

**Validation Report**

**NEWPHONICS<sup>®</sup>**

**MULTISENSORY LITERACY PROGRAM**

**An Early Literacy Program for  
Kindergarten**

**Developing  
Phonemic Awareness  
and  
Letter Knowledge**

**Ricki Korey Birnbaum, Ed.D.**



# NEWPHONICS®

MULTISENSORY LITERACY PROGRAM

## **Effective Literacy Methods**

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# Field Test 1: Two-Year Longitudinal Treatment Comparison Study with Middle-Class Suburban Kindergarten Children

## Introduction

NewPhonics was tested in a two-year treatment comparison study in which its effectiveness was compared to two early literacy comparison treatments, one consisting of tasks and activities suggested in the research literature (SFL) and the other a Teacher Specific Control (TSC). What follows is an abbreviated version of this study. A more comprehensive research paper which addresses theoretical issues is available (Birnbau & Samar, 1999).

## Method

### Participants

A total of 46 kindergarten children participated in this study. Children were enrolled in three regular half-day kindergarten classrooms taught by three teacher. The participating school was in a middle-class suburb outside of Rochester, NY. All participants were nonreaders at the beginning of the study and were native English speakers.

### Procedures

The interventions were conducted over a five month period beginning in early November, and ending in late March. The NewPhonics and SFL trainings consisted of 36, 15-20 minutes lessons taught at a rate of approximately two per week. The TSC instruction was not restricted in terms of number of lessons or length of the individual lessons. Pretesting and post testing were conducted prior to and following the intervention period. The pretesting consisted of a test of letter knowledge (names and sounds), a battery of seven phonemic awareness tasks, and Verbal IQ (PPVT-R). Children were screened for reading using the Woodcock-Johnson Achievement Test, Letter-Word Identification Subtest (Woodcock & Johnson, 1977). The post testing included these same letter knowledge and phonemic awareness measures plus a test of bigram and trigram reading (6 VC bigrams and 6 CVC trigrams) and a dictation spelling measure which involved asking the children to spell seven regular short vowel words including: it, sat, mop, am, pot, jam, and stamp. All the letters used in these words were included in the NewPhonics, SFL, and TSC interventions. Follow-up testing was also conducted at the end of grade one. At that time children were administered the Woodcock-Johnson Achievement Test, Reading Cluster, and asked to spell 20 regular one, two, and three syllable words typically encountered in first grade, e.g., bus, hill, baby, etc.

Each of the three interventions was considered strong and taught a wide range of phonemic awareness tasks including phoneme analysis, phoneme synthesis, and phoneme manipulation; each intervention included instruction in letter knowledge (teachers were asked to teach the names and sounds of nine letters, three short vowels and six consonants) and utilized alphabet letters during the phonemic awareness activities; and each included identical multisensory feedback in the form of face-cards which included a photograph of a child producing individual phonemes. The photographs were each given a descriptive label such as the "itchy nose card" for the short i sound and a detailed description of salient facial characteristics involved in the production of that phoneme.

The NewPhonics method of instruction was considered the most explicit and systematic of the three methods. It was highly sequenced and fostered phonemic awareness through a series of hands-on games using individual magnetic boards and alphabet letters. Each lesson consisted of four components including: Word Play which involved introducing or reviewing each phoneme with a puppet and corresponding short word play; Face Cards which included pictures of individual children producing each phoneme which were give a descriptive labels and specific information regarding key facial features involved during phoneme production; the Sound-Symbol Cheer which was a mnemonic to assist children in learning the names and sounds of letters; and Phonological Awareness games that were well sequenced, the majority played with a magnetic sounds board with magnetic letters that taught the children to segment, blend, and manipulate phonemes. Lessons were taught at a rate of approximately two per week.

The SFL treatment was a second treatment developed by the researcher from the many tasks and activities recommended in the research literature to teach phonological awareness to children at the early stages of literacy development (Ball & Blachman, 1991; Blachman, 1989; Bradley, 1987; Bradley & Bryant, 1983, 1985; Griffith & Olson, 1992; Lewkowicz, 1980; Liberman, Shankweiler & Liberman, 1989; Lundberg, 1987; Lundberg, Frost, & Petersen, 1988; Yopp, 1992). The SFL treatment was structured from easy listening games and literature-based activities to more difficult phoneme analysis and manipulation exercises including rhyming, sound counting, sound-to-sound matching, sound segmentation and sound blending. The TSC treatment was not specified by the researcher but was developed by the teacher based on her personal perspectives and experiences teaching for over 20 years. A personal statement from the teacher indicated that she valued traditional phonics instruction as well as whole-language activities, and her kindergarten instruction was seen as rich in activities that promoted phonemic awareness.

# Kindergarten Results

## Pretest

Pretesting determined that the three participating classrooms had equivalent functioning levels in letter knowledge (names and sounds) and phonemic awareness at the beginning of the two-year study. Age and Verbal IQ (VIQ) were also determined to be equivalent. The means and standard deviations for VIQ for the three comparison groups were as follows: NewPhonics  $M_{VIQ} = 100.25$ ,  $SD = 17.07$ ; SFL:  $M_{VIQ} = 100.00$ ,  $SD = 17.40$ ; TSC:  $M_{VIQ} = 100.23$ ;  $SD = 10.83$ .

## Posttest

Letter knowledge percent gain scores were submitted to a three-way Group (SFL, TSC, NewPhonics) x Letter Type (consonant, vowel) x Mode (name, sound) repeated measures ANOVA with Group as a between subjects factor and Letter Type and Mode as within subjects factors. There was a main effect for group  $F(2,43) = 5.696$ ,  $p = .007$ . Figure 1 shows that the NewPhonics group performed substantially higher in letter knowledge than the SFL and TSC groups, which were equivalent in their performance. In addition there was a Group x Letter Type x Mode interaction. As is shown in Figure 2, the NewPhonics group showed superior performance on short vowel sound knowledge  $F(2,43) = 6.429$ ,  $p < .004$ , compared to the other two groups. The group scores for reading and spelling accuracy were analyzed by one-way Analyses of Variance (ANOVAS). There was a main effect for group in both analyses. As is shown in Figures 3 and 4, children who received the NewPhonics instruction outperformed the children who received both of the comparison treatments in reading  $F(2,43) = 8.689$ ,  $p = .0008$ ; and spelling accuracy  $F(2,43) = 6.84$ ,  $p = .0026$ . The children in the two comparison treatment groups were not found to differ from each other in either of the analyses. In reading and spelling the NewPhonics children scored double that of the children in the comparison treatment groups.

## First Grade Results

At the end of first grade 39 of the original 46 children involved in the original kindergarten study were available for follow-up testing. Figures 5 and 6 show the first grade reading and spelling performance for the three groups, respectively. Analyses of Variance (ANOVAS) for the three Woodcock-Johnson subtests were all significant (Letter-Word Identification:  $F(2,36) = 9.60$ ,  $p = .0005$ ; Word Attack:  $F(2,36) = 10.69$ ,  $p = .0005$ ; Reading Comprehension:  $F(2,36) = 9.32$ ,  $p = .0005$ ). In each analysis the NewPhonics group outperformed the two comparison treatment groups. The two comparison groups did not differ from each other. Moreover, the children who received the NewPhonics instruction in kindergarten were reading on average one standard deviation above the mean by the end of grade one, at the 85th percentile, whereas the children who received the two comparison treatments were reading on average at the mean at approximately the 50th percentile. Likewise, group effects were obtained in spelling accuracy  $F(2,36) = 5.86$ ,  $p = .0026$ . Again the NewPhonics group outperformed the two comparison groups in spelling, the latter two groups did not differ from each other.

Figure 7 shows the relationship between reading scores at the end of kindergarten and reading scores at the end of first grade. The figure shows that the first grade reading skill was well predicted by the kindergarten reading measure ( $r = .77$ ). The relationship was nonlinear suggesting that children who are better readers by the end of kindergarten, predominantly children in the NewPhonics group, made disproportionately higher gains in reading skill during first grade.

Figure 8 shows the spelling accuracy scores at the end of kindergarten and spelling accuracy scores at the end of first grade to be weakly to moderately correlated ( $r = .54$ ) and linear. That is, children who are better spellers at the end of kindergarten made proportionately higher gains in spelling during first grade, predominantly the NewPhonics children.

## Discussion

The results of the two-year treatment comparison study show that the NewPhonics method of instruction doubled the rate of reading and spelling skills by the end of kindergarten compared to the SFL and TSC methods. The NewPhonics method also produced significantly greater letter knowledge, and in particular short vowel sound knowledge.

Most importantly, the advantages in both reading and spelling were maintained beyond the kindergarten year through the end of grade one without any further specialized intervention of this type. By the end of grade one, the NewPhonics children were reading on average one standard deviation above the mean, whereas the control groups were reading at a level commensurate with grade placement at approximately the 50th percentile. Superior reading performance was seen in both the processes of word recognition/word attack and reading comprehension. Spelling effects were also found to be maintained to the end of first grade.

One key result is that the children in the NewPhonics group who made the greatest gains in reading at the end of kindergarten progressed at an accelerate rate in first grade. This result shows how critically important the method of early literacy instruction teaching phonemic awareness and letter knowledge is. Apparently, well-designed research-based instruction as early as kindergarten can begin a compounding cycle of successful literacy development.

Figure 1

Kindergarten: Overall letter knowledge gain scores for each group.

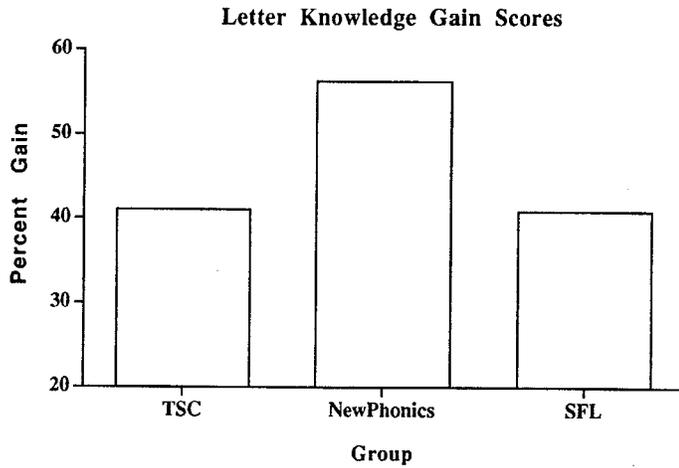


Figure 2

Kindergarten: Short vowel sound knowledge gain scores (%) for each group.

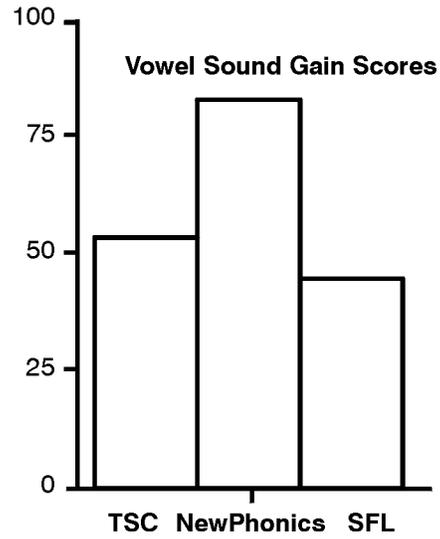


Figure 3

Kindergarten: Overall reading scores (%) for each group.

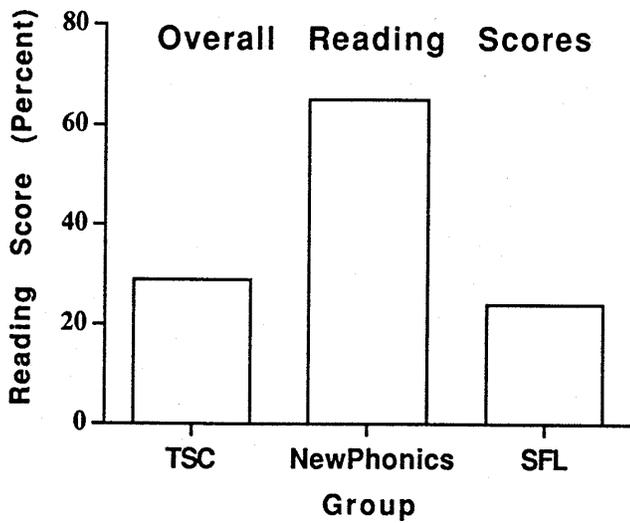


Figure 4

Kindergarten: Spelling accuracy scores (%) for each group.

