Technical Report No. 388
USE OF LITTLE BOOKS AT HOME:
A MINIMAL INTERVENTION STRATEGY
THAT FOSTERS EARLY READING
Christine McCormick
Eastern Illinois University
Jana M. Mason
University of Illinois at Urbana-Champaign
September 1986

Center for the Study of Reading

TECHNICAL REPORTS

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN
174 Children's Research Center
51 Gerty Drive
Champaign, Illinois 61820

BOLT BERANEK AND NEWMAN INC.
10 Moulton Street
Cambridge, Massachusetts 02238

The National Institute of Education
U.S. Department of Education
Washington, D.C. 20201

The National Institute of Education
U.S. Department of Education
Washington, D.C. 20201
Technical Report No. 388
USE OF LITTLE BOOKS AT HOME:
A MINIMAL INTERVENTION STRATEGY
THAT FOSTERS EARLY READING

Christine McCormick
Eastern Illinois University

Jana M. Mason
University of Illinois at Urbana-Champaign

September 1986

University of Illinois
at Urbana-Champaign
51 Gerty Drive
Champaign, Illinois 61820

Bolt Beranek and Newman Inc.
10 Moulton Street
Cambridge, Massachusetts 02238

The work upon which this publication is based was performed pursuant to Contract No. 400-81-0030 of the National Institute of Education. It does not, however, necessarily reflect the views of this agency. Portions of this manuscript were presented at the annual meeting of the American Educational Research Association in San Francisco, April 1986.
This page is intentionally blank.
Abstract

The objective of this study was to evaluate the impact over a two year period of predictable stories given to children from low-income families. Phase 1 subjects were all the children from four Headstart classes; Phase 2 subjects were the children who entered kindergarten after their last year in Headstart. The experimental group received six predictable stories during Headstart and six during kindergarten. The control group received pictures of six familiar children's stories during Headstart and six sets of workbook activities during kindergarten. Both groups received six lessons to learn about the materials during the Headstart year. In May of the Headstart and kindergarten years, children were given spelling and reading subtests and were asked to read old and new stories. Parents completed questionnaires regarding their child's use of the materials and their child's interest in and knowledge about reading and writing. The children's teachers assessed children's teachability and evaluated their early reading progress.

Differences between the two groups appeared at the end of the Headstart year and widened by the end of the kindergarten year. The experimental group scored significantly higher on story reading, word reading, and spelling. Teachers reported that a significantly higher number of children from the control group might have problems with reading when they began first grade. Parents of the experimental group rated their children significantly higher on questions concerning their child's interest in and knowledge about reading and writing than did the parents of the control group. They commented that the children "loved to read the stories over and over" and that the children could "figure out" most of the words. Evidence suggests that predictable stories encourage children to behave like readers at home, and that this at-home activity influences early reading development.
Use of Little Books at Home: A Minimal Intervention Strategy that Fosters Early Reading

Could a low-cost, easy-to-administer home intervention increase the early reading skills of kindergarten children beyond the benefit of Headstart program? We believed that it was possible because home-based parent intervention programs have produced moderate academic gains (Bronfenbrenner, 1975; Goodsen & Hess, 1976). However, these programs have not specifically addressed the issue of early reading and literacy activity in the home. Intervention programs demonstrating the greatest academic and cognitive gains have been those emphasizing verbal interaction skills between mother and child (Levenstein, 1970, 1975, 1977; Lazar & Darlington, 1982; Lazar, Darlington, Murray, Royce, & Snipper, 1982). Intervention programs that help parents develop a more elaborate language style with their children have also been successful (Slaughter, 1983). Effective programs appear typically to begin in the preschool period and involve parent-child verbal interactions. This suggests that an early reading intervention program should be initiated during the Headstart or kindergarten year and employ literacy activities that foster parent-child verbal interactions.


Another aspect of early experience is the role played by children during parent-child communication. Encouraging original responses from children, which Siegal (1982) refers to as a distancing strategy, is thought to help in developing competence or skills in dealing with transformations from one domain to another. Examples of transformations include the use of pictures to understand authors' ideas and of spoken words to understand written words. Hess, Holloway, Price, and Dickson (1982) suggest that specific elements of the home environment affect specific components of reading skill acquisition. They found a positive correlation between parents who make requests for verbal feedback from their children and require them to generate responses in
their own terms and their later ability to recognize letters in kindergarten and first grade (Price, Hess, & Dickson, 1981).

Since children from working class families are more likely than those from middle class families to encounter problems with reading at school (McCormick & Mason, 1986; Snow, 1983), it is reasonable to suppose that there are differences in the amount of support for activities related to reading. That is, fewer working class than middle class families seem to serve an intermediary role of helping their children learn about print. We proposed that involving the working class family in the child’s first attempts at behaving like a reader would help them foster parent-child communication about print and encourage their children to focus on letters, printed words, and story information.

Our approach to understanding development of early reading concepts and the differences in these skills in relation to family experience uses the theoretical perspective of Mason (1977, 1980). From a year-long longitudinal study of children in a university preschool, Mason identified three levels of early reading. Each level is determined by a different set of strategies children use to identify printed words. The following description clarifies this point.

In the first level, words are identified in their location and through unique configurations of letters. The process of reading is probably similar to looking at and remembering pictures, with each word in each location treated as a different object-like entity. A few words are thereby recognized by sight and remembered within their context. It can be supposed that many exposures of words in their meaningful contexts enable children at this level to relate their oral language to printed words. However, since their strategies for recognizing printed words are context-based and often tied to inappropriate clues, they make many word recognition errors and have difficulty learning words.

As children become better acquainted with printed forms of words in context, learn the alphabet, have books and labels read to them, and attempt to print words, they become aware that letters signal particular sounds, and that these phonemic sounds can be heard in words, at least at word beginnings. In so doing they begin to notice structural characteristics of print, such as realizing that the same word can appear in different places and that letter names can help to identify the sound of letters that they hear in words. A third level of development occurs when children realize that some letters have more than one sound and that sequences of letters have predictable sound patterns. Children now develop efficient means to recognize letter patterns and letter sounds and attend more completely to meaning. They begin to hold a more flexible view toward letter-sound relationships, recognize words that have unique patterns, and develop confidence in their
knowledge about letter-sound patterns to figure out the pronunciation of regular-patterned words. Moreover, they make use of context in word identification, by skipping unknown words or reading ahead in order to recognize words.

