



Building Family Literacy and Essential Skills:
Enhancing Social Inclusion

**Evaluation of a Family Literacy Program:
Upgrading for Parents with Preschoolers**

UPP

KINGSTON LITERACY & SKILLS

PREPARED BY: Dr. Noriyeh Rahbari

This project was funded by the Government of Canada's
Office of Literacy and Essential Skills. 

"The opinions and interpretations in this publication are those of the author and do not necessarily reflect those of the Government of Canada."

Background and Rationale

Family literacy is a method of education designed to develop the whole family's literacy skills versus adults only (Herod, 2002). Family literacy programs are based on the belief that children's early learning is generally influenced by their parents. In fact, parents need to develop their own literacy skills in order to support their children's success. However, it has been shown that a parent's education level by itself does not affect children's outcomes (e.g., Wagner & Clayton, 1999). Parents also need to learn how to be involved in their children's educational activities and how to motivate their children to achieve (Sénéchal & LeFevre, 2002). Therefore, family literacy programs should also include parenting skills education.

The importance of parenting skills and parental involvement for children's academic performance, i.e., home literacy, is widely supported by numerous studies showing that children whose parents are actively involved in their children's education perform better in academic activities including language and literacy skills (e.g., Li, 2006; Reutzal, Fawson, & Smith, 2006; Sénéchal, LeFevre, Thomas, & Daley, 1998; Sénéchal & LeFevre, 2002; Sénéchal, 2006). For example, Sénéchal et al. (1998) found that storybook reading by parents correlated to language outcomes, such as vocabulary and listening comprehension. Similarly, parents' direct teaching about reading and printing words correlate with early literacy skills such as alphabet knowledge, word decoding, and invented spelling.

Parenting education is particularly critical for low-income families. Research indicates that children who live in poor neighborhoods are at risk of academic failure due to the lack of educationally stimulating environments (e.g., Bohon, Macpherson, & Atilas, 2005; Massey, Gross, & Eggers, 1991). Therefore, family literacy programs targeting low-income parents should provide valuable resources to enable these parents

to contribute to both their children's academic success and cognitive development as well as enhance their own literacy skills.

Family literacy programs vary in target population and instructional activities. While some family literacy programs are designed to directly promote children's language and literacy development, others may focus on parents' literacy. Upgrading for Parents with Preschoolers (UPP), a family literacy program offered by Kingston Literacy and Skills, was focused on parents with low income and low education to help develop parents' literacy and essential skills. Moreover, the program was designed to improve parent-child educational activities. That is, parents who enrolled in the UPP program learned how to work with their children to foster their preschoolers' language and literacy skills.

The Present Study

The main objective of the present study was to evaluate the beneficial effects of the UPP program on parents' literacy development as well as on parenting skills. More specifically, we were interested in understanding: 1) whether parents improve their literacy and essential skills through participating in the UPP program, and 2) whether the program helps parents to develop their parenting skills including their involvement in their children's education and literacy development.

It was predicted that parents participating in the UPP program show higher progress in their basic literacy skills than Literacy Basic Skills (LBS) and the control group in post-tests. Additionally, parents participating in the UPP program show superior

parenting skills at the end of the program compared to the parents participating either in the LBS program or parents who did not attend any program.

Method

Research Design

The design of the study was quasi-experimental with pre- and post-tests. There were three groups: intervention group that received the UPP program, LBS group that participated in the existing adult literacy program, and the non-intervention control group that did not receive any instruction.

Participants

Thirty-three parents, 79% female and 21% male, participated in the present study. The UPP group, consisted of 14 participants including 5 participants from an Online UPP program. There were 9 participants in the LBS group and 10 participants in the non-intervention control group. The UPP and LBS participants were recruited from Kingston Literacy & Skills (KL&S) and Alternative Learning Style and Outlooks (ALSO) at Heartwood House. The parents of the non-intervention control group were recruited from Central and South Frontenac County.

For the participants' demographic distribution such as ethnicity, language spoken at home, education, age, gender, socio-economic status (SES), and number of preschool children across groups, see the descriptive analyses in the results section of this paper.

Measures

Measures of Parents' Literacy and Essential Skills

Parents' literacy skills were measured by the Prose, Document and Quantitative Profile Series (PDQ). The PDQ Series, created by Educational Testing Service (ETS), uses frameworks based on surveys conducted on adult literacy. The PDQ tests have two separate parts including a full-length test and a locator test. For the purpose of the present study, we used only the full-length test. The test is adaptive and is appropriate for our design, i.e., pre- and post-testing. The test consists of some background questions and three main parts including: prose, document, and quantitative literacy tasks. Each task contains multiple-choice questions and open-ended questions. The questions are automatically scored by the computer. For each task, scores are provided in 5-point increments, from 0 to 500. The test is administered individually using a computer. It is not a timed test and participants can work at their own pace within a reasonable period of time (<http://www.ets.org/portal/site/ets/menuitem>). The suggested time to complete the test indicated on the PDQ instruction website (<http://www.ets.org/portal/site/ets/menuitem>) is about 90 minutes. However, it took between 2 and 3 hours for our participants to complete the PDQ.

Parents Reading Skills Questionnaire

In addition to the PDQ measures used to assess participants' literacy and essential skills, parents completed a questionnaire regarding their reading ability and reading interest. The first part of the questionnaire provided demographic information (7 items) such as age, gender, first language, employment status, their highest level of

education, income, size of family, number of preschool children, ages of their child/ren, and so on. The second part of the questionnaire contained questions (9 items) such as how often they read in their free time, how they rated their own reading ability and interest, number of adult books they have at home, how comfortable they were reading aloud to their children, and so on.