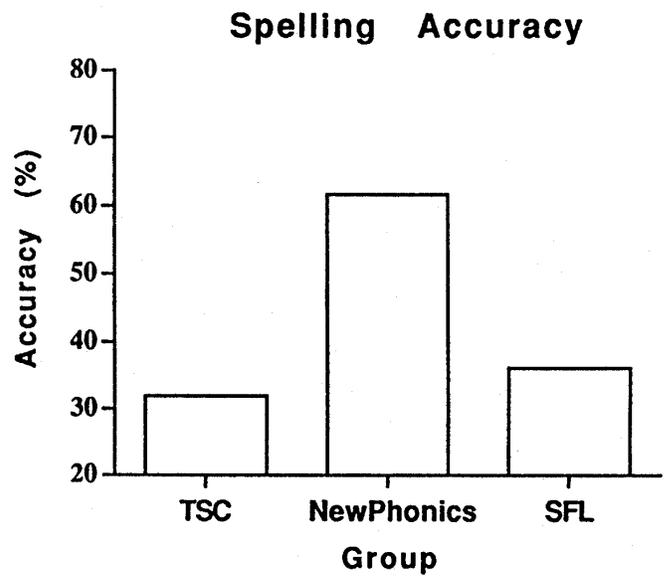


Figure 5

First Grade: Woodcock-Johnson reading scores for each group

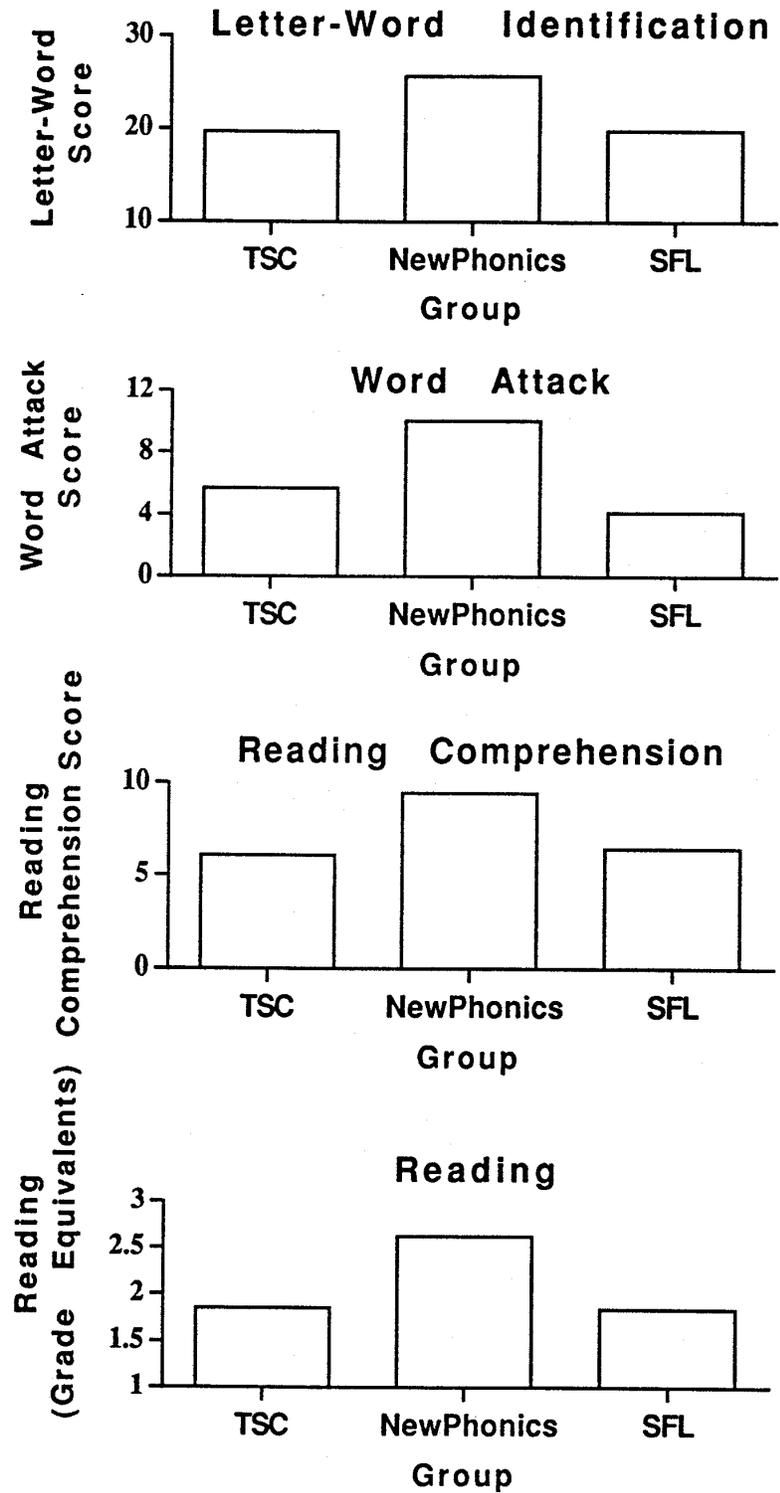


Figure 6

First Grade: Spelling accuracy scores (%) for each group.

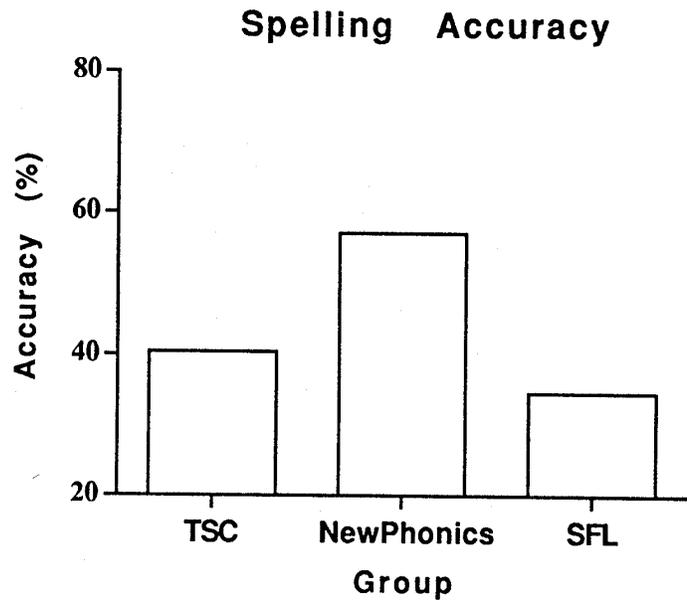


Figure 7

First Grade: Kindergarten reading scores (bigram and trigrams) versus first grade reading scores (Woodcock-Johnson Reading Grade-Equivalent Scores).

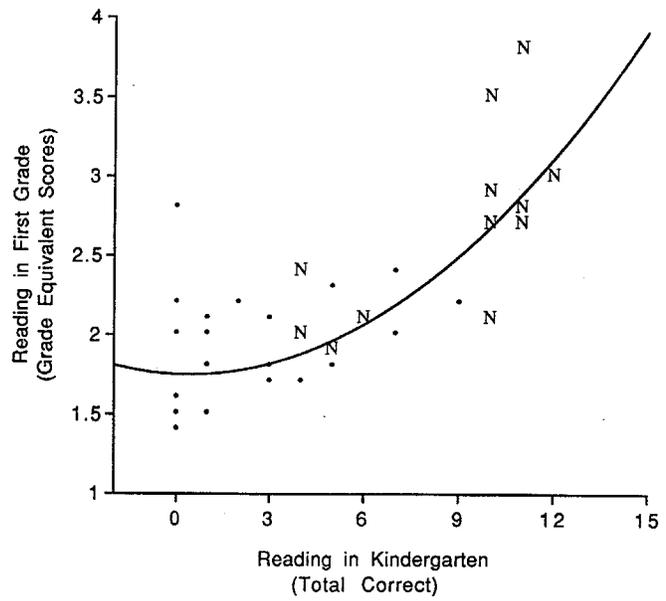
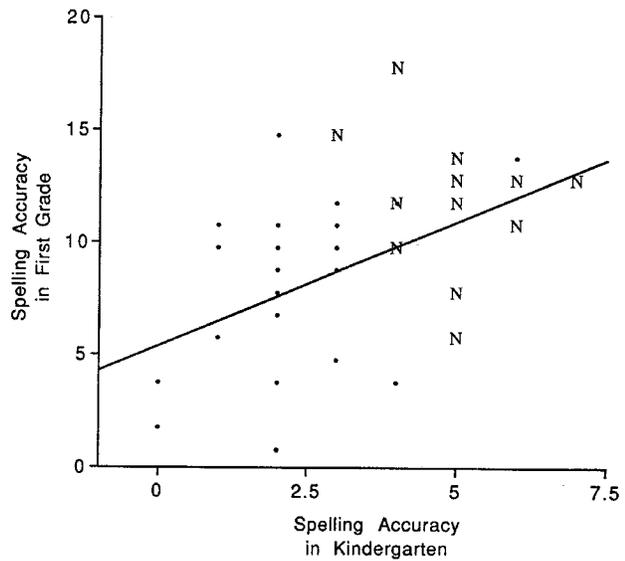


Figure 8

Kindergarten spelling accuracy scores versus first grade spelling accuracy scores.



# Field Test 2: Follow-up One-Year Kindergarten Study on a Larger Sample of Middle Class Kindergarten Children

## Introduction

A one-year follow-up study was conducted at the same school that participated in Field Test 1, located in a middle class suburb outside of Rochester, NY. Field Test 2 was planned to replicate the kindergarten results of Field Test 1 on a larger population of kindergarten children. It was also planned to document the efficacy of NewPhonics with two teachers.

## Method

### Participants

Eighty-eight kindergarten children participated in this study. These children made up a total of six half-day kindergarten classrooms taught by three teachers. Four classrooms, taught by two teachers, were exposed to the NewPhonics method ( $n=58$ ). Two classrooms, taught by the same teacher, were exposed to the Suggestions from the Literature (SFL) comparison method of instruction ( $n=30$ ). The participating school is located in a middle class suburban area outside of Rochester, NY. All children included in this study were nonreaders at the beginning of the kindergarten year and were Native English Speakers.

### Procedures

NewPhonics was revised to include fourteen letters (four vowels and ten consonants) taught in a forty lesson training regimen. The lessons consisted of four components: word play, face cards, the sound-symbol cheer, and the series of phonological awareness games (See Field Test 1 for details). The lessons were taught at a rate of approximately two per week. Two kindergarten teachers, teaching four half-day kindergarten classrooms, implemented the NewPhonics method. One of the NewPhonics teachers also taught NewPhonics in Field Test 1. The other NewPhonics teacher previously taught the Teacher Specific Control (TSC) in Field Test 1. The third kindergarten teacher continued teaching the Suggestions from Literature (SFL) comparison treatment during Field Test 1 and Field Test 2.

All three teachers were given identical instructions to teach the fourteen phonemes and were told to focus on short vowels and lower case letters which would be used exclusively in the post testing. The seven month training period began in October and ended in April.

Pretesting was conducted in September to determine whether the classrooms were functioning at similar levels at the beginning of the study in letter knowledge, phonemic awareness, and verbal IQ and were of similar age. No significant differences were found on any of these variables and it was concluded that the groups were well-matched at the outset of the study.

Posttesting was conducted in May, that assessed phonemic awareness, letter knowledge, and reading and spelling ability. The reading test involved asking the children to read six bigrams and six trigrams composed of letters taught during the interventions. The spelling measure was a dictation spelling task that required the children to spell four regular vowel-consonant and consonant-vowel-consonant words and one more complex word. These words were composed of the fourteen trained letters and included: am, pot, if, get, and stamp.

## Results

### Post test

The data were first analyzed to determine if there were any significant differences among the four NewPhonics classrooms taught by the two teachers. There were no significant differences on any of the post test measures. Therefore, the data from the NewPhonics classrooms were collapsed for each variable for analysis.

The group scores were analyzed by one-way Analyses of Variance (ANOVAs) for reading, spelling accuracy, and letter knowledge. All three ANOVAs were found to be significant. Performance for letter knowledge and a combined literacy score comprised of the reading and spelling data and are shown in Figures 9 and 10, respectively. The NewPhonics group showed improved reading scores that were two-and-a-half times greater than the improvements made by the SFL group  $F(1,86) = 17.81, p=.0001$ . A two-and-a-half times advantage was also shown in spelling accuracy  $F(1,86) = 36.91, p=.0001$  and the NewPhonics group had significantly higher letter knowledge scores  $F(1,86) = 20.25, p = .0001$ .