To verify the accuracy of this model, kindergarten children's early reading skills were assessed with a number of early reading tasks (Mason & McCormick, 1981; McCormick, & Mason, 1981). Children's skills did change as predicted by the three level sequence and consonant with their level of development. During the months between kindergarten and first grade, children at Level 1 demonstrated gains mostly in letter-name knowledge, those at Level 2 demonstrated gains in consonant-sound identification and spelling, and those at Level 3 demonstrated gains in vowel-sound identification and word reading.

In the process of delineating the early reading model, which included the use of predictable stories containing pictures and only a few words on each page, it was apparent that Level 1 readers could learn to recite these brief stories and that they enjoyed the activity. Furthermore, there was a hint in the data that the use of the materials fostered reading. The year-long training study (Mason, 1977), had compared a program which featured predictable stories with a program that emphasizes letters and sounds. The results indicated that an orientation to meanings of printed words led to a somewhat higher overall score on a set of posttests than did an emphasis on word analysis.

We hypothesized that predictable books that were provided before first grade might be an effective way to introduce children, particularly those who had limited literacy experiences at home, to reading in an informal way. Preliminary work determined that most children from families on public aid and from rural communities were still Level 1 readers when they began first grade. In fact, many were entering first grade with less knowledge of sign and label words, letter names, and letter sounds than were the prekindergarten children of middle income families from the Mason (1977) study. Furthermore, questionnaire responses from parents indicated that the children had received less support for activities related to reading, they had fewer alphabet books in the home, and parent-child discussion of educational television was less common.

In our first training study (McCormick & Mason, 1986), preschool children from low-middle income families were introduced at school to predictable stories over a two-week period. After receiving 10 lessons they were given their favorite books to take home. Comparisons determined that the approach that focused on story reading and rereading until children could do it without help was somewhat more effective than the approach that had children attend to letter sounds and words from stories. Parents in both groups responded favorably to our gift of the materials and reported that their children used the stories frequently at home, by initiating story reading.
with family members. The parents also commented that they hadn't realized their child was interested in trying to read until the child brought home the stories. Some noticed that the child was behaving like a reader, carrying the books around and showing off an ability to read the stories.

The follow-up parental interview data suggested that the little book materials encouraged children to engage in verbal interaction about the pictures and print. Pursuing this possibility we analyzed videotapes of Headstart children's participation in group book reading sessions (Mason, McCormick, & Bhavnagri, 1986; Mason, 1985). Over the course of several sessions with the predictable books, it was apparent that children began to use metacognitive strategies of monitoring, planning, and evaluating story information. Story recitation provided a format which allowed children to begin to predict and discuss the story content as well as to express confusion or a need for clarification about the story.

We next examined the use of stories in a home intervention study with two groups of preschool children (McCormick & Mason, 1986). Children who were selected during a prekindergarten screening were given brief tests of letter naming, sign and label reading, spelling, and story reading. They were then given a packet of three stories and a two-page note to parents briefly explaining how to help their child read the new stories at home. Virtually all the children had limited letter-name knowledge and no knowledge of letter sounds or printed words. During the summer before kindergarten the children received another set of three stories in the mail and in the following fall a third set of three stories. Follow-up testing was done with the children who entered kindergarten in the fall. This group of 23 children was matched on receptive vocabulary scores with a control group of 22 children who were in the same kindergarten program but had not received any of the book materials. Testing at the end of the kindergarten year included tests of sign and label words, letter names and letter sound knowledge, recognition of common words, pseudoword reading, and reading two of our stories. Results showed that word knowledge, spelling, and story reading were predicted by treatment after accounting for vocabulary knowledge.

The reading progress of the children at the conclusion of first grade was also measured. The first grade teachers ranked all children in their classes in overall reading skill and reported the children's placement in reading groups. The overall comparison of the experimental and control groups indicated higher average rankings for the experimental group. Moreover, only 6% of the experimental group was in the lowest reading group, compared to 29% of the control group (and 29% of all children in the six classrooms). The treatment made the greatest differences to those children who entered kindergarten with low vocabulary test scores. We presumed they were children who were
least likely to have home experiences which encourage attention
to print and attempts to read.

Although this study indicated that receiving stories at home
was more effective than not receiving stories, particularly for
children from working class families, we were not sure whether the
effect was due to the books or merely to receiving something in
the mail. Moreover we had not done enough testing to explain why
the treatment was effective.

The study reported next focuses on two groups of
academically at-risk children and provides an alternative
treatment in place of a no-treatment control. Both treatments
involved introduction of materials in school and follow up
mailing to the homes. At-risk children were chosen because the
earlier studies suggested that the treatment would make a greater
difference for these children.

Phase 1 Experiment

Method

All children (n = 52) in four Headstart classrooms of a
small, midwest city were used as subjects. The average age was
55 months, with a range of 37 to 67 months. The study began in
January by pretesting the children and having parents fill out a
questionnaire. The questionnaire which is in Appendix A,
adressed children's interest in reading and printing, their
children's knowledge of letters and words and parents' support
for activities related to reading. The children were pretested
individually on measures of letter naming, sign and label
identification, and story reading. See Table 1 for description
of assessment measures. The children were also given the Peabody
Picture Vocabulary Test-Revised (PPVT-R) as a measure of
receptive vocabulary. Teachers completed a teachability rating
on each child (Keogh & Kornblau, 1980). This measure assesses
teachers' perceptions of the ideal student and has several
subscases, two of which were used in our study: school
appropriate behavior and core items for the ideal student.