Measure of Parenting

Parenting skills were measured by a questionnaire that contained questions such as what type of activities parents did with their children, how often they read to their children, how often they took their children to the library, how often they viewed TV with their children, and how often they encouraged children to develop their writing. Other questions included: how many children's story books they have at home and whether they motivated their children to read for pleasure. Some of these questions were used in previous research on home literacy environment (Sénéchal et al., 1998).

Procedure

All groups were tested on the same measures for both pre- and post-tests. Pre-tests were given to all participants at the beginning of the 20-week intervention program and the post-tests were administered at the end the program. The hours of instruction differed from one literacy centre to another. The mean hours of instruction for the UPP intervention program was 88.79 ($SD = 35.66$) and for the LBS group was 83.22 ($SD = 20.49$).

Pilot Study

Pilot testing took place at ALSO and KL&S between March and June 2010. Ten participants completed PDQ profiles series, Reading, and Parenting Questionnaires. The main purpose of the pilot testing was to review the curriculum and examine the adaptation of the teaching material. Moreover, all assessment tools were examined to evaluate the suitability of the measures and methods for the targeted population prior to real testing. The results of the pilot testing lead us to change a couple of items in the parenting questionnaire. As well, the UPP curriculum was enhanced by adding one or two specific essential skills-based activities to each theme.

Results of Quantitative Analyses

Descriptive Data

Figures 1 to 6 show the demographic information of parents for three groups including UPP, LBS and the non-intervention control group. Participants' ages ranged from 20-45 years ($M= 29, SD=7.22$) for the UPP participants, 22-57 years ($M= 39, SD=14.72$) for LBS participants, and 23-43 years ($M= 32, SD=6.41$) for the control group. For the UPP and LBS groups, most of the participants (above 90%) were female; for the control group, 40% of participants were female and 60% were male.

The number of children ranged from 1-4 with a mean of 1.95 for parents participating in the UPP program, from 0-5 with a mean of 1.56 for parents participating in the LBS program, and from 1-5 with a mean of 2.40 for the control group. For the UPP group, 86% of parents had 1 preschool child; 14% (2 parents) had no preschool children. For the LBS group, 14% (3 parents) had 1 preschool child and 67% had no preschool children. For the non-intervention control group, above 90% of parents had 1 or 2 preschool children; only 1 parent did not have preschool children.

Participants' education ranged from not having any to completing high school. The distribution of educational levels for three groups was as follows: parents participating in the UPP program, 21% had no education, 43% had elementary education and 36% had high school level education. Note that 21% of parents (2 parents) who had no education in the UPP group were from other countries. Parents participating in the LBS program, 44% had elementary level education and 56% had high school education. Most of the parents (above 90%) in the control group had high school education. Most

of the participants (above 90%) for the UPP and LBS groups showed unemployed status. For the control group, 30% were employed full- or part-time and 70% reported unemployed status. Most of the participants in all groups spoke English as a first language and most were Caucasian.

Performance on PDQ

The mean and standard deviation for Prose, Document and Quantitative Profile Series (PDQ) for UPP, LBS and the control group on pre- and post-tests are presented on Table 1. Note that the analyses of PDQ profiles for the UPP group were conducted only on 11 participants for all subsequent analyses, as some participants did not complete either the pre-test (2 participants) or post-test (1 participant). Therefore, 3 participants were excluded from analyses on PDQ. As indicated in Table 1, participants in the UPP group performed lower than the other two groups in the PDQ Profile Series pre-test. These differences on pre-test are probably due to the original differences in participants' education status across groups (see previous section on demographic information).

To compare participants' performance on the PDQ post-test across groups, an analysis of covariance (ANCOVA) was conducted to control for the effect of the pre-test. The results show significant main effect of pre-tests for all PDQ profiles including Prose, $F(1,26) = 30.20, \eta^2 = .54, p < .01$, Document, $F(1,26) = 45.80, \eta^2 = .64, p < .01$, and Quantitative, $F(1,26) = 24.75, \eta^2 = .49, p < .01$. The effect of group on post-test did not reach significant level for any PDQ profile, although the magnitude of the adjusted

means for both Prose and Document reading were higher for the UPP group than the LBS and control group (see Figure 7).

Due to the above findings, we decided to conduct analyses of variance (ANOVA) with Repeated Measure on pre- and post-tests for each group separately to evaluate participants' progress from pre- to post-test on PDQ Profile Series. As expected, the results revealed that participants' performance in the UPP group improved significantly from pre-test to post-test on both Prose, $F(1,10) = 5.04$, $\eta^2 = .33$, $p < .05$, and Document Profiles, $F(1,10) = 8.99$, $\eta^2 = .47$, $p < .01$. For the Quantitative profile, participants' performance in the UPP group improved in magnitude from pre-test ($M = 247$) to post-test ($M = 276$); differences approached but did not reach a significant level, $F(1,10) = 3.0$, $\eta^2 = .23$, $p = .11$. Participants in the LBS program showed significant improvement on the Prose Profile, $F(1,8) = 6.77$, $\eta^2 = .46$, $p < .05$, but they did not show any progress on Document and Quantitative profiles from pre- to post-test, $ps > .05$. Participants in the control group did not show significant improvement in any component of the PDQ Profile Series, $ps > .25$.