## Discussion

The results of this follow-up study with 88 middle class suburban kindergarten children replicate earlier results. The NewPhonics method produced a two-and-a-half times advantage in reading and spelling accuracy compared to the Suggestions from the Literature treatment. Moreover, the NewPhonics method was seen to be equally as effective for both teachers, teaching four half-day kindergarten classrooms. These data, in addition to other data to follow, show that the literacy improvements of NewPhonics occurs regardless of individual differences in the teaching skills of normally qualified teachers.

Figure 9

Kindergarten: Letter knowledge gain (%) scores for the three groups.

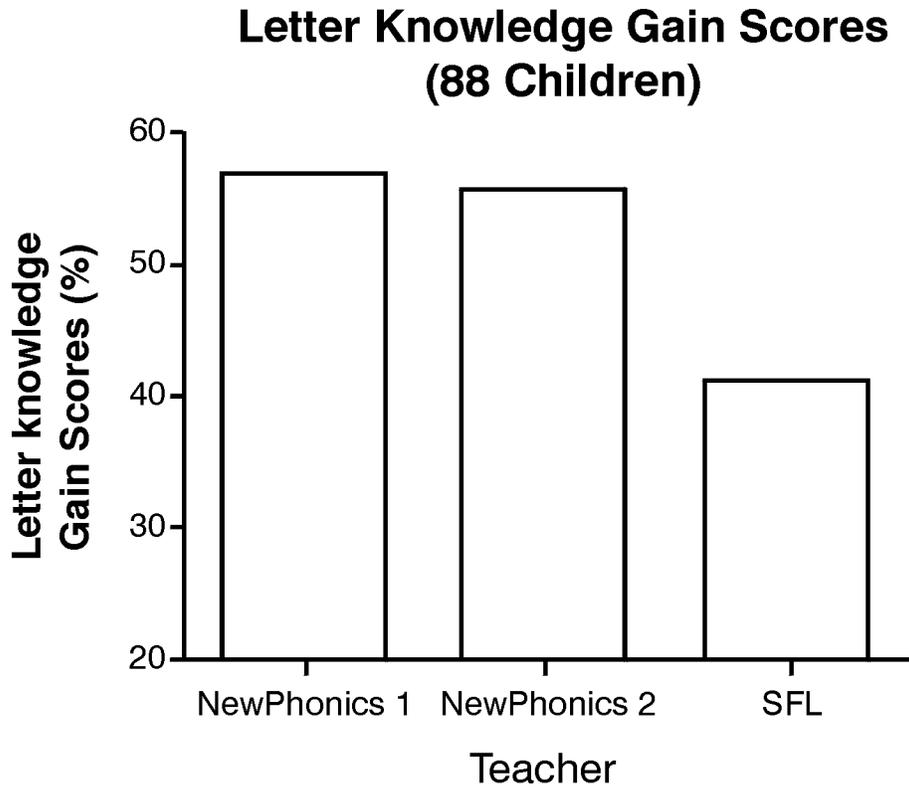
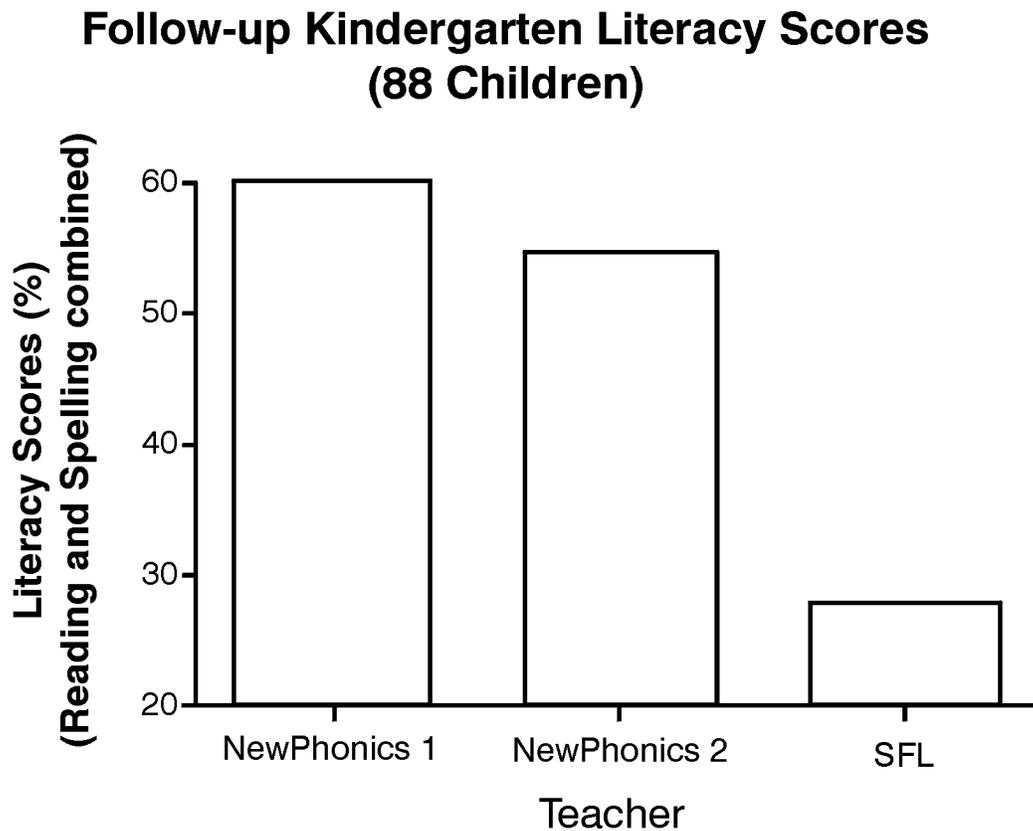


Figure 10

Kindergarten: Literacy (%) scores for the three groups.



# Field Test 3: English Second Language Learners (ESL) versus Native English Speakers (NES)

## Introduction

The question of whether the NewPhonics method is effective in kindergarten with English Second Language (ESL) learners was examined. Post test reading and spelling scores were compared for four groups of kindergarten children: ESL children who were exposed to the NewPhonics method (n=8); ESL control children (n=9); NES who were exposed to the NewPhonics Program (n=58); and NES control children (n=30).

## Method

### Participants

A total of 105 kindergarten children participated in Field Test 3. Seventeen of these children were children who were learning English as a Second Language (ESL). These children had limited English skills and were all enrolled in teaching English as a Second Language (ESL) classes. Of the 17 children, 8 received the NewPhonics instruction in their kindergarten classrooms, while 9 were part of the control/comparison treatment groups. The remaining 88 participants were Native English Speakers (NES). The results for these children were previously reported in Field Test 2. Fifty-eight were exposed to the NewPhonics Program and 30 were part of the Suggestions from the Literature comparison group. All of these children were in regular half-day kindergarten classrooms taught by three teachers.

### Procedures

No pretest scores could be obtained from the sample of 17 ESL children. Pretesting was attempted, however, it was obvious that the children were unable to understand simple questions and task demands due to their language limitations, e.g., “How many sounds do you hear in the word hat?” Or “Tell me a word that rhymes with cake?”, etc. However, post test reading and spelling measures were administered to both the ESL and NES children in April/May of the kindergarten year.

Reading and spelling abilities were assessed following the seven month intervention period. All children were asked to read six (VC) bigrams and six (CVC) trigrams. The spelling testing consisted of asking the children to write five regular words: am, get, if, mop, and stamp. Both the reading and spelling test contained letters taught in the interventions.

## Results

Figure 11 shows the reading scores for the four groups of NES and ESL children. A 2 (treatment) x 2 (language groups) Analysis of Variance (ANOVA) showed a main effect for treatment,  $F(1,101) = 20.12$ ,  $p < .0001$ . There was no main effect for language groups and there was no interaction of treatment by language group. These results indicate that the NewPhonics method had an equivalent impact on the development of reading for both NES and ESL children. The NES and ESL in the comparison treatment groups were also found to performed equivalently, and significantly below the NewPhonics children.

Figure 12 shows the spelling accuracy for the four groups of NES and ESL children. A 2 (treatment) x 2 (language groups) ANOVA for spelling accuracy showed a main effect for treatment,  $F(1,101) = 29.41$ ,  $p < .0001$ . There was no main effect for language groups and there was no interaction of treatment by language group. These results indicate that the NewPhonics method had an equivalent impact on spelling development for both the NES and ESL groups. Again, the NES and ESL children who received comparison methods of instruction were not found to differ from each other, and achieved spelling scores that were significantly below that of the NewPhonics children.

## Discussion

The results of this field test comparing literacy outcomes of Native English Speakers (NES) and children who were learning English as a Second Language (ESL) showed the NewPhonics instruction to be equally as effective with children whose primary language was something other than English as it was with children who were Native English Speakers.

Figure 11

Kindergarten: Overall reading scores (%) for the four groups.

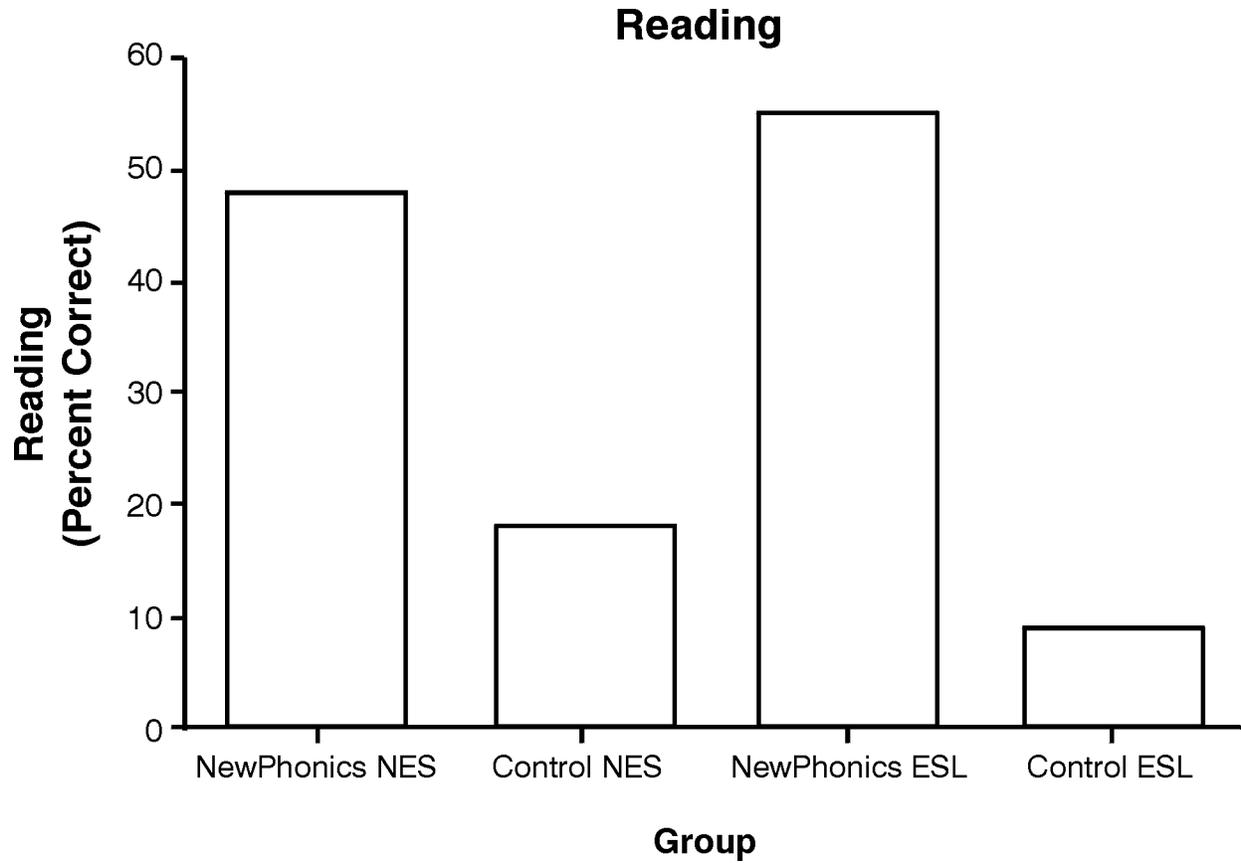
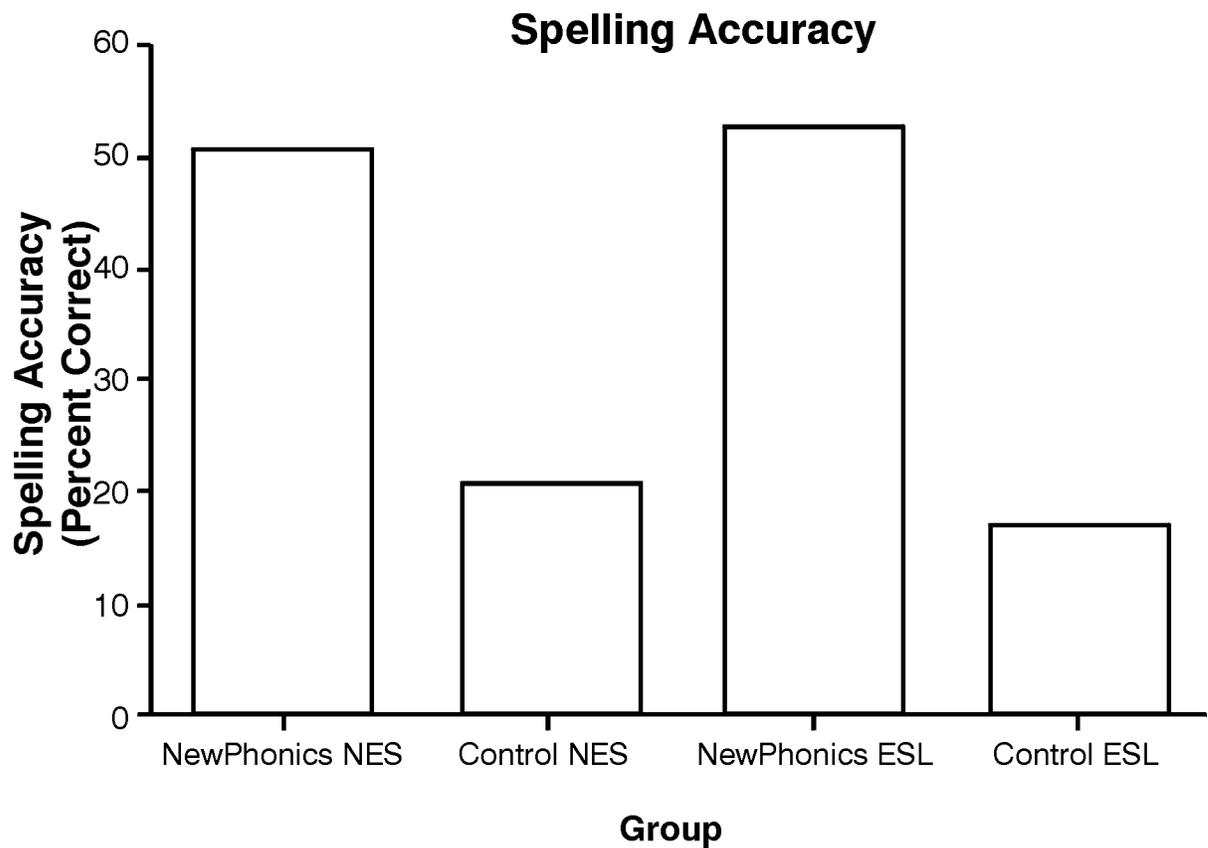