[Insert Table 1 about here]

The children were assigned to experimental and alternative
groups by dividing an alphabetized list of the children from each
class in half and placing the first half of the lists from two
classes and the last half of the list from the other two classes
in the experimental group. The remaining children were placed in
the control group. This method of assignment was used in order
to facilitate getting the children from classes for the lessons.
Pretest scores on the PPVT-R indicated that the groups were
equivalent on vocabulary, ($x_{exp} = 89.0, x_{alt} = 84.3, t = .27$).

Following the pretesting the treatment groups received
lessons once a week for six weeks, presented by McCormick, of 10-15
minutes each in groups of four to six children who were
taken to a room adjacent to the classrooms for each lesson.
Each experimental group was introduced to one new story each week.
using the story recitation technique explained in Mason, McCormick and Bhavnagri (1986).

In each lesson McCormick introduced the story by asking the children to predict the possible content of the story when shown the title page and to relate the possible content of the story to their own knowledge. This step helped children focus on the meaning of the story. Next she modeled reading the story, showing the print and pictures to the children as she read aloud. After modeling the story, children were encouraged to recite it with her, first as a group and then singly, each saying a portion of the text. When children were listeners, they were allowed to insert comments or repeat the recitation of the child whose turn it was to respond.

In these lessons the teacher’s role was to provide just enough support that children would succeed in the task. At first the story was modeled until the children were willing to say it as a group. Then, tryouts by the group and by individuals were repeated until all children knew most of the story. After reading the new story, children chose and reread one of their favorite stories from an earlier lesson. Each week the story introduced for that week was mailed to the child at home. This later proved to be a challenge since at least half of the children moved at least once during the whole study.

The alternative treatment followed a similar format. McCormick worked with small groups for the same length of time but used pictures instead of print and had children listen and discuss stories instead of reading. Familiar children’s stories, such as The Three Bears and Little Red Riding Hood, were told to the children while they were shown the illustrations. The original plan was to read the story, but after the first session it became clear that the children could not sustain their interest or attention if the story was read in its entirety. Thus, McCormick told the story in an abbreviated fashion, emphasizing what was happening in the illustrations accompanying each story. Following the initial presentation, the children were asked individually to retell the story with each child giving a portion of the story line, using the pictures to elicit their comments. Favorite stories were reviewed in subsequent lessons. Each week drawings of the illustrations used during the group presentation were mailed to the children at home.

In April the children were post-tested on the same measures of letter naming and sign and label identification that they had been given before the treatment. They were also asked to read a story that was familiar to the experimental group and a story unfamiliar to both groups. For this task they were handed the book, told its name, and asked to read it. Since there were pictures on each page, all the children were able to participate, though of course most merely looked at and labeled the pictures or made up a story. The children were also given a brief task in which they were asked to identify “something to read” given
pictures of a familiar object and the printed names of the object. Parents responded again to the questionnaire on the child's interest and knowledge in reading as well as to the materials that had been sent home.

**Results**

A hierarchical multiple regression analysis was run to analyze children's knowledge about reading at the end of the Headstart year. The sum of the standardized scores on the six posttests was defined to be the dependent variable. At Step 1, parents' support for reading was forced in. At Steps 2 to 7, children's sex, age, picture vocabulary ability, parents' estimates of their children's knowledge about print, and teachers' estimates of children's teachability were allowed to enter as determined by the strength of the remaining variance. At Step 8 the standardized sum of children's pretest reading scores (picture labels, letter names and story reading) was forced. Step 9 was the treatment condition and Step 10 was a treatment by vocabulary ability interaction. The independent variables were forced in that order so as to evaluate in the first step the effect of prior home support for reading, in the second through seventh steps other possible contributors to reading, and in the last two steps, the effect of the treatment.

The overall F at each step made a significant contribution, explaining at Step 1, 15.6% of the variance; at Step 2 through 7, an additional 37.4%; at Step 8, 5.8%, and at Step 9, 21.3%. The interaction term made no contribution (See Table 2).

The first step indicates that prior support by parents for reading affects children's early reading progress. Of the several background variables allowed next to enter, the only one to make a substantial contribution was teachers' estimates of children's school-appropriate behavior. It indicates that children who follow directions, are eager and are able to complete classroom tasks, and are alert and attentive to classroom proceedings also have higher early reading scores. Step 8 determines that variance accounted for by the pretest makes an additional contribution. The treatment variable explains a major portion of the posttest variance. It indicates that above and beyond parents' support for reading, teachability and incoming knowledge about reading, children who were provided opportunities in Headstart to recite simple stories gained more early reading knowledge than did children who listened to and retold stories.

Treatment effects were not distributed evenly across all subtests (See Table 3). While all subtest scores favored the book treatment over the alternate, larger effects appeared for story reading, particularly for the story that the book treatment group had received, than for word and letter subtests.
The parent questionnaire, given in January and repeated in May, indicated small changes in the parents' responses, favoring the experimental group. Children in the experimental group knew more letters in May (pre-mean of 1.0, post-mean of 1.5, based on the average score for the first six questionnaire items) while the children in the alternate group did not change (pre and post means of 1.0). Also, children in the experimental group received nearly the same amount of support from parents at both times (pre and post means of 1.8) while children in the alternate group received less support in May than in January (pre-mean of 1.8 and a post-mean of 1.5).

Phase 2 Experiment

All of the children in the four Headstart classes who had participated in Phase 1 and who entered one of the city's kindergartens programs the next year participated in Phase 2. Beginning in January of the kindergarten year, the children received five sets of materials in the mail; materials were mailed about three weeks apart. The experimental group (n = 13), who had been in the experimental group in Phase 1, received new stories. The alternative treatment group (n = 11), who had been in the alternative group in Phase 1, received visual perception activity pages, such as matching figures, visual puzzles and picture completion. These activity pages did not involve letters or words. Neither group was provided additional in-school treatment and the kindergarten teachers were unaware of the study.

In May the children were post-tested. The children were individually given the reading and spelling subtests on the Wide Range Achievement Test (WRAT). The procedures described in the manual were used for administering the spelling and reading subtests on the WRAT but the scoring procedures were modified. (See Table 4). Following administration of the WRAT, each child was asked to read three stories. One story had been mailed to the book treatment group during the Headstart year (Time for Bed), one story was mailed during the kindergarten year (Pick up Toys) and one story (Can You Carry?) was new to both groups.

