this group. It is also noticeable that the variances for many outcome variables for Site 3 are very large. The variances for maternal education background for this group are also larger than the other two sites. These large variances reflect the larger socioeconomically diversity in this group. In future study, more investigation is needed for this more diverse group.

The present study failed to find significant effects of site with respect to



receptive language development for children in either language. Neither the performance on the receptive vocabulary tests after the intervention, nor the performance on the delayed post in receptive vocabulary for these two languages was different across the three sites. Interestingly, findings related to increases in receptive vocabulary following intervention programs are not consistent in the literature. For example, Whitehurst (Whitehurst & Lonigan, 1998; Whitehurst & Lonigan, 2001; Whitehurst et al., 1988) found no significant increases in receptive vocabulary using PPVT as the measure of receptive vocabulary. Others (Hargrave & Sénéchal, 2000; Jordan et al., 2000) also did not find significant increases in receptive vocabulary. However, other experimental studies (Sénéchal, 1997; Sénéchal et al., 1995; Sharif, Ozuah, Dinkevich, & Mulvihill, 2003) did find significant receptive vocabulary increases with measures other than the PPVT. There are two possible interpretations of this finding. One is that significant increases in receptive vocabulary are hard to achieve in the short span of time covered by this intervention. The other is that the measure that we used for receptive vocabulary (the standardized Peabody Picture Vocabulary Test) was not sensitive enough to capture children's development. More sensitive measures may be required to appraise the efficacy of the intervention on receptive vocabulary.

Of course, the enthusiastic reception of this intervention with these participants does not ensure its feasibility with a different population. Chinese immigrant parents are very motivated to be involved in their children's education. This can be reflected in the rapid sign-up for the program. It also can be seen through the high retention rate. Replicating this sort of intervention may require similar conditions. For example, an intervention like this may require collaboration with members of the local ethnic community; in this case, the Chinese community provided the cultural and linguistic resources and materials. This program relied on the community to train facilitators, recruit families, and to provide space. Thoughtful but different modifications may be needed to meet the needs of other ethnic groups.

The findings of the current study are important for families who participated in the program because these families directly benefited from the program not only in children's outcomes but also in parents' knowledge. The findings of the current study bridge the gap in the literature of family literacy programs for minority groups and point to a promising direction for family literacy implementation among diverse cultural and linguistic groups.

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