Figure 12

Kindergarten: Spelling accuracy (%) scores for the four groups.



# Field Tests 4 and 5: Pre-First Grade Children

## Introduction

The NewPhonics program was piloted on a special population of pre-first grade children. The results presented below compare the literacy outcomes of one teacher, serving first as a control teacher during year one, school year, and subsequently implementing the NewPhonics program during the years two and three.

## Method

### Participants

Twenty-two pre-first grade children enrolled in a middle class suburban school participated in Field Test 4. The children in this Field Test had all previously attended kindergarten for an entire school year before being placed in a pre-first classroom. For a variety of learning related reasons these children were considered unready for first grade, and were selected for pre-first grade placement rather than being promoted to a regular first grade. Placement decisions were based on the kindergarten teachers's recommendations and an evaluative staffing in the Spring of the kindergarten year. The pre-first placement was a full-day program with a ratio of 1 regular classroom teacher per 15 students. Only children who were nonreaders at the beginning of their pre-first school year were included in the data analysis. According to the Woodcock-Johnson Reading Achievement Test (Woodcock-Johnson, 1977) all 22 children were nonreaders, and were found to be functioning within the lower third of children at a 1.0 grade placement according to the Woodcock-Johnson normative data. From the original pool of 27 pre-first grade children, five children from the two classrooms were reading, and therefore were excluded from the study. All children were native English speakers.

### Procedures

Pretesting was conducted at the start of the school year to ascertain functioning levels in letter knowledge, phonemic awareness and reading ability.

An eight month intervention period followed the pretesting beginning in early October and ending in May in each respective school year. During the first school year the teacher implemented *Beginning to Read, Write and Listen* (Macmillan/McGraw-Hill) as well as her own instructional procedures which included a wide variety of reading activities that developed phonemic awareness, letter knowledge and reading and spelling skill. The teacher's program also included many whole-language oriented activities. The teacher was experienced and well-respected by faculty and staff. The NewPhonics method was implemented during the school year two (see Field Test 1 this volume for more details about NewPhonics).

Each classroom was post tested in June of their pre-first grade year. Post test measures assessed reading, spelling, and letter knowledge. The Woodcock-Johnson Achievement Test - Reading Cluster (Woodcock-Johnson, 1977) was administered as well as a dictation spelling test which involved having the children write five regular English words (two bigrams and two trigrams) and a more complex word. A sample of their letter knowledge was also obtained. This test asked the children to give the names and sounds of ten consonants and four short vowels that were placed on index cards.

### Results

Children who received the NewPhonics instruction were found to have substantially higher reading grade-equivalent scores compared to the control children,  $t(20) = 4.27, p = .0004$ . Figure 13 shows the pre-first grade children exposed to the NewPhonics method performed on average 5½ months ahead of the children who were exposed to the Macmillan/McGraw-Hill program. The average growth for children in the control group was approximately four and a half months, whereas the NewPhonics group progressed on average 10 months.

Table 1 lists the individual Woodcock-Johnson reading grade-equivalent scores obtained by the 10 children who received the *Beginning to Read, Write, and Listen Program* during the first year and the 12 children who received the NewPhonics instruction during the second year of the study. Also included are group means and standard deviations. The scores are listed from highest to lowest for comparison purposes. As is seen in Table 1, of the control children, two made virtually no progress in reading (0 and 1 month) and three children made minimal progress (3 to 5 months) in the course of a full school year. Of the children who received the NewPhonics instruction half made one to one-and-a-half years progress and all children progressed at least six months.

No significant differences were shown on post test measures of spelling or letter knowledge, and the performance of children receiving both instructional programs was near ceiling in both areas.

# Discussion

The efficacy of the NewPhonics method was first demonstrated on a suburban kindergarten sample (see Field Tests 1 and 2 in this volume). The results of the present study extend the efficacy of the NewPhonics method to a special population of children, pre-first grade children at-risk for school failure. Reading grade-equivalent scores for the pre-first grade children who received the NewPhonics method of instruction were double that of the pre-first grade children who were exposed to the Beginning to Read, Write and Listen Program. On average the NewPhonics children improved their reading 10 months, whereas the control children progressed 4.5 months. The results of this study are strengthened by the fact that the literacy achievement outcomes compared were that of one teacher, first serving as a control teacher during year one of the study and subsequently using the NewPhonics method with her classroom during the second year of the study.

**Table 1**

Pre-First Reading Grade-Equivalent Posttest Scores, Group Means and Standard Deviations for years one, two, and three (same teacher control).

	Control June, year one (n=10)	NewPhonics June, year two (n=12)	NewPhonics June, year three (n=16)
<u>Measure</u>			
Woodcock-Johnson Achievement Test	Grade Equivalent	Grade Equivalent	Grade Equivalent
	1.8	2.5	2.4
	1.6	2.4	2.3
	1.6	2.3	2.2
	1.6	2.2	2.2
	1.6	2.0	2.0
	1.5	2.0	1.9
	1.4	1.9	1.8
	1.3	1.8	1.8
	1.1	1.7	1.8
	1.0	1.7	1.7
		1.6	1.7
		1.6	1.7
			1.6
			1.6
			1.6
<u>M</u>	1.45	1.98	1.86
<u>SD</u>	.25	.31	.27

# Field Test 5: Pre-First Grade

These results represent reading data collected during the third year of the study and involve the same pre-first grade teacher as in Field Test 4. The grade-equivalent scores of the Woodcock-Johnson Achievement Test for a new classroom of 16 pre-first grade children exposed to the NewPhonics method were compared with the year one control and year two treatment groups.

## Results

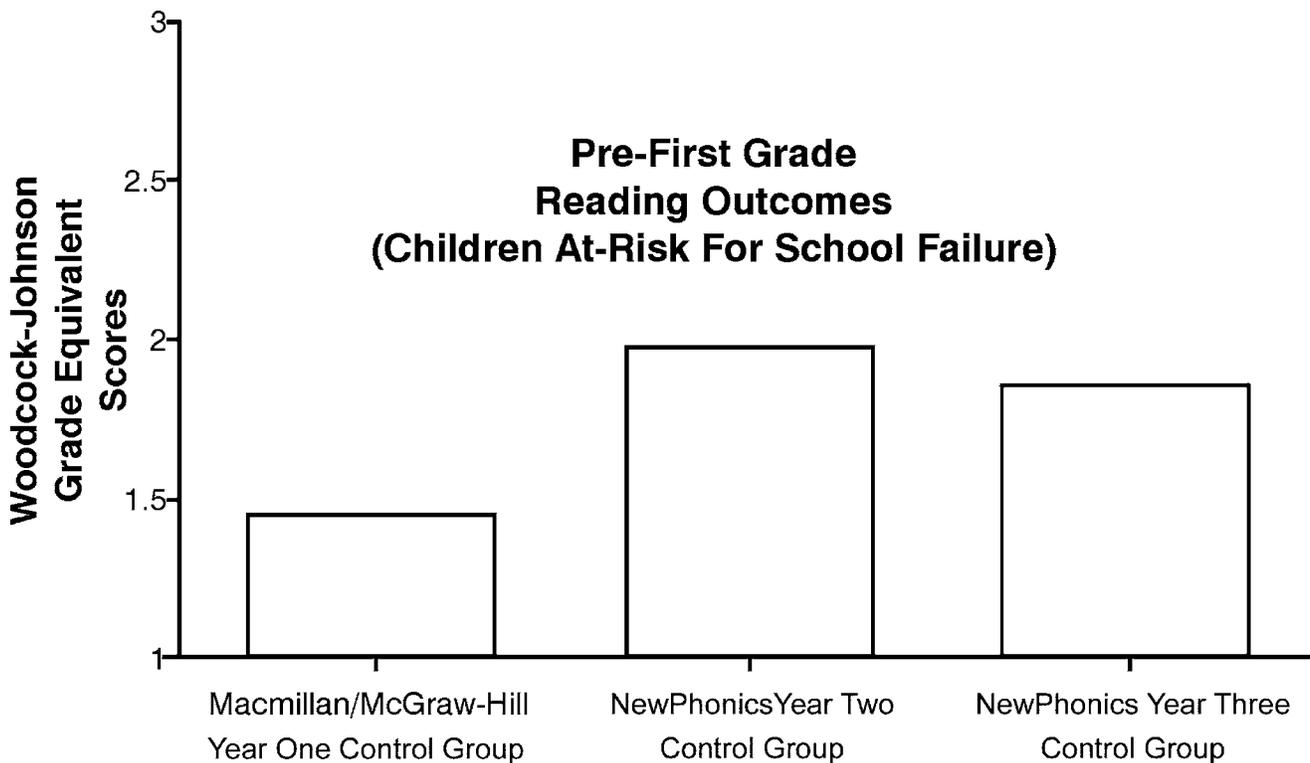
The results are virtually identical to Field Test 4. Again the NewPhonics children had reading scores that were significantly higher than the previous control children who received the Beginning to Read, Write and Listen Program,  $t(21)=4.446, p<.0002$ . Figure 13 shows the mean reading grade-equivalent score for the first group of NewPhonics children was five months greater than the mean grade-equivalent of the children in the comparison group. The mean reading grade-equivalent scores did not differ for the first year and second year groups, both of which were exposed to the NewPhonics method. Furthermore, Table 1 shows the breakdown of scores were nearly identical for the first year NewPhonics and second year NewPhonics children, e.g., note the range of scores was nearly identical and the majority of children progressed one full school year or more and no child made less than six months progress using the NewPhonics method, as opposed to the control group where a number of children made minimal progress (0-4 months).