At the end of the school year the kindergarten teachers completed a questionnaire on the child's reading skills which included a prediction of the child's likely success in first grade. The parents completed a short questionnaire on their child's use of the materials received in the mail and their child's interest in reading and printing at home. During the summer following kindergarten, six of the parents of the children in the experimental group were interviewed regarding their child's use of the stories and reaction to the treatment.

[Insert Table 4 about here]

Results

The results indicated significant differences between the two treatment groups on nearly every measure (See Table 5). Using a simplified six-level version of Sulzby's (1985) levels of story reading, experimental children's readings of the Headstart
story, the kindergarten story, and the new story were a closer match to print than were the same readings by children in the alternative group. The number of words correct in each reading of a story also differentiated the two groups. The experimental group scored significantly higher on the two familiar stories, and on the new story the results were nearly as significant (see Table 5).

The higher performance of the experimental group was not limited to scores on story reading. Letter-sound identification scores from the spelling subtest on the Wide Range Achievement Test indicated that the experimental group was able to identify significantly more letter sounds than was the control group.

Parents reported significantly higher scores for the experimental group on nearly every question which queried children's interest in reading or writing, frequency of use, or knowledge of reading and writing (see Table 6). Responses to questions 1, 2, and 3 indicate that children maintained a much greater interest in books than activity sheets. Questions 4-9, 11, 13, and 14 suggest that receipt of books at home helped children become more interested in hearing and telling stories and trying to read, and led to their spending more time looking at and trying to read books and printing words. Questions 15 and 17 suggest that having the books at home directly affected the number of words they could read and print. Finally, parents whose children were in the experimental group commented on the usefulness of the books in getting the child interested in reading, using them to read aloud, sound out words, reread, figure out word meanings, or teach a younger sibling. Parents whose children were in the alternate group had little to say of a positive nature except that children appreciated receiving the materials in the mail.

The teachers' predictions of the children's likelihood of success with first grade reading were analyzed using a chi-square test in which the number of children likely to be retained in kindergarten or to experience difficulty in first grade reading compared to the number of children in the categories of likely to get by in first grade reading or to do well in first grade reading. The children in the experimental group were significantly more likely to do well or get by in first grade reading than were the children in the alternate group ($\chi^2 = 4.05, p < .05$). A subsequent accounting of these children in first grade has so far determined that of five children from the experimental group, two were in high reading groups, two in middle groups and one in a low group, all going on to second grade. Of five in the alternate group, two were placed in transition rooms mid year and will be going back into first grade, one is repeating first grade, and the other two were in low reading groups in first grade.
The significantly higher performance on all measures for the experimental group in Phase 2 and beyond could be foreseen from the regression analysis of Phase 1 test data and from separate analyses of children who went on to kindergarten from the other children (Table 7). Average scores on Phase 1 measures when the groups were subdivided into those younger children who did not go on to kindergarten and those children who were included in the kindergarten follow-up of Phase 2 indicate that the older children in the experimental group were showing greater gains on all measures than were the younger children in the experimental group, but that relative to the alternative group, both experimental groups were making greater gains.1

[Insert Table 7 about here]

Discussion

In the first phase of the study with Headstart children it was demonstrated that story reading activity does affect early reading skill development. In the reading sessions, the way to read simple stories is modeled, and then the story ideas are discussed with children and the text is recited until the whole story is memorized. This technique, which supports children so that they can master whole stories at their level of competence (Level 1 reading), enables them to learn to read simple books accurately and to transfer the approach to texts that they have not seen before and that contain different words. During the first phase significant treatment effects were found for accurate story reading. Even stronger differences were apparent during the second phase of the study, with results seen in tests of reading, parents' assessment of their children's interest and activity surrounding print, and kindergarten and first grade teachers reports of the children's ability and progress.

During kindergarten the changes in children's reading knowledge as measured by our tests showed up in story reading accuracy and written language use on new as well as old stories and in letter-sound knowledge. The results suggest that having readable stories at home allowed the book treatment group not only to read familiar and new stories more accurately but to use language more similar to written language for story reading attempts. The significant increase also in letter-sound knowledge suggests that story reading sets the stage for decoding, familiarizing the child with print and what it means to read, and allows the child to benefit from instruction in the more traditional Level 2 early reading tasks such as letter name and sound activities, that are practiced in many kindergartens.

Even though story reading emphasizes whole texts and meaning, the practice helps children more readily master the Level 2 letter activities of kindergarten. This would suggest that Level 1 activities such as listening, reciting, and reading books provide an important grounding for analysis of words into letters and sounds, particularly for children who enter school with little book-reading experience.
While teachers indicated that the children in the book treatment group were indeed performing better, in that they were perceived to be more likely to succeed in first grade reading (which was subsequently verified by their progress in first grade), the teachers did not seem to notice differences in the children's interest or their skills with reading and writing. It may be that the teachers were not attuned to differences between Level 1 skills and Level 2 skills or were not aware of their importance. This question deserves to be examined more closely in future research.

Parents of the book treatment children noticed changes in the children's knowledge and interest in literacy that they attributed to the treatment. In comparison to the alternate group, they rated their children significantly higher on questions concerning their child's interest in hearing and telling stories and trying to read. They noted more frequent use of books, and attempts to print, and they indicated more knowledge about reading and writing. Moreover, book treatment parents were uniformly pleased with the encouragement the materials afforded their children.

Following the post-testing, several of the parents from the book treatment group were interviewed by McCormick for more in-depth information regarding the use of the books at home. The parents were very familiar with the stories the children had received in the mail and all indicated that the children had involved the parents in reading the stories, both by reading to them and by asking for help with new stories. The parents viewed the stories as helping their children learn to read. One father even stated that he wished he had had stories like those when he was learning to read. One mother who said the books really boosted her daughter's morale captured the general sense of enthusiasm over the treatment. Excerpts from four of the interviews are presented in Table 8. It is clear that the children were reading the stories at home, that parents were aware of their child's success with this reading task, and that materials provided a vehicle for the parents to interact with children.