Reading Questionnaire

The Reading Questionnaire contained 9 items evaluating participants' reading, interests, and activities. Analyses of the correlation coefficients revealed significant correlations between pre- and post-rates on participants' reading activities and interests within each group. The correlation coefficients for 9 items ranged from $r = .40$ to $r = .90$ for the UPP participants; $r = .43$ to $r = .97$ for the LBS participants; and from $r = .35$ to $r =$

.90 for the control group. The significant correlations between pre- and post-tests support the reliability of the measure.

Means and standard deviations for 9 items on the parents' reading interests and activities for pre- and post-tests across the groups are presented in Table 2. To evaluate participants' progress on reading activities, parents' rates for the 9 items assessed participants' reading interests and activities on pre- and post-tests were compared across the groups. As presented in Table 2, the UPP participants showed a systematic increase in their rates from pre- to post-test for most items. In particular, they showed significant improvements from pre-test to post-test on items such as how often they read in their free time, $t = 2.5$, $p < .05$; how confident they were when reading books or magazines, $t = 3.25$, $p < .01$; how confident they are when reading safety signs, $t = 2.19$, $p < .05$; how confident they felt when following recipes, $t = 2.39$, $p < .05$. They also rated their reading interests, $t = 2.28$, $p < .05$, and overall reading abilities, $t = 3.29$, $p < .01$, higher for the post-test than pre-test. The LBS participants showed a slight increase in their rates of reading activities from pre- to post-test on a few items, but the differences did not reach a significant level. Unexpectedly, the control group showed a significant difference in their rates of reading activities from pre- to post-test on 2 items, including how confident they were when reading books or magazines, $t = 2.70$, $p = .02$, and how confident they felt when following recipes, $t = 2.40$, $p = .04$.

Parent Questionnaire

The parent questionnaire contained 11 items rated by parents for parenting skills and parent-child activities prior to and after the intervention program. The examination

of correlation coefficients for the 11 items on parenting skills between pre- and post-tests revealed significant correlation for most items across all three groups including UPP, LBS and control groups. The correlation ranged from $r = .30$ to $r = .80$.

Descriptive statistics for the 11 items on parenting skills on pre- and post-tests across three groups are shown in Table 3. As presented in Table 3, participants in the UPP program showed a systematic increment in their rates of parenting skills from pre-test to post-test. In particular, participants in the UPP group showed significant progress from pre- to post-test on the items evaluated: how often parents viewed TV with their child?, $t = 3.80, p < .01$; how confident they were when choosing a storybook for their child?, $t = 2.30, p < .05$; how they rated their knowledge about child's health?, $t = 2.50, p < .05$; and how often they encouraged their child to develop her/his writing? $t = 2.03, p = .07$. Parents in the LBS group did not show a systematic increment on their rates for parent-child activities from pre- to post-test for any item. There was not a significant difference between participants' rates on parent-child activities from pre- to post-test in the control group either.

Discussion

Quantitative Findings

The main objective of the present study was to evaluate the beneficial effects of the UPP program on parents' literacy skills and their parenting ability. As hypothesized, the current quantitative findings revealed that parents participating in the UPP program showed higher progress in their basic literacy skills than the LBS or the control groups at the end of a 20-week intervention program. Moreover, parents participating in the UPP

program showed superior parenting skills at the end of the program compared to the parents participating in either the LBS or in the non-intervention control group. The findings are discussed next.

Although participants in the UPP program started with lower literacy and essential skills (see Table 1) at the beginning of the program, they gained more literacy skills by the end of the program compared to the LBS and control groups. That is, parents participating in the UPP program performed significantly better on all PDQ profiles (i.e., Prose, Document and Quantitative skills) from pre- to post-test. The LBS participants only showed a significant improvement on the Document reading profile from pre- to post-test. As expected, the non-intervention control group did not show any significant progress on any PDQ profile from pre- to post-test. The findings of parents' performance on PDQ were further supported by the results obtained from the Reading Skill Questionnaire rated by parents before and after the intervention program. In particular, the systematic increase in parents' rates for their reading activities and interests from pre- to post-test for the UPP participants is consistent with their progress on PDQ profiles at the end of the program. These results together support our hypothesis that the UPP intervention program had beneficial effects on parents' literacy development.

In addition to the evaluation of parents' literacy development, we were also interested in understanding whether the UPP program helps parents to develop parenting skills. Our within-group comparison for participants' rates for parenting skills on pre- and post-test revealed that parents participating in the UPP program rated

higher in post-test than pre-test for almost all items (12) that assessed parents' parenting skills and their involvement in children's education and literacy development. However, a similar pattern was not observed for the LBS participants who did not receive any instruction on parenting skills.

There were some limitations in the present study that are noteworthy. First, in the current study, the between-group differences on post-test did not reach a significant level either for PDQ profiles or for Parenting and Reading Questionnaires. The observed within-group significant differences on pre- and post-tests across groups may be related to the differences in the sample size and/or variability within each group. Second, we were not able to match participants on some demographic variables such as participants' education level or the number of preschool children across groups. These differences in participants' demographic information may affect the observed results. In particular, the differences in participants' education level may affect participants' literacy ability on both pre- and post-test. In fact, the unexpected increment on Prose and Quantitative profiles of PDQ for the non-intervention control group from pre- to post-test may be attributed to the fact that almost all participants in the control group had high school or above education level. Finally, the reliability of the Parenting Questionnaire, in the current study, for the UPP, $r = .60$, LBS, $r = .37$, and the non-intervention control group, $r = .85$ were different. In particular, the low reliability of the Parenting Questionnaire for the LBS group may be because most of the parents (67%) in this group had no preschool children. This may affect their rates on parenting skills for

pre- and post-test. Therefore, the findings from the Parenting Questionnaire should be interpreted with caution.