## Discussion

Field Test 5 replicates the results obtained in Field Test 4. Reading outcomes were enhanced approximately five months when the pre-first grade teacher used the NewPhonics method of instruction. Again, NewPhonics was seen to double the rate of reading acquisition in this special population of children at-risk for school failure.

Figure 13

Pre-first grade: Reading outcomes for the three school years.



# Field Test 6: Urban versus Suburban Kindergarten Samples

## Introduction

Piloting of the NewPhonics program with an urban kindergarten population was conducted. It should be noted, however, that the implementation of the program was not begun until early December, and the teacher was able to teach only 30 of the 40 lessons and no pretest data was obtained. Nevertheless, reading and spelling post test samples were obtained and subsequently compared to post test outcomes of the suburban sample reported in Field Test 2.

## Method

### Participants

A total of 123 kindergarten children participated in this study. Thirty-five children attended Rochester City School 23. These children attended two half-day kindergarten classrooms (morning,  $n=18$ ; afternoon,  $n=17$ ) taught by the same teacher. The Rochester City School District is a large urban school district in which over 70% of the children in the district are from impoverished homes considered below the poverty level and 80% of the children are of minority status. The remaining 88 kindergarten children comprised the middle class suburban sample described in Field Test 2.

### Procedures

Piloting was begun at School 23 in early December. The teacher requested to use the NewPhonics method with both of her two classrooms, and therefore there was no urban control classroom available. The teacher was given forty lesson plans and asked to teach them at a rate of 2 or 3 per week. By the end of the school year, however, she was able to teach only 30 of the 40 lessons. In June, a reading and spelling sample was obtained from each child. The children were asked to read two bigrams (ip, ot) and two trigrams (sam, top) The children were also asked to spell three words: am, if, and mop.

The reading percentage score for the urban children (based on a total of four bigrams and trigrams) was then compared to the reading percentage score of the suburban sample (based on a total of 12 bigrams and trigrams). All of the letter patterns used in the reading and spelling testing for both the urban and suburban samples consisted of trained letter patterns, i.e., letters taught and used in the instruction. The spelling data for the suburban sample was rescored. Originally it was based on five spelling words. However, because one of the words was more difficult (stamp) it was felt a fair comparison could not be made. Therefore, the spelling scores for the suburban children were recalculated based on the same three spelling words tested in the urban population.

## Results

Figures 14 and 15 show the reading and spelling accuracy for the Urban NewPhonics children and the Suburban NewPhonics and Suburban SFL comparison treatment. The reading scores were submitted to a one-way Analysis of Variance (ANOVA) for Group (Suburban NewPhonics, Suburban control, and Urban NewPhonics) that was significant  $F(2,120) = 9.469, p < .0002$ . Figure 15 shows that the Suburban NewPhonics and Urban NewPhonics groups had nearly identical reading scores, which were approximately two-and-a-half times greater than the reading scores of the Suburban SFL control group.

For spelling accuracy a one-way ANOVA on Group (Suburban NewPhonics, Suburban control, Urban NewPhonics morning and Urban NewPhonics afternoon) was significant  $F(3,118) = 13.986, p < .0001$ . Follow-up Newman Keuls Test, seen in Figure 15), revealed that the Suburban NewPhonics and Urban NewPhonics afternoon classroom had equivalent scores that were significantly greater than the Suburban control (nearly 2 and ½ times greater). Although the spelling accuracy score of the Urban NewPhonics morning group was not significantly different than the spelling accuracy score of the Suburban control, its mean score was approximately half-way between the control and the other two NewPhonics groups.

## Discussion

The efficacy of the NewPhonics method of instruction was originally demonstrated with suburban middle class children (see Field Test 1 and 2 this volume). The current results indicate the NewPhonics method may be equally as effective in urban schools in improving reading. The present results also indicate that the NewPhonics method improves spelling accuracy in urban children. It is unclear why the effect was only evident in the NewPhonics afternoon group. It should be noted that the teacher had completed only 30 lessons of the 40 lesson program at the time of post testing. Nevertheless, the numerical increase in spelling scores for the urban NewPhonics morning group is encouraging pilot data.

Figure 14

Urban versus suburban overall reading scores (%).

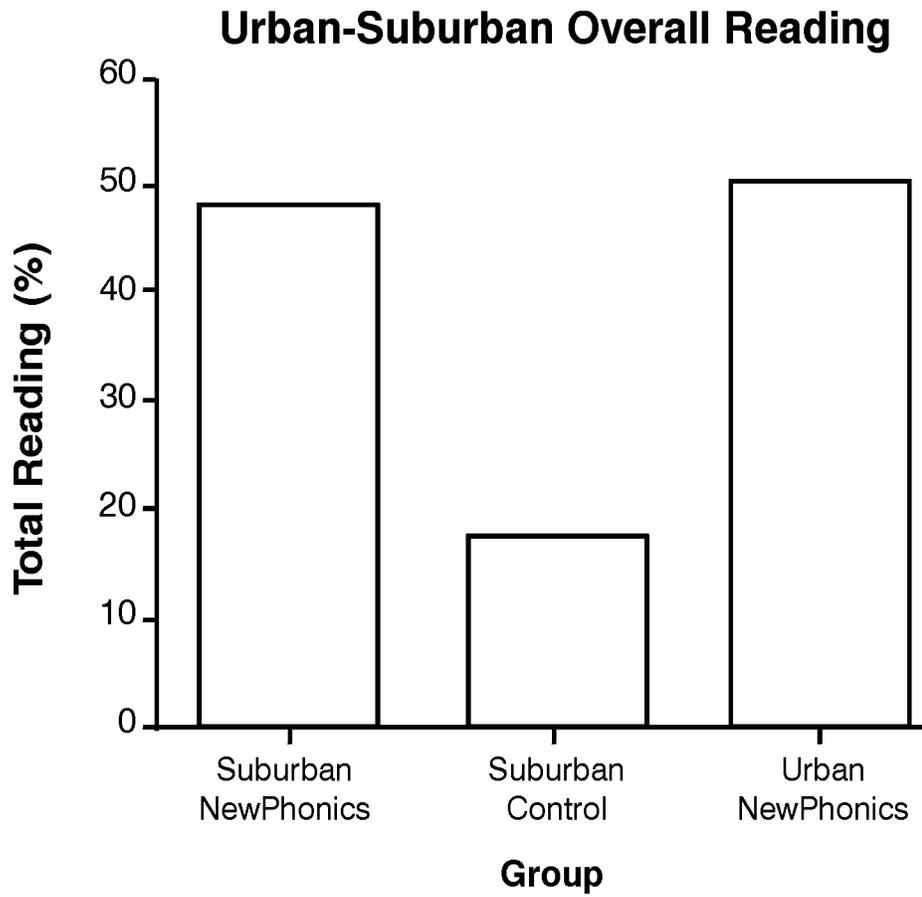
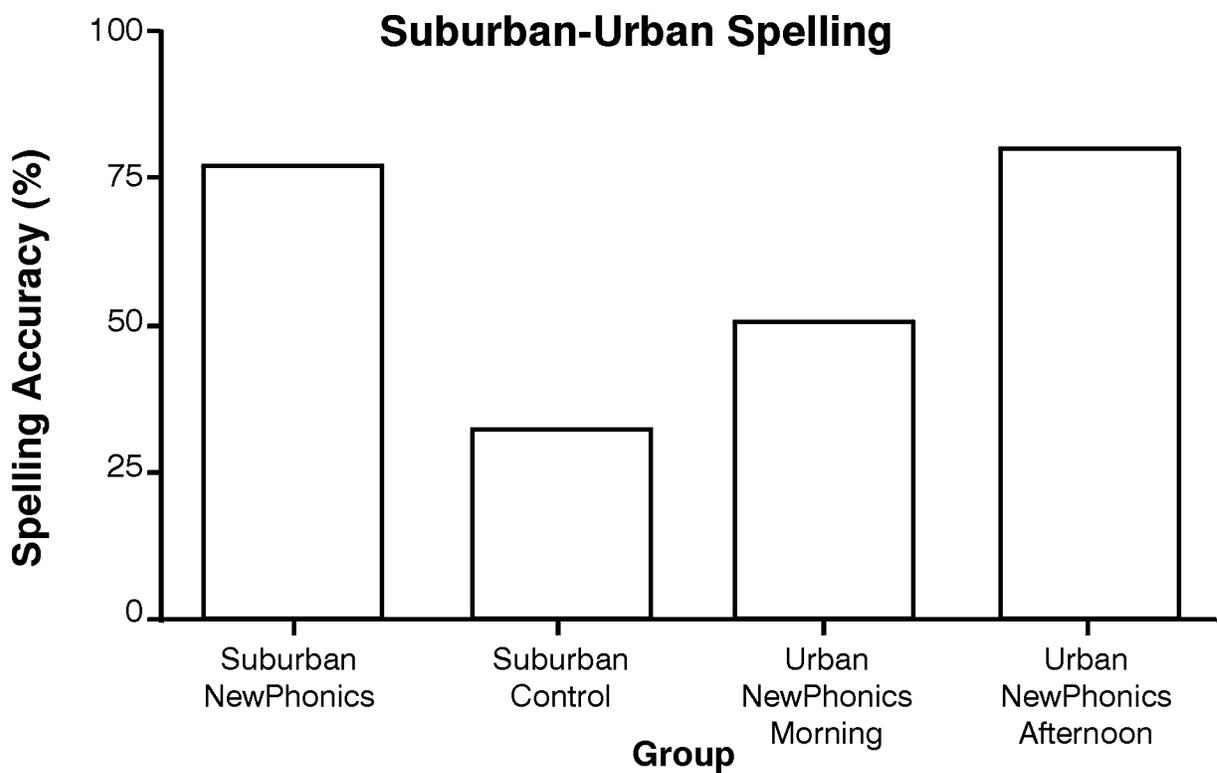


Figure 15

Urban versus suburban spelling accuracy scores (%).



# Field Test 7: NewPhonics versus Houghton Mifflin

## Introduction

The Principal in a suburban school requested that a controlled field test be carried out comparing the literacy outcomes of the NewPhonics program against the program that the School District had been using for many years, the widely known Getting Ready To Read kindergarten program (Houghton-Mifflin, 1986). This study also allowed the outcomes of two teachers implementing NewPhonics for the first time to be compared.

## Method

### Participants

A total of 105 kindergarten children participated in this study. These children attended six half-day kindergarten classrooms taught by four teachers. Four classrooms (n=66) taught by two different teachers were exposed to the NewPhonics program and two classroom (n=39) taught by two different teachers were exposed to the Getting Ready to Read program. The participating school was located in a middle-class suburb located outside of Rochester, NY. All of the children were screened for reading and were found to be nonreaders at the beginning of the study. They were all native English speakers.

### Procedures

All children were pretested in early October of the kindergarten year with a battery of tests including three phonemic awareness tasks (phoneme isolation, sound counting, and sound blending) and a test of letter names and sounds (twelve letters consisting of 8 consonants and 4 vowels). Each child was administered the PPVT-III (Dunn & Dunn, 1997). Reading screening was also carried out to ensure that all children were nonreaders at the beginning of the study. Eight children were dropped from the original pool of 113 children because they were either reading or were enrolled in learning English as a second language.

Post testing was carried out in late May. The pretest measures assessing phonemic awareness and letter knowledge were re-administered plus a dictation spelling test of five regular words including if, am, pot, get, and snap and a test of bigram and trigram reading, three bigrams and three bigrams were included in this test, e.g., ap, id, om and sot naf, mig.

## Results

The results of the pretesting showed the six kindergarten classroom to be identical in letter knowledge, phonemic awareness, Verbal IQ, and age.

The post test results of the four NewPhonics classrooms were determined to be identical for letter knowledge gain scores (%), reading and spelling and therefore were collapsed for analysis purposes. Likewise, the letter knowledge gain scores, post test reading and spelling scores for the Houghton-Mifflin classrooms were determined to be identical and therefore were collapsed for analysis.

Figures 16, 17, and 18 show the post test results for the two groups in letter knowledge, reading and spelling, respectively. In letter knowledge the NewPhonics children gained significantly more letter knowledge overall than the Houghton-Mifflin group,  $F(1,103) = 39.25, p < .0001$ . The NewPhonics children had overall reading scores that were more than 5 times those of the Houghton-Mifflin children ( $F(1,103) = p < .0001$ ); and spelling accuracy scores that were 3 times greater than the Houghton-Mifflin children  $F(1,103) = 16.35, p < .0001$ .