The overall results indicate that children who receive stories at home do learn to read them. Benefits also extend to the amount of home support they receive for literacy, the use of a written language register to try to read, and their knowledge about letters, letter-sounds, and printed words. It appears that children become actively involved, presumably for the first time, with reading in a way that enables them to be successful and to share with their parents. The finding that at-home practice with reading eventually transfers to classroom skills of letter-sound identification is also a significant result. We conclude that Level 1 tasks, such as story reading and rereading, are important for success in beginning reading instruction in
school because they lead children to focus on printed information and foster parent-child verbal interactions. Although many working class children are not provided Level 1 skills at home, a book-reading intervention encourages its practice and involves the family in the children's successful experience with reading.

One possible insight into the effectiveness of the materials was noted by McCormick during several sessions of reading-readiness testing with a group of low-income, academically at-risk kindergarten children who were similar to the alternate treatment children at the end of their kindergarten year. While these children were cooperative and attentive when they felt they knew the answers to the tasks, they used a number of counter-productive strategies when the tasks became difficult. They stopped listening to directions, did not stay with the pace of the testing, began talking about irrelevant topics or asked to quit, and began marking the answer booklets at random in an attempt to get the task over with. That is, they displayed an unusually low tolerance for moderately difficult academic tasks. These responses carry into the academic work they are asked to do in the classroom and undoubtedly lead the teacher into believing that the children are unable to learn to read with classmates.

Reading readiness tasks are not difficult, but they may not make sense to children who have not had the opportunity to recite simple stories, pretend read, print letters, sound out words and memorize familiar printed words. Children in the book treatment did have these opportunities and then successfully negotiated the school reading lessons both in kindergarten and in the first grade. The book treatment has a synergetic effect, allowing the building of information about literacy, giving a context for making sense of letter and letter-sound activities of kindergarten, reading readiness tests, and first grade instruction.

Simple-to-read books can provide academically at-risk children with a low-cost but effective introduction to reading. The books we used are inexpensive, as they were copied from a master set and xeroxed for children to keep at home. They can be used as a supplement to any Headstart or kindergarten reading program and are easily incorporated into the classroom using small group reading as an activity. For children with few books at home and limited opportunity to behave like readers, predictable stories can be introduced at school and then sent home over a protracted period of time, probably for one to two years.

Having the books sent home is a central aspect of the intervention. We consider this step essential, not only because it provides opportunities for book ownership and out-of-school reading before it is taught in kindergarten or first grade, but because it encourages parents and children to talk together about books and reading. A rich verbal interchange occurs that allows children to talk about word and story information and transfer
personal experiences to picture and story information and lets parents see the early reading progress of their children (Sigel, 1982). Put otherwise, book materials are more effective than picture and worksheet materials because books contain print and foster child-initiated literacy activities and child-parent interactions that help make school lessons more understandable.

A final important consideration regards the cost of our intervention. Home intervention programs are expensive, often costing thousands of dollars per child in administration and materials (Andrews, Blumenthal, Johnson, Kahn, Ferguson, Lasater, Malone, & Wallace, 1982). In this intervention study the intervention in the Headstart classroom took place for 10-15 minutes, once a week, for 6 weeks. Phase 1 and Phase 2 cost of materials was 11 stamps, 11 large manila envelopes, and less than 40 xeroxed story pages per child, approximately $5.00. Collating and mailing the materials may have taken about two minutes per child, less than 30 minutes for 11 mailings to each child.

References


Footnote

1(Seven children went on to kindergarten out of the district and thus were not in Phase 2 and were excluded in the average scores for the subdivided groups.)
Table 1

Description and Scoring Procedures for Assessments Used in Phase 1

Letter naming: The child was asked to name 10 uppercase letters: R, P, H, A, F, D, T, M, E, B. The printed letters were presented individually and each correct letter name given by the child received 1 point, resulting in a possible score of 10. (Administered pre and post.)

Sign and label identification: The child was first asked to name individually presented black and white line drawings of the following: a stop sign, a package of M&M's, a Kool-aid package, a Crayola crayon box, a Johnson's baby powder container, a door with an EXIT sign above it, a bottle of Coca-Cola, a container of Nestle Quik, a box of Jello and a telephone booth with TELEPHONE printed on the top of the booth. The child's response to each picture was score 0, 1 or 2. One point was given for a response which was a generic description of the item or synonym, such as "pop" or "pepsi" for Coca-cola or "sign" for the stop sign. Twenty points were possible. (Administered pre and post.)

Sign and label print identification: The child was shown 10 cards, one at a time, which presented only the print form of the signs and labels described above, and was asked to tell the examiner what the word said. The print was identical to the style of print in the complete picture of the sign or label. Responses were scored 0-2: 0 given to no or wrong response, 1
Table 1 (Continued)
given for part of the printed label or a generic description of the item and 2 points for the correct word. Twenty points were possible. (Administered pre and post.)

**Story reading:** Each child was given a copy of our *Stop* story, a 6-page, 13-word story in which a word or phrase per page matched an uncluttered illustration, and told that it was a story about stop. The child was then asked to read or "pretend read" the story to the examiner. The responses were written down verbatim and later scored by giving 1 point for each word the child said that matched a printed word on that page. Thirteen points were possible. A second story, *Go*, which was used in the post-testing, contained 13 words. The same procedure was used and 13 points were possible. (*Stop* was administered pre and post; *Go* post only.) The *Stop* story read: Stop car. Stop bus. Stop truck. Stop stop stop. Stop for the cat. The *Go* story read: Go cat. Go dog. Go pig. Go to the car.