It is important to note that the PDQ is a tool that tests the Essential Skills of reading (prose and document use) and numeracy (quantitative). The UPP curriculum is not solely focused on the development of Essential Skills as they are represented in the PDQ. The written content of UPP is basically different to that used in the PDQ tests. Despite this, UPP participants still showed an increase in their skill levels. It should also be noted that some LBS programs focus on writing skills and this teaching focus might explain why the LBS groups didn't do as well as the UPP participants in the PDQ testing.

In conclusion, the present quantitative findings revealed that the UPP program had beneficial effects on parents' literacy and parenting skills development. In the present study, however, we combined participants from both UPP Online and UPP Live programs in one group, since there were not enough participants in each group to enable us to analyze data for each group separately. It would be interesting for future research to compare the literacy and parenting skills development of the UPP Live and UPP Online program participants separately.

Figure 1. Number of Participants by Gender as a Function of Group

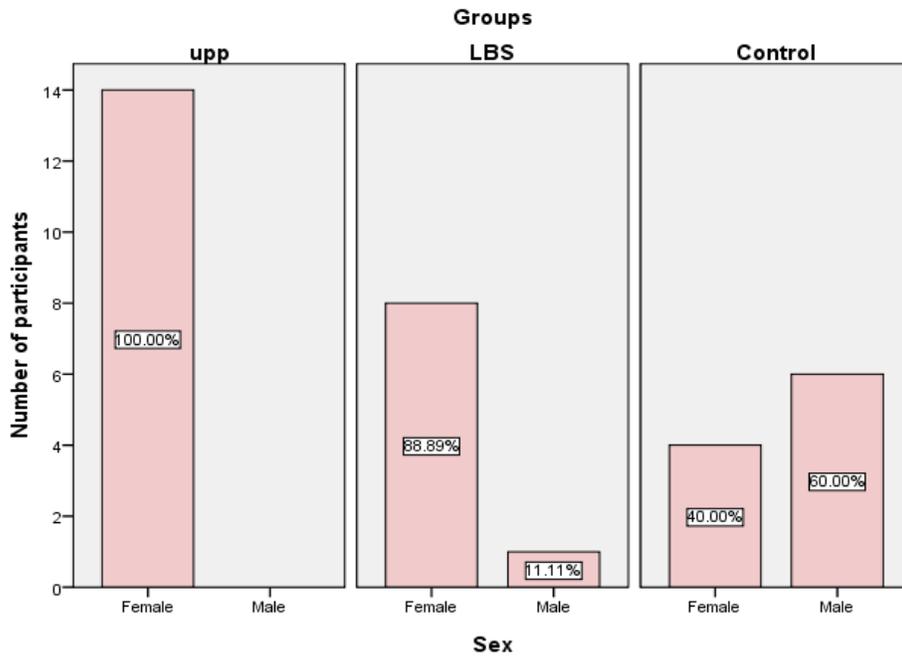


Figure 2. Number and Percentage of Parents by Number of Children as a Function of Group

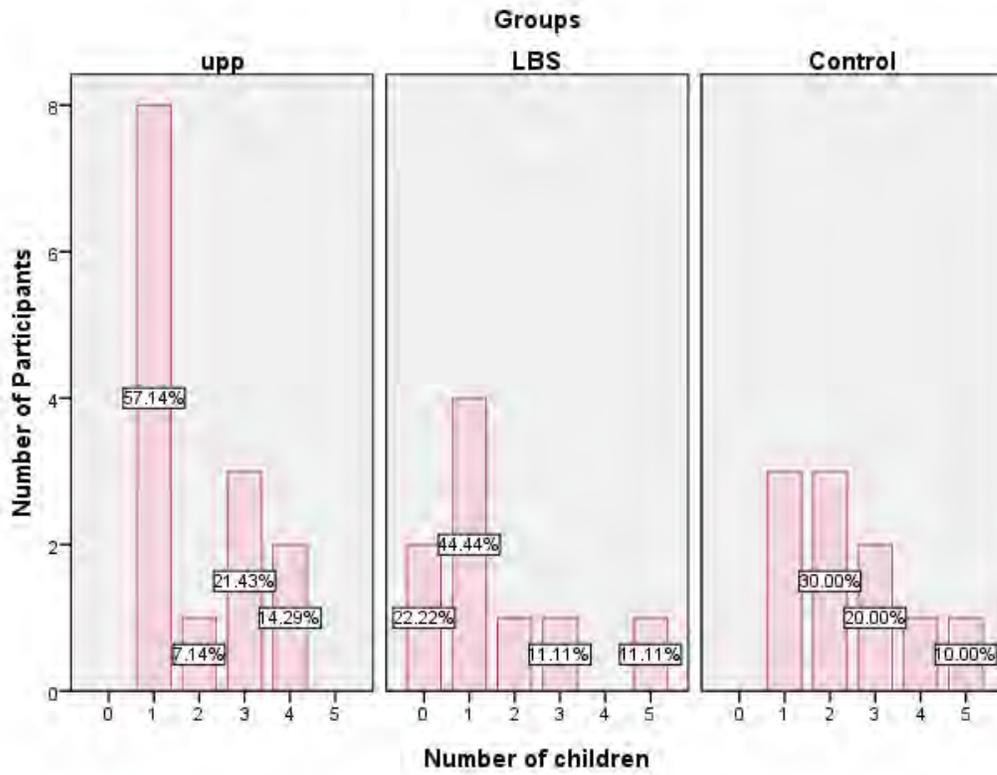


Figure 3. Number and Percentage of Parents by Number of Preschool Children as a Function of Group