## Discussion

This study shows the NewPhonics program to be far more effective in promoting literacy skills in letter knowledge, reading, and spelling than the Houghton-Mifflin Getting Ready to Read program. The effects were dramatic in reading where NewPhonics had a 5 fold advantage over Houghton Mifflin; and also in spelling where NewPhonics had a 3 fold advantage. In addition, the NewPhonics method was seen to be equally as effective for both teachers, teaching four half-day kindergarten classrooms, teachers who were teaching NewPhonics for the first time. This Field Test adds support that has been accruing in earlier Field Tests that the literacy improvements of NewPhonics occurs regardless of individual differences in teaching skills of normally qualified teachers.

Figure 16

NewPhonics versus Houghton-Mifflin letter knowledge gain scores (%).

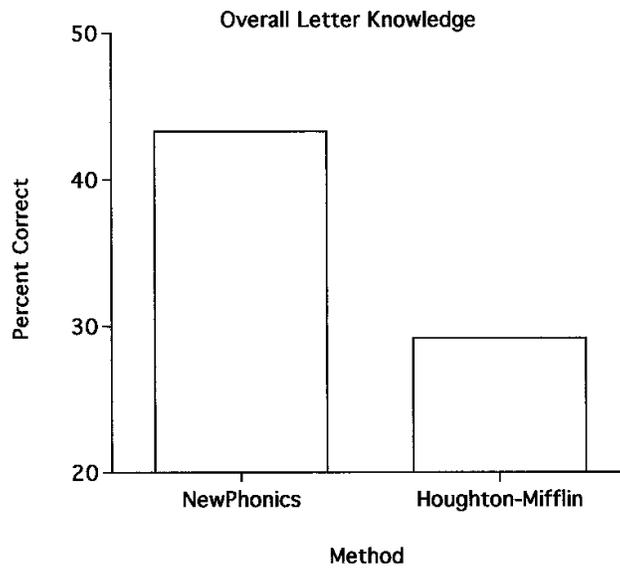
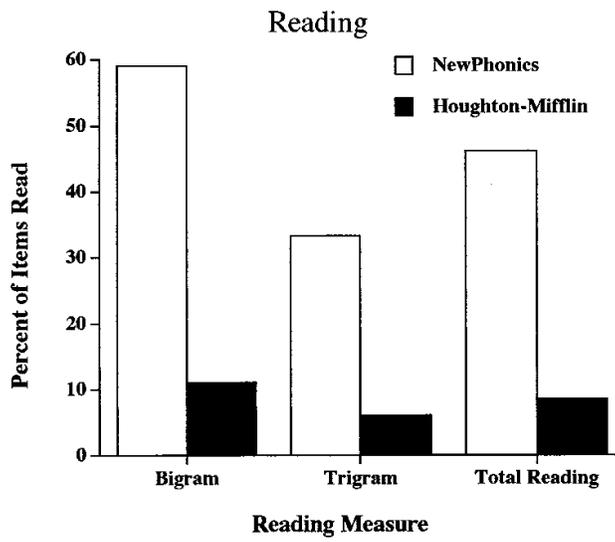


Figure 17

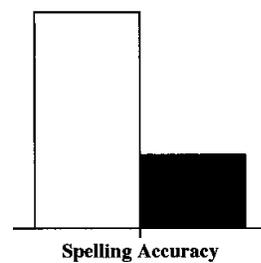
NewPhonics versus Houghton-Mifflin overall reading scores (%).



□ NewPhonics  
■ Houghton-Mifflin

Figure 18

NewPhonics versus Houghton-Mifflin overall spelling accuracy scores (%).



# Field Test 8: Urban City School Summary

Figure 19

Kindergarten: NewPhonics versus Control Classroom (%) of children reading

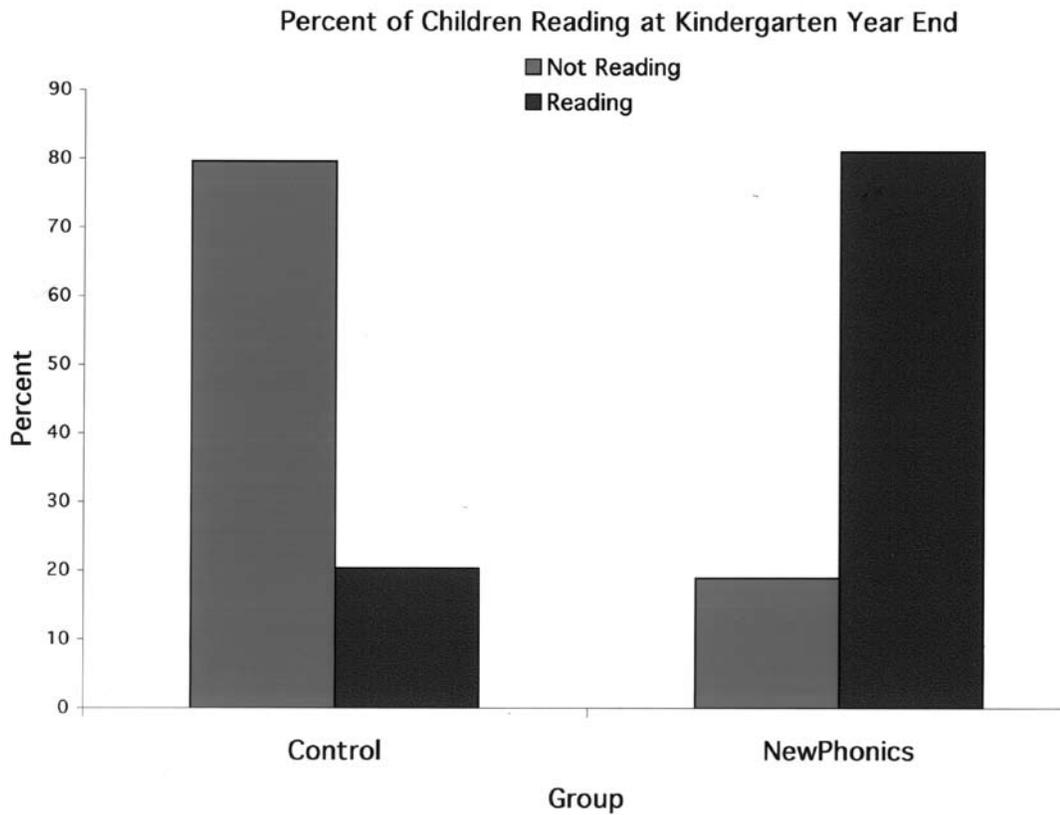


Figure 20

Kindergarten: NewPhonics versus Control Classroom spelling accuracy

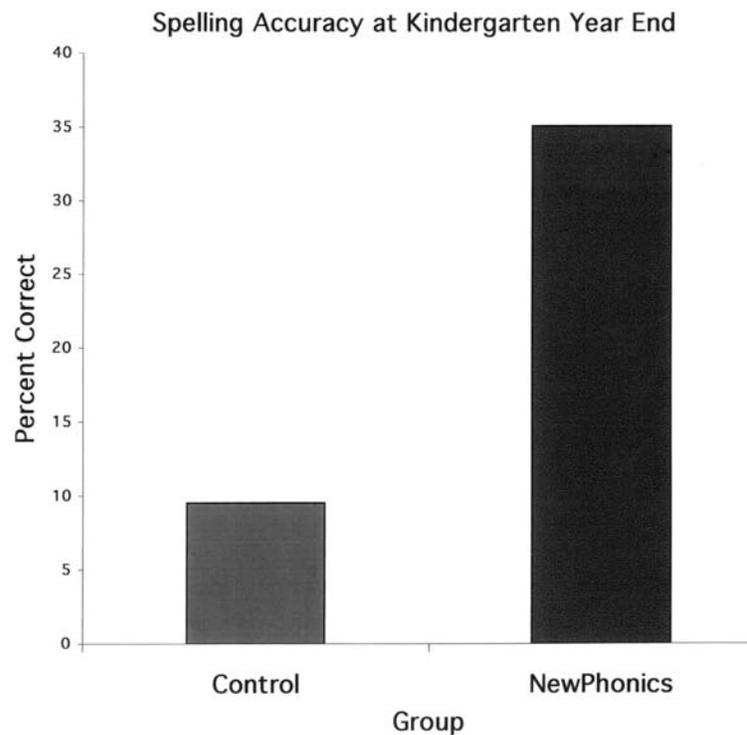


Figure 21

Kindergarten: NewPhonics versus Control Classroom phonological awareness

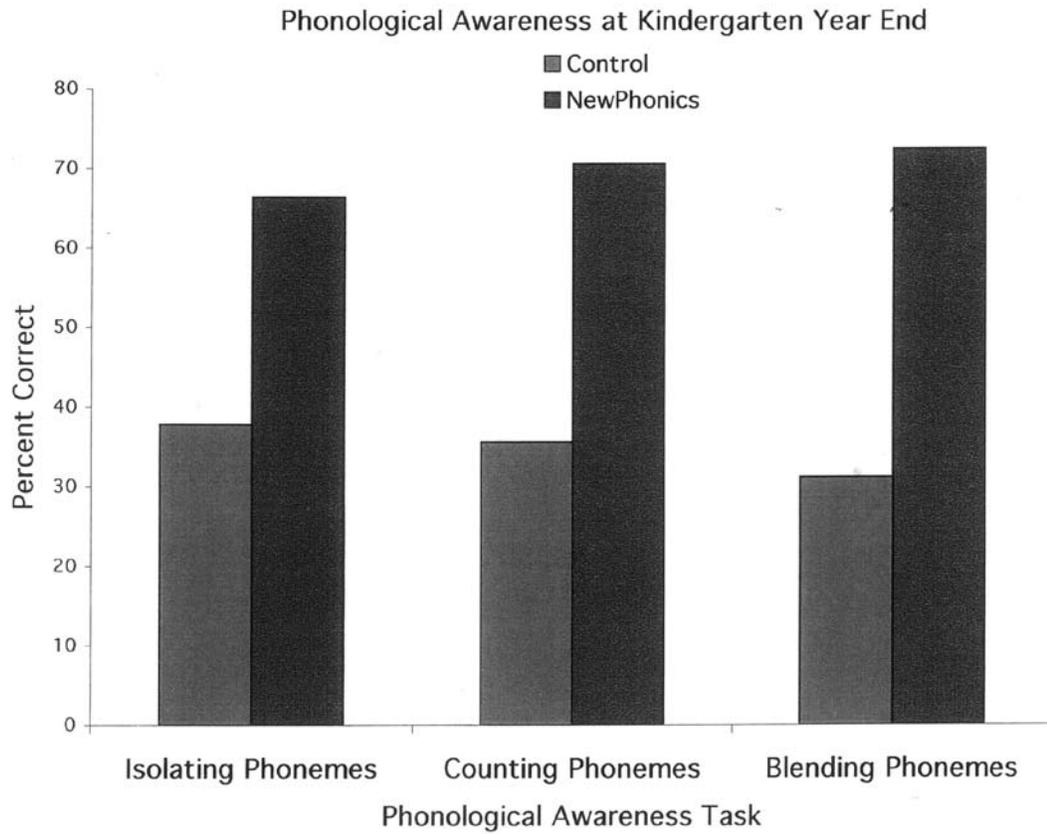
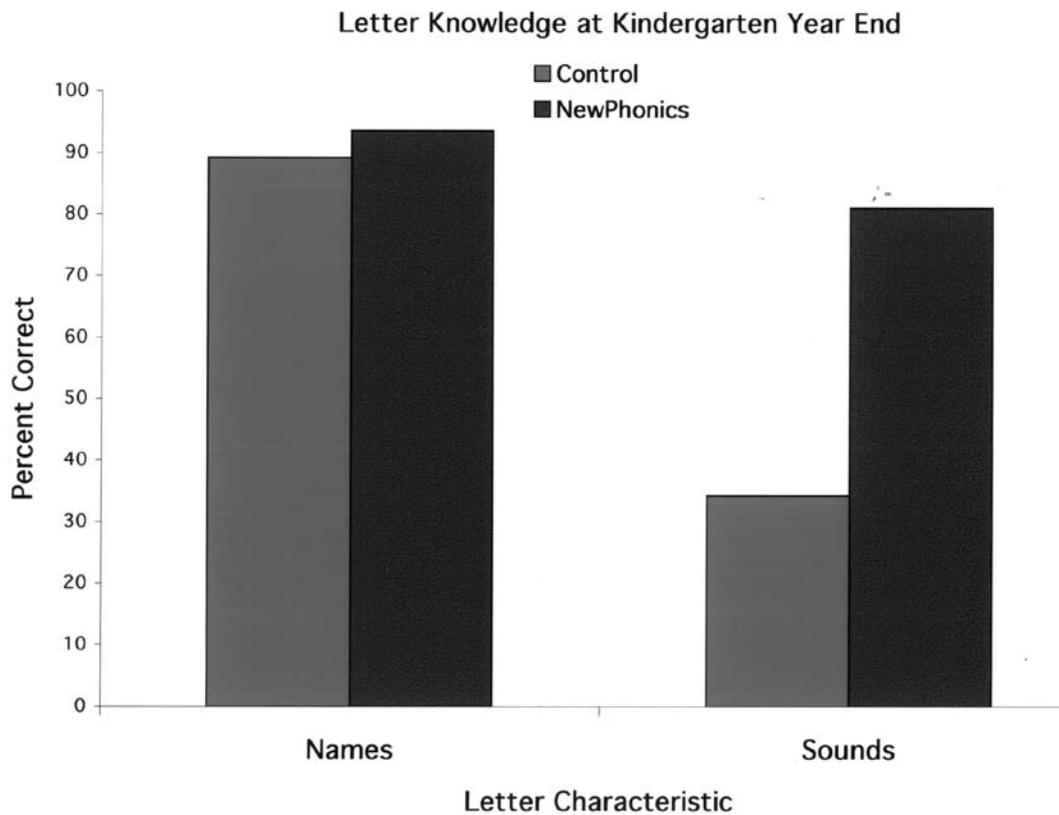