**Printed word task:** The children were shown six pictures, presented one at a time, of familiar objects: ball, teddy bear, sailboat, train, car and house. A single printed word was beneath each picture: ball, bear, boat, train, wheel and door. For each picture the child was asked to "Show me where there's something to read." An indication of the print rather than the picture received 1 point. Six points were possible. (Administered post only.)
Table 1 (Cont'd)

Parent questionnaire: Each parent completed a questionnaire which was sent home by the teachers concerning the child's interest in and knowledge of letters and words and the parents' support for activities at home related to reading. Twelve questions concerned the child's interest in and knowledge of letters and words, such as: How many capital letters does your child try to print; does your child ask to have stories read to him; does your child try to read a story to you? The 6 questions concerning the alphabet and printed words were scored 0 (not any) to 3 (more than 20); the other 6 questions were scored 0 (never) to 3 (almost always). Total possible points for the parental assessment of child's knowledge was 36.

Nine questions concerned parental support for activities related to reading, such as, Does someone read to the child at home; does your child talk to you about Sesame Street? Responses were scored 0 (never or none) to 3 (nearly every day). Twenty seven points were possible for the measure of parental support for reading activities at home. (Administered pre and post.)

Teachability: The teacher completed a rating of 0 (almost never) to 5 (almost always) for 16 descriptive terms designed to measure the child's teachability. Eight descriptors were those selected by teachers at all grade levels to describe the ideally teachable student, such as curious, confident, emotionally stable, and
empathic. The other 8 terms were those items identified by the authors of the scale to measure "school appropriate behavior." Descriptors on this scale included: follows directions, enjoys school work, and attention span appropriate for age. Forty points were possible for each scale. (Administered pre only.)
Table 2
Regression Analysis for Phase 1, Predicting End-of-Headstart Reading Test Scores

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>F to enter</th>
<th>Beta to enter</th>
<th>Multiple R</th>
<th>$R^2$</th>
<th>Simple R</th>
<th>Final Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Parent Literacy Support</td>
<td>9.1</td>
<td>.40</td>
<td>.40</td>
<td>.16</td>
<td>.40</td>
<td>-.03</td>
</tr>
<tr>
<td>2</td>
<td>School Appropriate Behavior</td>
<td>16.6</td>
<td>.55</td>
<td>.64</td>
<td>.41</td>
<td>.62</td>
<td>.32</td>
</tr>
<tr>
<td>3</td>
<td>Parent Estimate of Child Literacy</td>
<td>13.8</td>
<td>.30</td>
<td>.08</td>
<td>.47</td>
<td>.54</td>
<td>.11</td>
</tr>
<tr>
<td>4</td>
<td>Picture Vocabulary Test</td>
<td>12.4</td>
<td>.25</td>
<td>.72</td>
<td>.52</td>
<td>.43</td>
<td>-.08</td>
</tr>
<tr>
<td>5</td>
<td>Age</td>
<td>9.9</td>
<td>-.07</td>
<td>.72</td>
<td>.52</td>
<td>-.01</td>
<td>-.15</td>
</tr>
<tr>
<td>6</td>
<td>Sex</td>
<td>8.2</td>
<td>.08</td>
<td>.73</td>
<td>.53</td>
<td>-.17</td>
<td>-.08</td>
</tr>
<tr>
<td>7</td>
<td>Ideal Student Characteristics</td>
<td>6.9</td>
<td>.08</td>
<td>.73</td>
<td>.53</td>
<td>.58</td>
<td>.01</td>
</tr>
<tr>
<td>8</td>
<td>Pretest</td>
<td>7.5</td>
<td>.35</td>
<td>.77</td>
<td>.59</td>
<td>.60</td>
<td>.43</td>
</tr>
<tr>
<td>9</td>
<td>Treatment</td>
<td>18.4</td>
<td>-.48</td>
<td>.90</td>
<td>.80</td>
<td>-.53</td>
<td>-.80</td>
</tr>
<tr>
<td>10</td>
<td>Picture vocabulary by treatment</td>
<td>16.2</td>
<td>.32</td>
<td>.90</td>
<td>.80</td>
<td>-.36</td>
<td>.32</td>
</tr>
</tbody>
</table>
Table 3

Means for Pre- and Posttest Subtests, Phase 1

<table>
<thead>
<tr>
<th></th>
<th>Experimental</th>
<th></th>
<th>Alternative</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Picture identification</td>
<td>10.8</td>
<td>13.1</td>
<td>11.0</td>
<td>11.6</td>
</tr>
<tr>
<td>Label identification</td>
<td>1.3</td>
<td>2.2</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Stop story</td>
<td>1.4</td>
<td>11.4</td>
<td>2.0</td>
<td>1.6</td>
</tr>
<tr>
<td>Go story</td>
<td>4.0</td>
<td></td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Points to print</td>
<td>4.2</td>
<td></td>
<td>3.3</td>
<td></td>
</tr>
</tbody>
</table>
Table 4

Description and Scoring Procedure for Assessments Used in Phase 2

Wide Range Achievement Test: Each child was given the spelling and reading subtests according to the directions in the manual, except that all children were asked to attempt to print the first 10 words from the WRAT spelling list. For our analysis we scored the spelling subtest by counting the number of letters correctly printed by the child, for a possible score of 27 for the 10 words. For the reading subtest the child was asked to identify 13 printed upper case letters, 2 letters in his name, and the printed word list until 8 words were missed.

Story reading: Each child was asked to read the following three stories to the examiner: Time for Bed, Pick up Toys, and Can You Carry? The child's responses were written down by the examiner and later scored in two ways. The first procedure used a modified version of Sulzby's story levels (Sulzby, 1985) in which 1 point was given for labeling items in the illustration, 2 points were given for a primarily action-governed response, 3 points were given for a primarily oral story-telling response, 4 points were given for a mix of oral story-telling which embellished the phrase on each page of the story, 5 points were given for close approximations of the phrase on each page and 6 points were given for an accurate reading of the text. Each story was scored in this way. The stories were also
Table 4 (Continued)

scored by counting the number of correct words (except articles) that were given by the child for each page of the text. Using this method 13 points were possible for *Time for Bed*; 21 points were possible for *Pick Up Toys* and 11 points were possible for *Can You Carry?*

**Teacher Questionnaire:** Each child's kindergarten teacher completed items regarding the child's skill in a) naming printed letters (1-4 points possible), b) producing sounds for printed consonants (1-4 points possible), c) recognition of printed words (1-5 points possible), and printing words (1-5 points possible). The teacher also indicated the child's interest in reading (1-5 points possible) and interest in printed words (0 to 3 points possible). Total possible points for the teacher's assessment of child's skills was 26. A final question asked the teacher to rate the child according to the following categories of readiness for first grade reading instruction: 1 = retention in kindergarten is recommended, 2 = will probably not do well in first grade reading, 3 = will probably "get by" in first grade reading, and 4 = will probably do well in first grade reading.