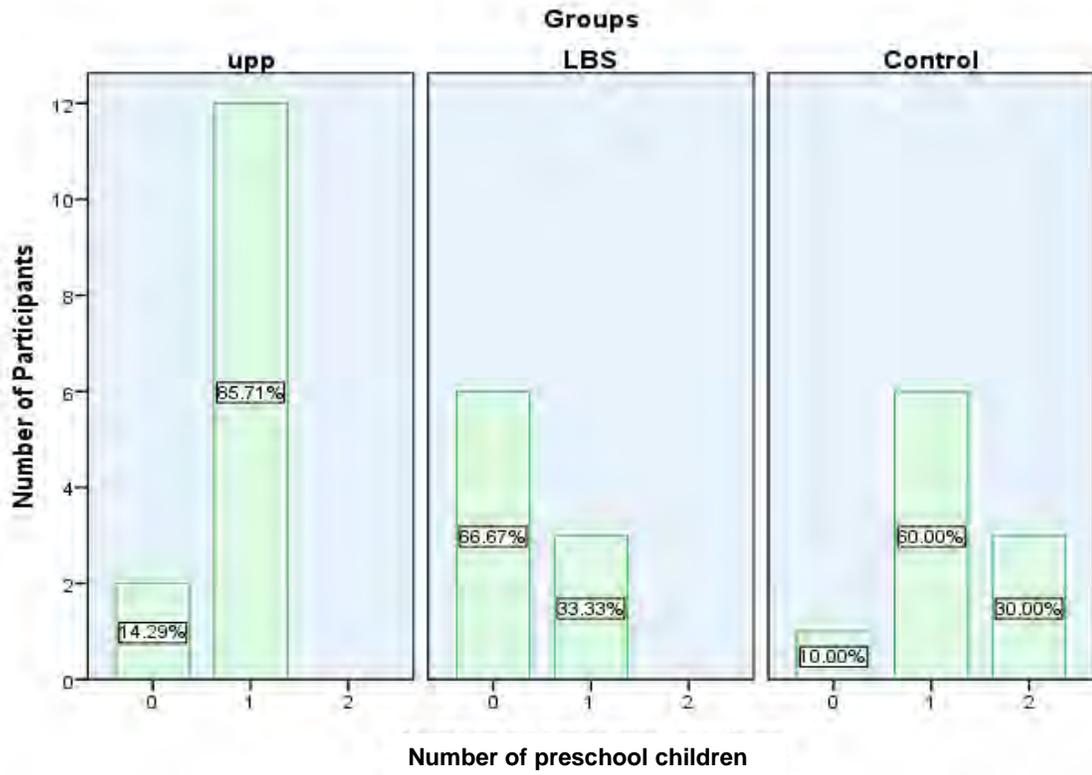


Figure 4. Number of Participants by Language as a Function of Group

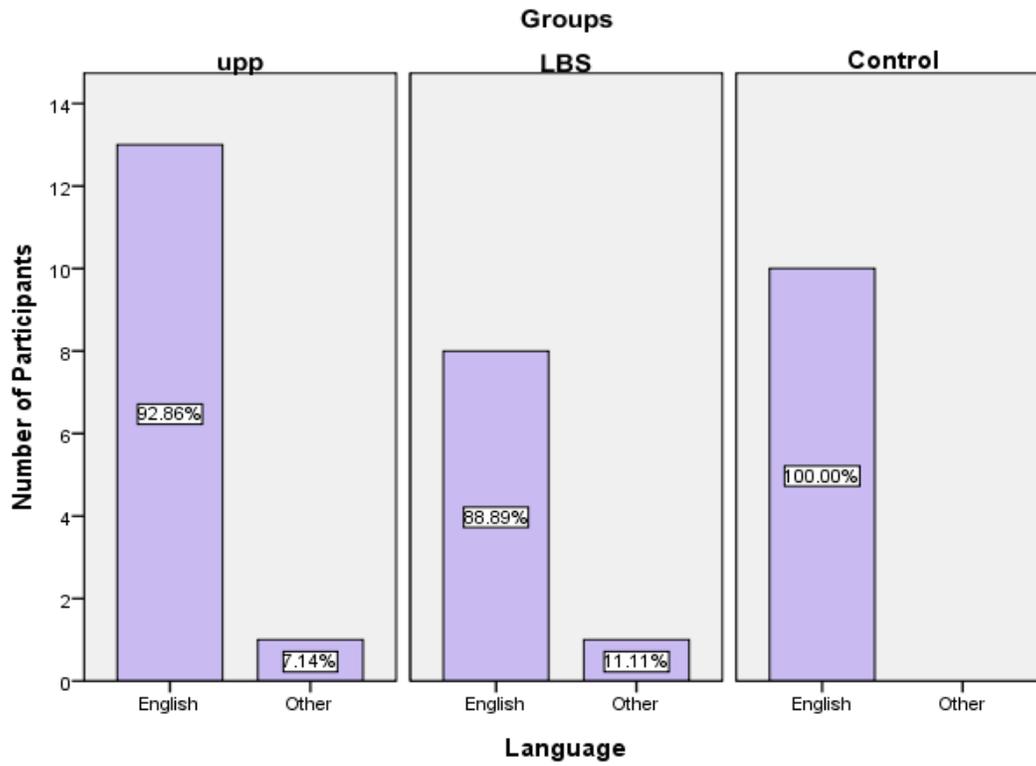


Figure 5. Number of Participants by Employment Status as a Function of Group