Figure 22

Kindergarten: NewPhonics versus Control Classroom letter knowledge



## Field Test 8: Summary

Field Test 8 involved 5 classrooms in the Buffalo City School District. It provides conclusive evidence that NewPhonics-Kindergarten significantly and dramatically raises scores in an urban school district. In this study two teachers served as their own controls, the first year using the Buffalo City School Curriculum and the following year using the NewPhonics-Kindergarten Program (an additional teacher also used NewPhonics-Kindergarten the second year). Identical pretesting scores were used both years to ensure that the classrooms were functioning at the same levels coming into kindergarten. Post testing was also identical involving as battery of tests that tested phonological awareness, letter knowledge, reading and spelling. The teachers started the NewPhonics-Kindergarten in November and taught approximately 35 of the 52 lessons.

Results showed that all post tests were significant at the  $p < .05$  level as is shown in Figures 19-22. These include reading, spelling, phonemic awareness and letter knowledge. Importantly, results indicated that using NewPhonics-Kindergarten 80% of kindergartens were reading at the end of the kindergarten year, whereas only 20% were reading the year where the Buffalo City Curriculum was implemented. This study provides tremendously important evidence that NewPhonics-Kindergarten, a well-designed research-base program that builds-in effective instructional features increases literacy outcomes significantly in an urban school in Buffalo, New York.

# Field Test 9: 3 Year Longitudinal Study in a Middle Class Suburban District Using District Testing

Figure 23  
Kindergarten: SESAT Kindergarten results

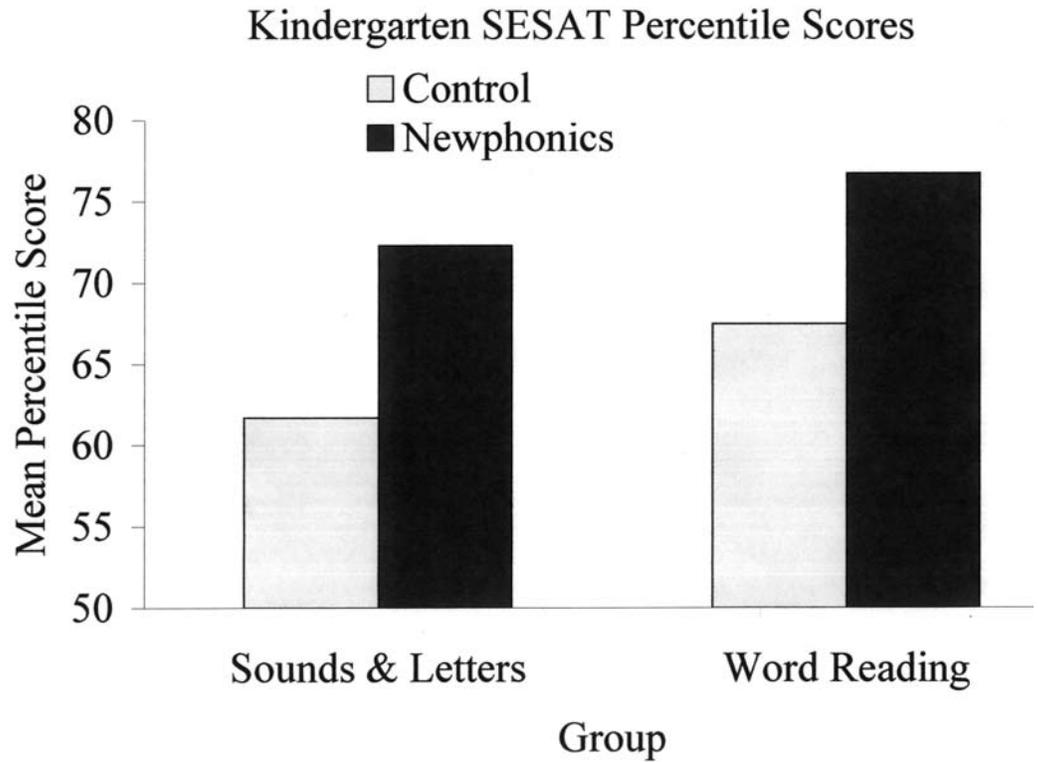
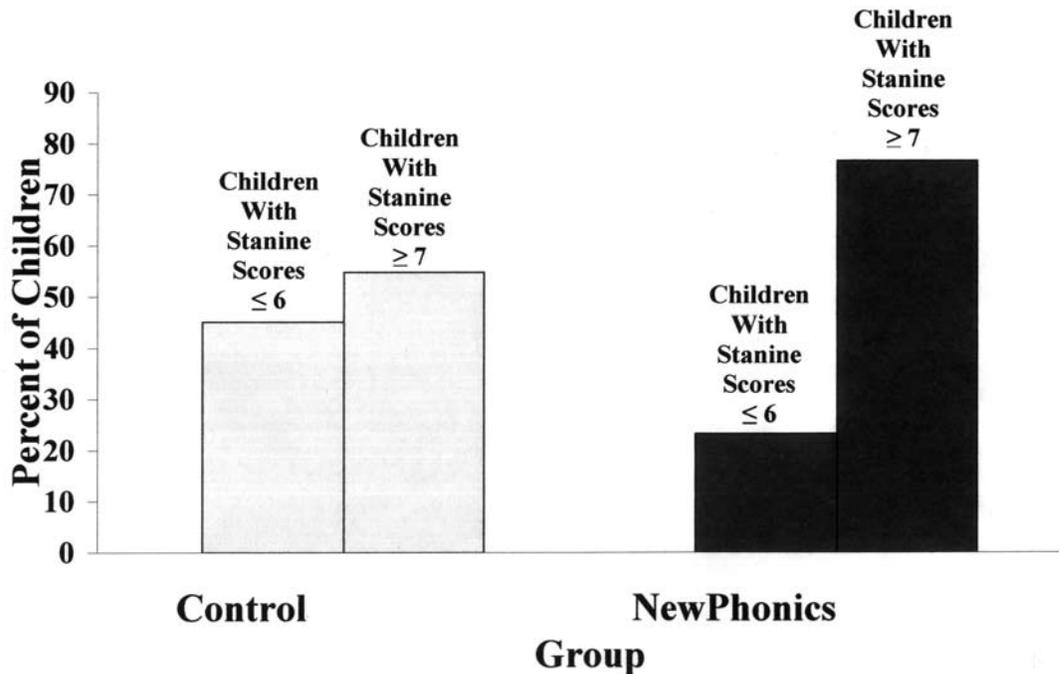


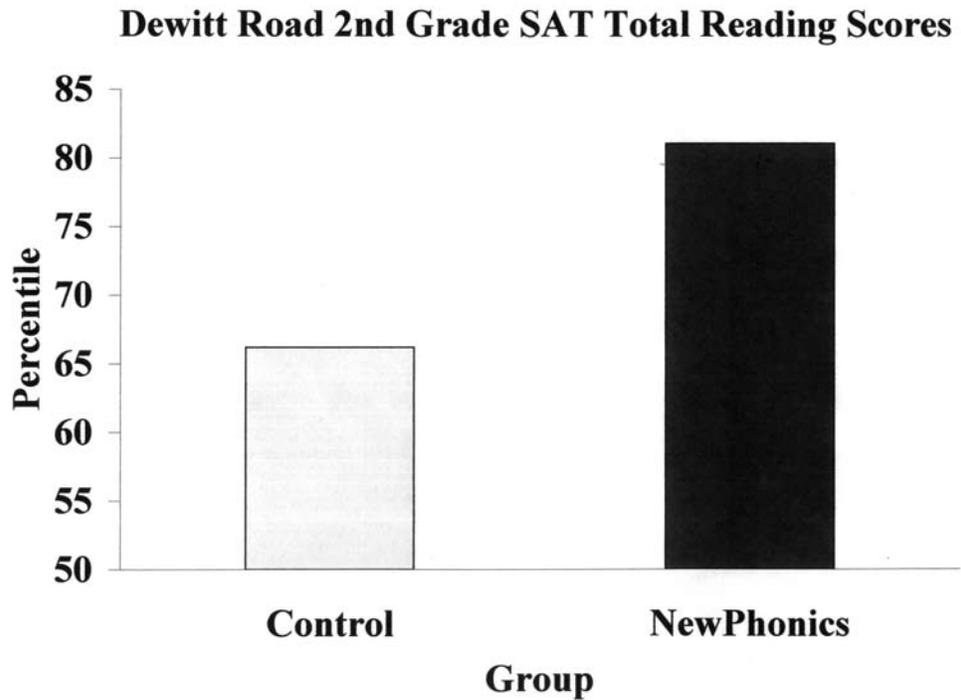
Figure 24  
SAT First Grade Results

## DeWitt Road First Grade SAT Total Reading Stanine Scores



# Field Test 9:

Figure 25  
SAT Second Grade Results .



## Field Test 9: Summary of Three-Year Longitudinal Middle Class using District Testing

Field Test 9 shows that the NewPhonics-Kindergarten Program significantly raises literacy outcomes beyond the kindergarten year to at least the end of second grade. Most, importantly the scores analyzed were the districts own testing results. Each analysis was significant at the  $p < .05$  level. This three-year study in a middle-class suburban district provides conclusive evidence that New-Phonics-Kindergarten, a well-designed research based program with effective instructional features built-in to the instruction, produces lasting effects. Providing excellent instruction in kindergarten is key to improving literacy outcomes well-beyond the kindergarten year. The importance of this study show the effects of the NewPhonics-Kindergarten instruction persistent to the end of grade two using scores obtained by the District, itself, rather than the researcher's own testing.