**Parent Questionnaire:** Parents answered 3 questions on how often materials were used at home, noted any changes in their child's interest in literacy, and then rated their child 0 (never) to 5 (every day) on each of the following 5 questions: How often
does your child play school; how often does your child look at books; how often does your child ask to be read to; how often does your child read or pretend to read books to himself or someone else; how often does your child print or try to print? Two questions, how many printed words do you think your child can read and how many words does your child write or try to write, used the categories 1 (not any) to 5 (more than 15). The last question asked for comments about the materials the child had received.
Table 5

T Tests on Mean Scores for Experimental and Control Groups on Phase 2 Measures

<table>
<thead>
<tr>
<th>Points Possible</th>
<th>Experimental N = 13</th>
<th>Alternative N = 11</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level of story reading</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Story from Phase 1</td>
<td>6</td>
<td>4.00</td>
<td>2.27</td>
<td>3.20</td>
</tr>
<tr>
<td>Story from Phase 2</td>
<td>6</td>
<td>4.38</td>
<td>2.82</td>
<td>3.75</td>
</tr>
<tr>
<td>New (transfer) story</td>
<td>6</td>
<td>4.08</td>
<td>1.82</td>
<td>4.28</td>
</tr>
<tr>
<td><strong>Correct words in reading</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Story from Phase 1</td>
<td>13</td>
<td>7.92</td>
<td>3.55</td>
<td>4.12</td>
</tr>
<tr>
<td>Story from Phase 2</td>
<td>21</td>
<td>14.38</td>
<td>5.55</td>
<td>4.53</td>
</tr>
<tr>
<td>New (transfer) story</td>
<td>11</td>
<td>5.00</td>
<td>2.64</td>
<td>2.36</td>
</tr>
<tr>
<td><strong>Wide Range Achievement Test</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter sounds</td>
<td>27</td>
<td>10.38</td>
<td>3.27</td>
<td>2.70</td>
</tr>
<tr>
<td><strong>Parental Assessment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of children's knowledge</td>
<td>35</td>
<td>28.17</td>
<td>23.20</td>
<td>2.52</td>
</tr>
</tbody>
</table>
Table 6

Experimental and Alternate Group (E and A) Parent Questionnaire

Responses Following Phase 2 Treatment (E = 13, A = 10)

1. Did your child use the materials when they arrived?
   - Yes: 100% (E)
   - No: 82% (A)

2. Does your child still use the materials?
   - Yes: 100% (E)
   - No: 45% (A)

3. If yes, how often does your child use the materials?
   - once in a while: 23% (E), 82% (A)
   - once a week: 31% (E), 9% (A)
   - 2-3 times a week: 39% (E), 9% (A)
   - every day: 8% (E)

Please check any changes you have noticed since your child began receiving the materials in the mail:

4. **more interest in hearing stories**
   - 70% (E)
   - 27% (A)

5. **more interest in telling stories**
   - 85% (E)
   - 27% (A)

6. **more interest in drawing**
   - 69% (E)
   - 73% (A)

7. **more interest in printing or trying to print**
   - 69% (E)
   - 64% (A)

8. **more interest in trying to read**
   - 92% (E)
   - 18% (A)

9. **more interest in naming words in street signs, store signs, or food labels**
   - 69% (E)
   - 36% (A)
Table 6 (Cont'd)

10. How often does your child play school?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Group A</th>
<th>Group E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>55%</td>
<td>31%</td>
</tr>
<tr>
<td>Once in a while</td>
<td>18%</td>
<td>23%</td>
</tr>
<tr>
<td>Once a week</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>2-3 times a week</td>
<td>27%</td>
<td>27%</td>
</tr>
<tr>
<td>Every day</td>
<td>62%</td>
<td>46%</td>
</tr>
</tbody>
</table>

11. How often does your child look at books?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Group A</th>
<th>Group E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Once in a while</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>Once a week</td>
<td>23%</td>
<td>27%</td>
</tr>
<tr>
<td>2-3 times a week</td>
<td>46%</td>
<td>39%</td>
</tr>
<tr>
<td>Every day</td>
<td>36%</td>
<td>62%</td>
</tr>
</tbody>
</table>

12. How often does your child ask to be read to?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Group A</th>
<th>Group E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>9%</td>
<td>23%</td>
</tr>
<tr>
<td>Once in a while</td>
<td>27%</td>
<td>8%</td>
</tr>
<tr>
<td>Once a week</td>
<td>27%</td>
<td>15%</td>
</tr>
<tr>
<td>2-3 times a week</td>
<td>27%</td>
<td>46%</td>
</tr>
<tr>
<td>Every day</td>
<td>9%</td>
<td>31%</td>
</tr>
</tbody>
</table>

13. How often does your child read or pretend to read books to himself or someone else?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Group A</th>
<th>Group E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>36%</td>
<td>8%</td>
</tr>
<tr>
<td>Once in a while</td>
<td>18%</td>
<td>15%</td>
</tr>
<tr>
<td>Once a week</td>
<td>15%</td>
<td>46%</td>
</tr>
<tr>
<td>2-3 times a week</td>
<td>36%</td>
<td>31%</td>
</tr>
<tr>
<td>Every day</td>
<td>9%</td>
<td>9%</td>
</tr>
</tbody>
</table>

14. How often does your child print or try to print?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Group A</th>
<th>Group E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>18%</td>
<td>8%</td>
</tr>
<tr>
<td>Once in a while</td>
<td>36%</td>
<td>15%</td>
</tr>
<tr>
<td>Once a week</td>
<td>36%</td>
<td>46%</td>
</tr>
<tr>
<td>2-3 times a week</td>
<td>27%</td>
<td>8%</td>
</tr>
<tr>
<td>Every day</td>
<td>9%</td>
<td>85%</td>
</tr>
</tbody>
</table>