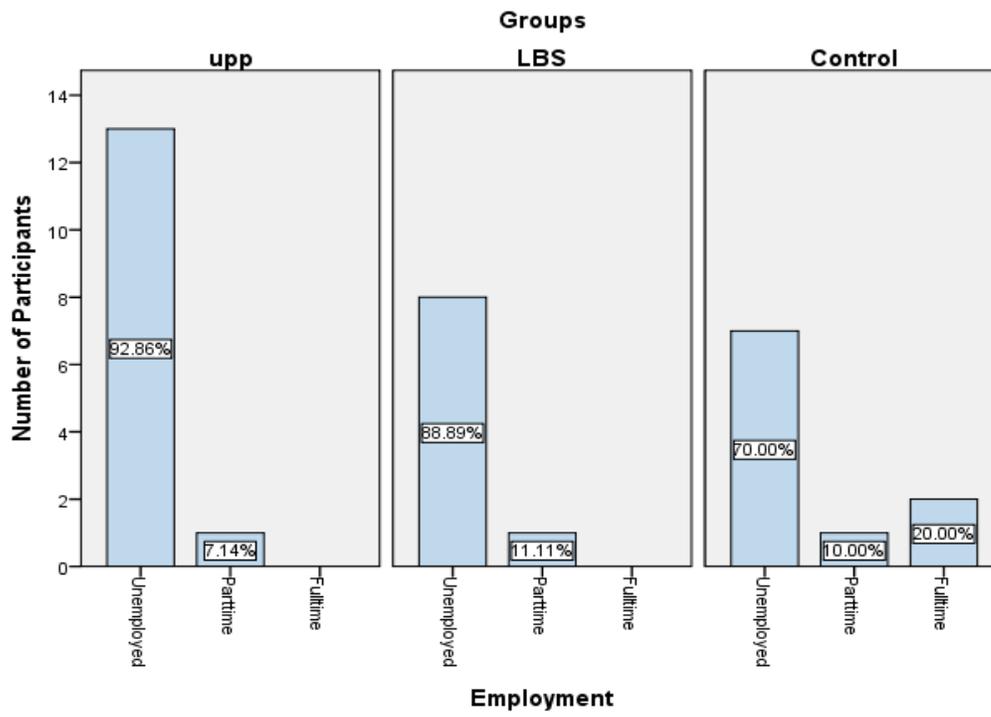


Figure 6. Number of Participants by Education Level as a Function of Group

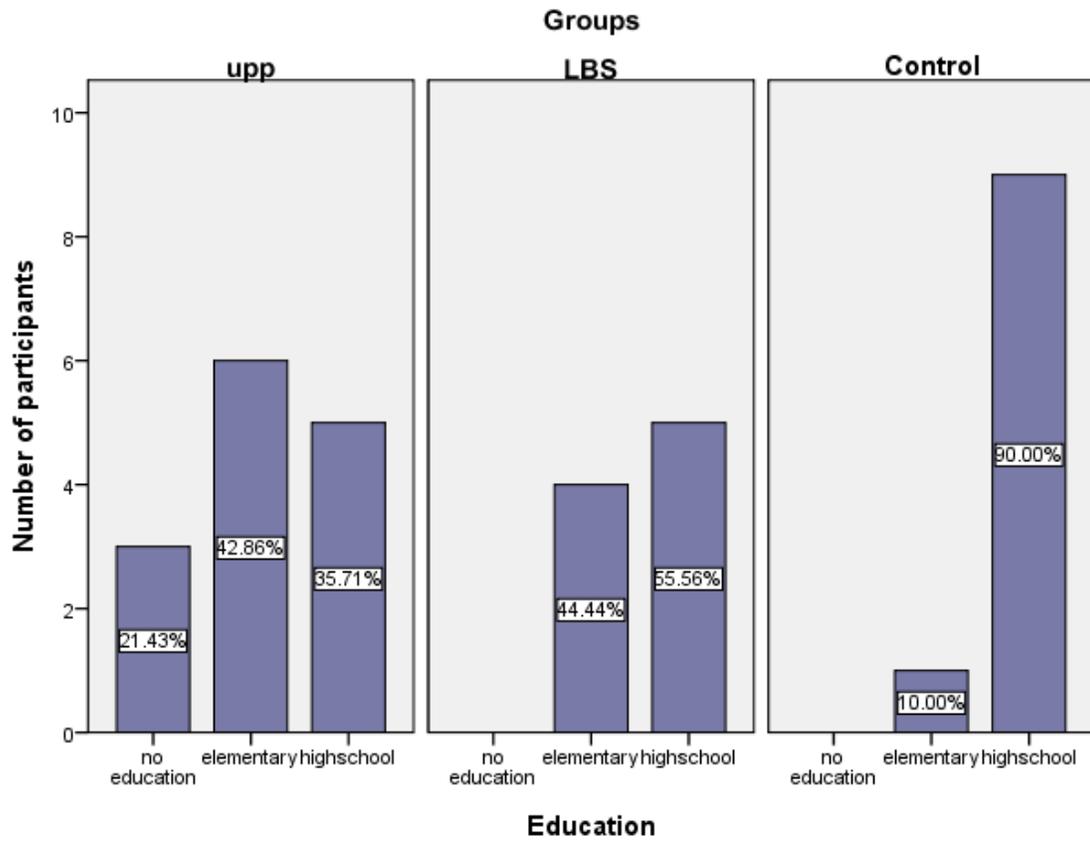


Figure 7. Adjusted Means for Participants' Prose and Document Profiles on Post-Test as a Function of Group