# Field Test 10: Rural Two-Year Longitudinal Study (N=88)

Figure 26  
Kindergarten: Spelling  
(mid-year and end-of-year results)

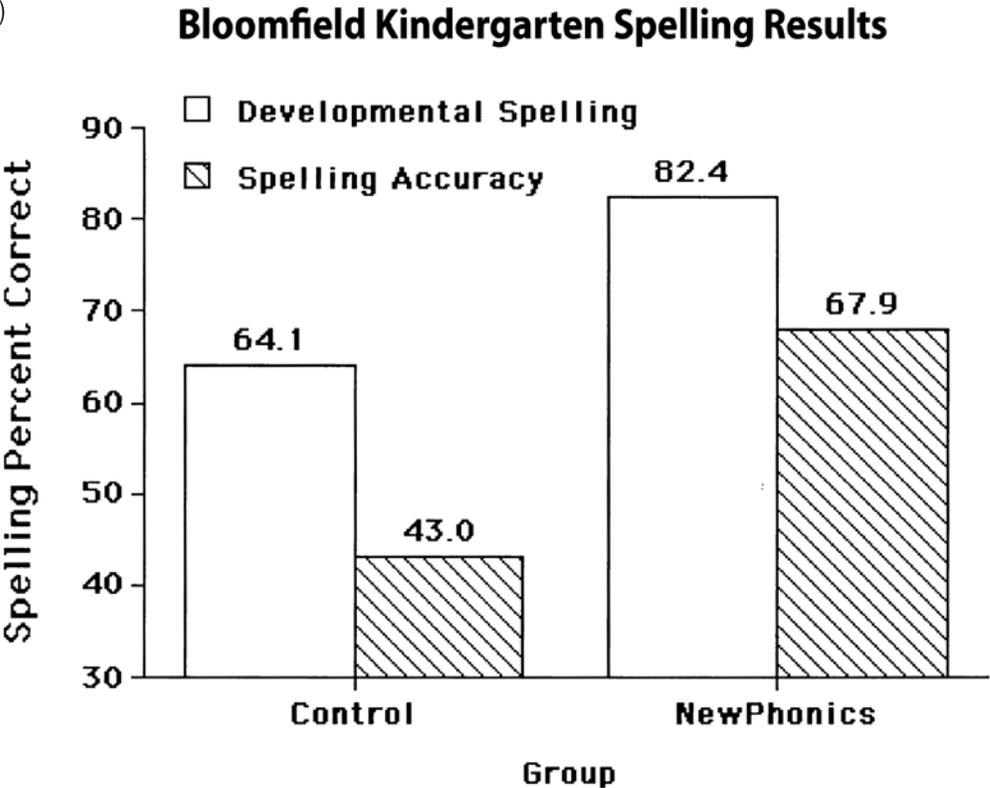
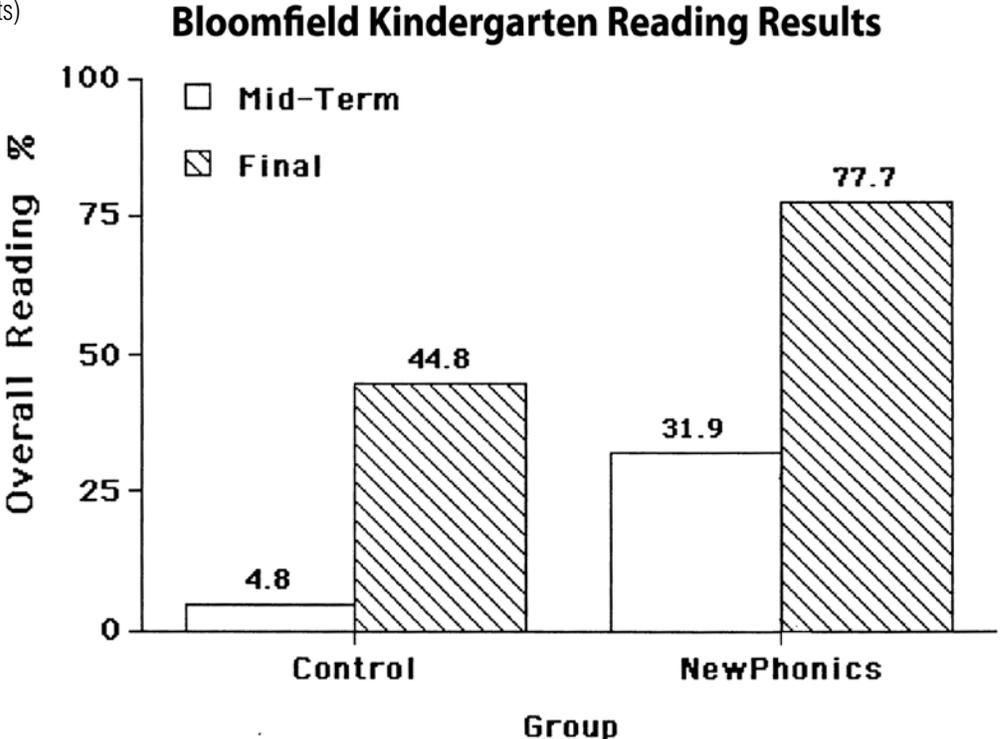


Figure 27  
Kindergarten: Reading  
(mid-term and end-of-year results)



# Field Test 10:

Figure 28  
First Grade:  
Word Comprehension results  
(mid-term and end-of-year)

Woodcock Reading Mastery Test Revised NU  
First Grade Word Comprehension

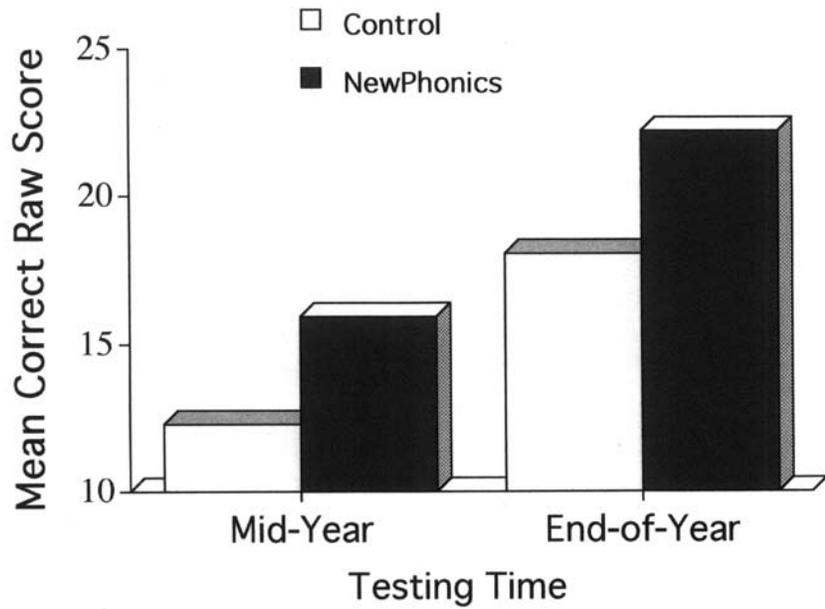
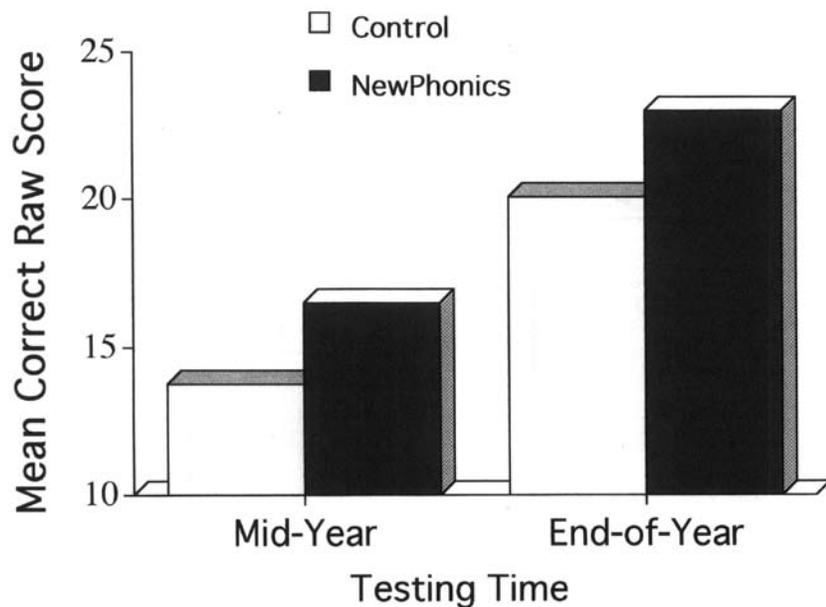


Figure 29  
First Grade  
Passage Comprehension  
(mid-term and end-of-year results)

Woodcock Reading Mastery Test Revised NU  
First Grade Passage Comprehension



# Field Test 10:

Figure 30  
First Grade  
Word Identification  
(mid-term and end-of-year results)

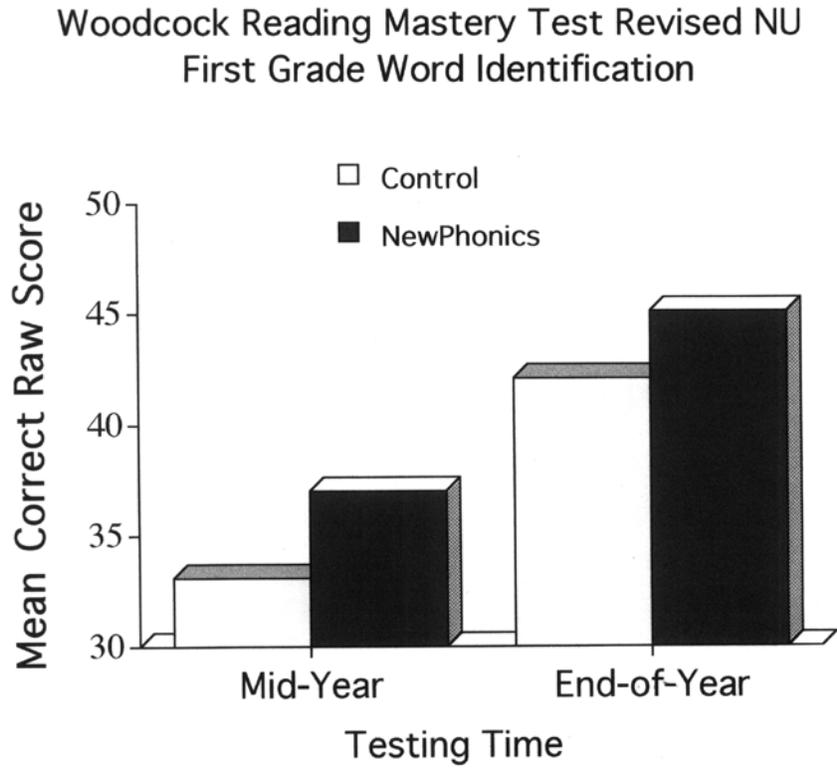
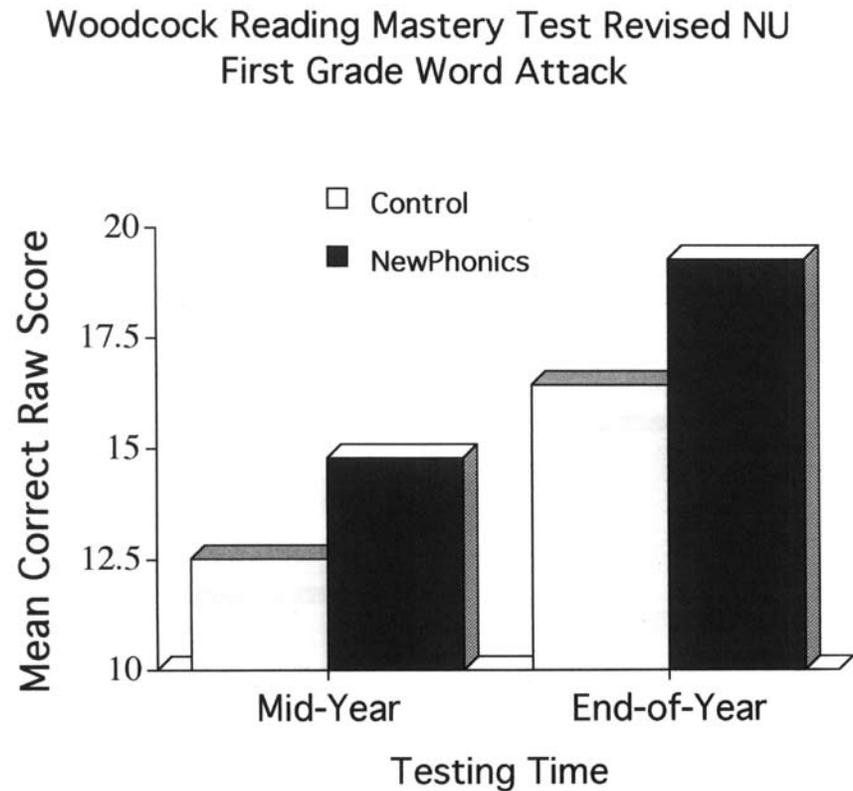


Figure 31:  
First Grade  
WordAttack  
(mid-term and end-of-year results)



# Field Test 10: Summary: Rural Two-Year Longitudinal Field Test

This field test conducted in a rural district provides further evidence that NewPhonics-Kindergarten raises literacy outcomes to at least the end of grade one. All tests of reading and spelling at both mid-year and end-of-year were significant at the  $p < .05$  level in both kindergarten and first-grade. In addition tests of phonological awareness and letter knowledge in kindergarten (figures not shown) were also significant at this level. By mid-year kindergarten the NewPhonics-Kindergarten group was already significantly ahead of the matched control group which was receiving an alternative method teaching phonemic awareness and letter knowledge. The first-grade mid- and end-of-year testing using the Woodcock-Johnson Reading Mastery Test Revised (NU) showed the children who received the NewPhonics instruction in kindergarten to be significantly ahead of the control children in all subtests including: Word Identification, Word Attack, Word Comprehension, and Passage Comprehension. NewPhonics-Kindergarten increased literacy outcomes which persisted beyond the kindergarten year to the end of first-grade with a rural sample of kindergarten children.

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