15. How many printed words do you think your child can read?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Group A</th>
<th>Group E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not any</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>1 or 2</td>
<td>27%</td>
<td>18%</td>
</tr>
<tr>
<td>About 5</td>
<td>36%</td>
<td>39%</td>
</tr>
<tr>
<td>About 10</td>
<td>9%</td>
<td>31%</td>
</tr>
<tr>
<td>More than 15</td>
<td>9%</td>
<td>9%</td>
</tr>
</tbody>
</table>

16. Please list the words your child can read, including signs and labels such as STOP, K-MART, JELLO:

________________________________________________________________________

________________________________________________________________________

17. How many words does your child write or try to write?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Group A</th>
<th>Group E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not any</td>
<td>9%</td>
<td>15%</td>
</tr>
<tr>
<td>1 or 2</td>
<td>46%</td>
<td>18%</td>
</tr>
<tr>
<td>About 5</td>
<td>27%</td>
<td>15%</td>
</tr>
<tr>
<td>About 10</td>
<td>9%</td>
<td>15%</td>
</tr>
<tr>
<td>More than 15</td>
<td>9%</td>
<td>54%</td>
</tr>
</tbody>
</table>
18. Please list the words your child writes:


19. Please tell me if you thought the materials were helpful for your child.

Experimental group parent comments:

(1) Yes the materials were very helpful. April really enjoys the materials you sent to her. She would like more if you want to send them to her.

(2) Gina is the type of child that needs extra help and the books have done a great deal for her.

(3) Yes. I thought they were very helpful he is try to read first grade books and he learns more new words.

(4) Yes they were. He reads the books himself. He's starting to notice the words in different books to [sic].

(5) Yes they are very helpful to him in and out of school.

(6) Yes

(7) Yes they were it helped her to sound her words out.

(8) They were somewhat helpful but they were more helpful to my 3 1/2 yr old when helped by her sister [note: this child was reading at the end of kindergarten].

(9) Yes I thought the materials that you sent were helpful she enjoyed reading them and read them over and over.

(10) We really enjoyed receiving the books. He liked figuring out what they said. This is a good idea for children to learn to read.

(11) Yes. I think they helped. She always enjoy getting the mail then reading them and shes kept all of them and looks at them and also read them to me.

(12) Yes. She thinks she can read. With the picture can get the meaning even if some of the words are wrong.
Table 6 (Cont'd)

Alternate group parent comments:

(1) Jason done some of the materials once in a while when he was bored or didn't have anything else to do. Yes. I do think they were helpful.

(2) Yes, she also felt important. Getting letter's in the mail with her name on them.

(3) Yes and she really enjoys getting mail

(4) Some was helpful others were too easy [sic]

(5) Yes

(6) Yes they helped Timmy alot.

(7) Yes it makes him feel good to get his own mail and therefore he spends more time with his "mail."

(8) Yes he liked getting mail

(9) Not really very helpful

(10) Didn't show much interest
Table 7

Average Scores at End of Headstart for Older and Younger Children

<table>
<thead>
<tr>
<th>Measures</th>
<th>Experimental Group</th>
<th></th>
<th>Alternative Group</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Younger Group (N = 10)</td>
<td>Older Group (Phase 2) (N = 13)</td>
<td>Younger Group (N = 9)</td>
<td>Older Group (Phase 2) (N = 11)</td>
</tr>
<tr>
<td>Age in months</td>
<td>49.8</td>
<td>58.8</td>
<td>50.8</td>
<td>57.5</td>
</tr>
<tr>
<td>Parent support</td>
<td>17.0</td>
<td>18.5</td>
<td>16.6</td>
<td>15.0</td>
</tr>
<tr>
<td>Knowledge as assessed by parent</td>
<td>19.2</td>
<td>22.5</td>
<td>18.6</td>
<td>16.9</td>
</tr>
<tr>
<td>Picture ident.</td>
<td>13.1</td>
<td>14.3</td>
<td>11.0</td>
<td>12.6</td>
</tr>
<tr>
<td>Label ident</td>
<td>1.7</td>
<td>2.8</td>
<td>.4</td>
<td>1.7</td>
</tr>
<tr>
<td>STOP story</td>
<td>11.0</td>
<td>12.0</td>
<td>.9</td>
<td>1.7</td>
</tr>
<tr>
<td>GO story</td>
<td>3.7</td>
<td>4.5</td>
<td>1.2</td>
<td>2.0</td>
</tr>
<tr>
<td>Point to print</td>
<td>3.3</td>
<td>5.0</td>
<td>3.2</td>
<td>3.3</td>
</tr>
</tbody>
</table>
Table 8

Excerpts from Parent Interviews at the Conclusion of Phase 2

Mark

Did Mark use the stories he received in the mail?

He used them and got to the point where he could read them.

How did Mark use the stories?

He could read them by himself. He showed 'em off.

How were they helpful?

Got him interested in reading. Before he liked to listen to stories but not read. At first he just like the mail then he wanted to read them.

Gina

Did Gina use the books she received in the mail?

Gina used the books a couple of times a week; really helped to have new ones come.

How did she use them?

She listened while I read. Instead of just listening she actually tried to learn to read. Now she can do the same thing with some library books.

Were they helpful?

Those books helped immensely. She showed her dad she could read; boosted her morale a whole lot.
April
Did April use the stories she received in the mail?
    Yes. I was surprised she could read a lot of them by herself without help.

How did she use them?
    Read them out loud; still reads them all. Some I would have to help her with some of the words.

Were the books helpful?
    I think they are a really good idea. Helps them learn to read. The words are easy to say; color ones help a lot.

Sisto
Did Sisto use the books he received in the mail?
    He loved them; mainly read 'em to himself over and over.
    Some he needed help.

How did he use them?
    He flipped through them every day for about 3 weeks after they came in the mail. Still has them and uses them once in a while.

Were they helpful?
    Yes. They are a very good idea.