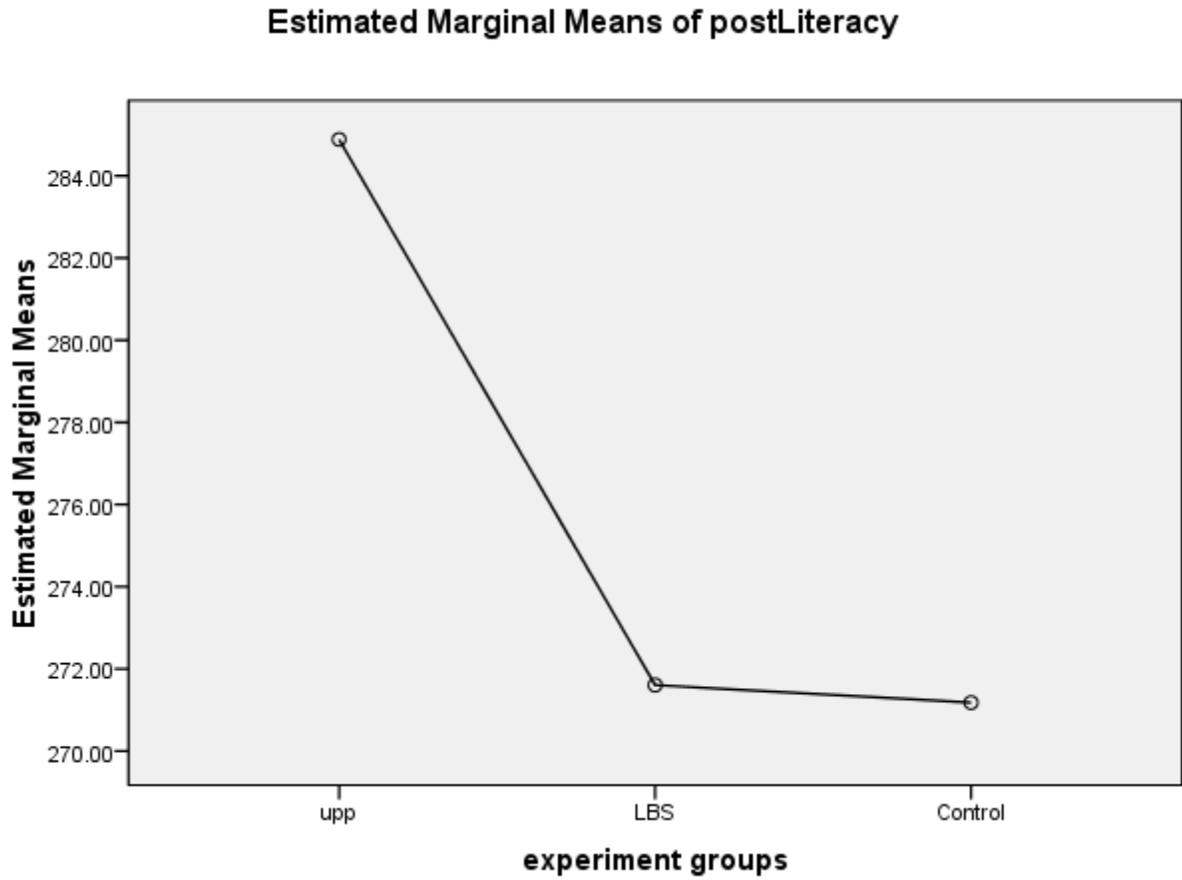


Table 1. Mean (and Standard Deviation) for Prose, Document and Quantitative Profile Series (PDQ) for Pre- and Post-tests as a Function of Group

Groups	Pre			Post		
	Prose	Document	Quantitative	Prose	Document	Quantitative
UPP	252 (16.31)	248 (18.16)	247 (19.02)	275 (19.03)	271 19.45	276 11.70
LBS	264 (11.84)	273 (20.26)	257 (24.01)	279 12.09	271 19.82	259 18.53
Control	269 (15.81)	283 (9.25)	290 (15.97)	262 (16.25)	299 (12.91)	303 (9.10)

Table 2. Mean (and Standard Deviation) for 9 Items on Participants' Reading Activities and Interests on Pre- and Post-tests as a Function of Group

Items	Pre			Post		
	UPP	LBS	Control	UPP	LBS	Control
The number of adult books in English in the household.	1.85 (1.60)	3.00 (2.11)	3.50 (1.95)	1.86 (1.57)	3.56 (1.94)	3.80 (1.98)
How often do you read in your free time in a typical week?	2.36 (1.90)	3.56 (2.00)	2.60 (2.22)	2.93 (1.97)	2.78 (1.78)	3.40 (2.30)
How confident are you when reading books or magazines?	1.64 (1.00)	2.22 (.83)	1.80 (.78)	2.29 (.82)	2.11 (.78)	2.40 (.69)
How confident are you when reading the safety warnings on consumer products?	2.07 (.80)	1.78 (.66)	1.90 (.87)	2.57 (.64)	2.11 (.60)	2.40 (.69)
How confident are you when following a recipe?	1.86 (1.10)	2.33 (.70)	2.20 (.92)	2.50 (.85)	2.00 (.80)	2.60 (.69)
How confident are you when reading to your child at home?	2.36 (.84)	2.11 (.78)	2.40 (.69)	2.64 (.84)	1.89 (.92)	2.60 (.69)
How often do you go to the library to look at and/or borrow books in English?	1.07 (1.00)	1.89 (1.05)	.50 (.52)	1.07 (1.14)	2.00 (1.00)	.80 (.42)
How would you rate your reading interest?	2.20 (1.00)	2.56 (.52)	2.00 (1.28)	2.79 (1.05)	2.44 (.73)	2.03 (.97)
How would you rate your overall reading ability?	1.79 (.89)	2.33 (1.00)	2.30 (.82)	2.29 (.91)	2.50 (1.00)	2.30 (.48)

Table 3. Mean (and Standard Deviation) for Parent-child Activities (11 items) on Pre- and Post-tests as a Function of Group

Parent-child Activities	Pre			Post		
	UPP	LBS	Control	UPP	LBS	Control
How often do you read to your child in a typical week?	4.80 (1.47)	2.80 (.33)	3.10 (1.85)	4.90 (2.07)	2.67 (2.06)	3.80 (2.04)
How often do you talk to your child about the book as you read?	2.70 (.69)	2.78 (.44)	2.50 (.84)	3.05 (.78)	2.10 (.33)	2.70 (1.16)
How often do you take your child to the library to look at and/or borrow books?	1.07 (.91)	1.11 (.60)	.60 (.69)	1.30 (1.11)	1.67 (.70)	.80 (.91)
The number of children's books in the household.	3.10 (1.49)	2.78 (1.30)	2.60 (1.35)	3.40 (1.47)	2.78 (1.78)	3.30 (1.25)
How confident are you when choosing a storybook for your child?	1.90 (.91)	1.89 (.60)	2.10 (.56)	2.50 (.65)	2.00 (.70)	2.10 (.56)
How often do you encourage your child to develop her/his writing?	2.57 (.93)	3.11 (.33)	2.50 (1.35)	3.10 (.73)	2.89 (.60)	2.60 (1.17)
How often do you view TV with your child?	2.21 (1.05)	3.00 (.70)	3.00 (.81)	3.60 (.64)	1.89 (.92)	2.90 (.56)
How often do you go to the school to help with activities?	2.21 (1.25)	1.78 (.97)	1.30 (1.56)	2.25 (1.57)	.80 (.83)	1.10 (1.19)
How often do you go to the school to talk with your child's teacher?	1.14 (1.40)	.22 (.66)	.20 (.42)	1.40 (1.39)	.33 (.70)	.20 (1.33)
How comfortable are you when taking care of your child when she/he is sick?	2.85 (.36)	2.20 (.83)	2.90 (.31)	2.95 (.26)	2.11 (.78)	2.90 (.31)
How would you rate your knowledge about child's health?	2.85 (.86)	3.10 (.33)	2.60 (.84)	3.21 (.80)	2.78 (.66)	3.30 (.99)
How would you rate your knowledge about how children learn to read?	2.55 (.99)	2.11 (.33)	2.40 (.96)	2.65 (1.08)	2.00 (.86)	2.60 (.69)

References

- Bohon, S. A., Macpherson, H., & Atilas, J. H. (2005). Educational barriers for new Latinos in Georgia. *Journal of Latinos and Education*, 4(1), 43-58.
- Herod, L. (2002). Adult learning from theory to practice Available: <http://www.nald.ca/adultlearningcourse/resource.htm>.
- Li, G. (2006). What do parents think? Middleclass Chinese immigrant parents' perspectives on literacy learning, homework, and school-home communication. *School Community Journal*, 16(2), 27-46.
- Massey, D., Gross, A. B., & Eggers, M. L. (1991). Segregation, the concentration of poverty, and the life chances of individuals. *Social Science Research*, 20(4), 397-420.
- Reutzal, D. R., Fawson, P. C., & Smith, J. A. (2006). Words to go: Evaluating a first-grade parent involvement program for "making" words at home. *Reading Research and Instruction*, 45(2), 119-159.
- Sénéchal, M., LeFevre, J., Thomas, E. M. and Daley, K. E. (1998) Differential effects of home literacy experiences on the development of oral and written language, *Reading Research Quarterly*, 33, 96–116.
- Sénéchal, M., & LeFevre, J. (2002). Parental involvement in the development of children's reading skill: A 5-year longitudinal study. *Child Development*, 73, 445-460.

- Senechal, M. 2006. Testing the home literacy model: Parent involvement in kindergarten is differentially related to grade 4 reading comprehension, fluency, spelling, and reading for pleasure. *Scientific Studies of Reading*. 10(1), 59-87.
- Wagner, M., & Clayton, S. (1999). The parents as Teachers programs: Results from two demonstrations. *The Future of Children: Home Visiting-Recent Program Evaluations*. 9(1). 91-115.