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## Sounding Out the Reading Debate: The Efficacy of Explicit Phonics Instruction Within a Whole Language Reading Curriculum

Ellen M. Loper  
*University of Nebraska at Omaha*

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**SOUNDING OUT THE READING DEBATE:  
THE EFFICACY OF EXPLICIT PHONICS INSTRUCTION  
WITHIN A WHOLE LANGUAGE READING CURRICULUM**

**An Ed.S. Field Project  
Presented to the  
Department of Psychology  
and the  
Faculty of the Graduate College  
University of Nebraska**

**In Partial Fulfillment  
of the Requirements for the Degree  
Education Specialist  
University of Nebraska at Omaha**

**by  
Ellen M. Loper  
September 1997**

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ED.S. FIELD PROJECT ACCEPTANCE

Acceptance for the faculty of the Graduate College, University of Nebraska, in partial fulfillment of the requirements for the degree Education Specialist, University of Nebraska at Omaha.

Committee

Lisa Kelly-Vance Psychology  
Name Department/School

Robert Henry Woody Psychology  
Name Department/School

Hans Langner Psychology  
Name Department/School

Tom Lorbach Spec. Ed. + Com. Dis / Education  
Name Department/School

Lisa Kelly-Vance  
Chairperson

11/14/97  
Date

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## Abstract

Controversy over how to teach reading centers around phonics and whole language and whether phonics should be taught in isolation. Previous studies have compared the two methods rather than combinations of both, and have utilized standardized tests that have questionable usefulness. This study proposed that curriculum based measurement is a more accurate measurement. Reading probes were administered to 38 students in nongraded classrooms. Both classrooms incorporated phonics into whole language curriculums; however, only one classroom used the Spalding method of phonics instruction. A pretest, posttest design was utilized, and gain scores were compared using a t-test. Results indicated a significant difference in fluency gain. The hypothesis that the classroom integrating the Spalding method would exhibit greater fluency gain was supported.

## I. Introduction

### Sounding out the Reading Debate:

#### The Efficacy of Explicit Phonics Instruction

#### Within a Whole Language Reading Curriculum

#### Introduction and Statement of Problem

According to the Reading Report Card issued by the National Assessment of Educational Progress (NAEP, 1994), 41 percent of fourth graders cannot read at the basic level (Jones, 1996). Such trends in reading achievement scores are causing schools to feel increasing pressure to produce high test scores, which has, in turn, ignited controversy over how reading should be taught in our schools. The controversy is not new, however, as the educational reforms of the early 1900s were characterized by issues relating to whole words over phonics, child-dictated stories versus basal primers, teaching the alphabet before words, and oral versus silent reading (Chall, 1992). These same topics are still being debated today as the most effective methods and materials for teaching beginning readers are sought by parents, educators, and researchers alike.

At the forefront of the debate is the increasing popularity of the whole language or literature-based movement in reading instruction. Whole language proposes the integration of language components so that children are immersed in all forms of language and are encouraged to read and write before they have systematically learned the relationships between letters and sounds. In contrast, the phonics or skills approach advocates the isolated, systematic instruction of language subskills prior to encouraging children to

read. Thus, the confusion continues as to whether reading instruction is more effective if it emphasizes the whole word or if it emphasizes the alphabetic code relating letters and sounds phonetically.

While evidence from comparative research is increasingly pointing to the conclusion that a balanced approach which combines both phonics and whole language is the most effective, contention persists. Stanovich and Stanovich (1995) suggest that the two approaches actually have more in common than is typically emphasized. Further, disagreements between the two camps can be summarized as an issue of whether phonics needs to be taught in a direct or explicit, systematic manner or whether it is learned naturally as a child is exposed to the written language in the environment. Subsequently, differing research findings have been reported depending on the theory held by the researchers. Thus, the reading instruction approach that is supported can be traced to differing underlying assumptions about the process of reading and how children learn to read.

### Reading Theory

A current view of reading development is that it is a componential process composed of subskills that are learned in a sequential manner (Bjorklund, 1995). These subskills include the basic components of word recognition and reading comprehension. Word recognition includes phonemic awareness and the ability to read sight words, whereas reading comprehension is deriving meaning from what has been read.

Spalding and Spalding (1990) describe three subskills which children must master to be proficient readers. The most basic subskill consists of

forming connections between speech and print or between speech units called phonemes and the specific letters that represent them. By learning which letters represent which sounds, children develop a “working set” of letter-sound units. Higher-order subskills can then be developed by building on this working set. The second-order skills of literacy refer to syntax or the rules that need to be taught regarding the construction and use of phoneme-letter units. Once first- and second-order skills have been mastered, children learn third-order skills which are defined as the semantics or meanings of words.

While the subskills necessary for reading development are fairly clear-cut, how children acquire these subskills is at the heart of the debate on how beginning reading should be taught. The psycholinguistic approach is one philosophy that has recently drawn attention. The basic tenet of the psycholinguistic approach is that children are preprogrammed neurologically to learn to read. In this manner, children learn to read much the same way that they learn to talk. Psycholinguists reason that children learn to talk not through formal training, but by being surrounded by speech in its natural context. Similarly, given opportunities to experiment and to receive feedback in context, reading skills will emerge and evolve, and children will learn to read spontaneously (Tierney, Readence, & Dishner, 1995).

Others, including cognitive psychologists, espouse an alternate viewpoint of reading acquisition. They argue that reading does not develop naturally but, rather, is a cognitive ability that develops in a certain context such as a school setting. Stanovich and Stanovich (1995) point out that while

virtually all children in normal environments develop speech easily, a substantial number of children have difficulty learning to read even after receiving instruction. In other words, reading must be taught. Specifically, the subskills of reading need to be taught. Because these subskills are learned in a sequential manner, each is associated with, and corresponds to, a stage in a child's reading development.

### Stages of Reading

Stage-development theories of reading suggest that a child's beginning reading skills act as prerequisites for more advanced reading abilities. Under this premise, the reading process is not viewed as being learned all at once but, rather, is different for beginning versus skilled readers. Chall (1983) has proposed a model of reading that consists of six stages which contribute to a better understanding of how reading is acquired and, in turn, how curriculum should be organized to ensure optimal learning at various stages of a child's development.

Stage 0, Prereading, marks the years from birth to age six or before a child enters the first grade of formal schooling. In this stage, children discover the world of print. Prereading is characterized by capabilities such as learning the letters of the alphabet and recognizing familiar words such as "McDonalds" and other brand names. This is an indication that a child is beginning to discriminate patterns of letters even though words are not yet being sounded out. For this reason, instruction at this stage of development focuses on teaching the letters of the alphabet and how to put letters together, such as in the letters that make up a child's name.

Stage 1 marks the first to second grade (ages 6-7) and is referred to as the Decoding or Initial Reading stage. Children at this stage of reading learn the alphabetic principle or the idea that letters represent speech sounds or phonemes. At this level, instruction in letter/sound correspondences or phonological coding is necessary in order for children to progress to the next stage.

The second and third grades (ages 7-8) constitute Stage 2, Confirmation and Fluency, wherein children use their decoding knowledge to gain fluency and speed. This is accomplished by reading familiar print, by rereading material, and through numerous opportunities for practice.

Beginning with Stage 3 (grades 4-8), children make the transition from "learning to read" to "reading to learn" if the prerequisite skills of Stage 1 and Stage 2 have been mastered. Once this automaticity occurs, attentional capacity can then be used in developing comprehension skills.

The last two stages of reading represent higher-order abilities or skills related to analytical reasoning and synthesizing. Stage 4 reflects proficient reading abilities and is representative of the high school years. Stage 5 occurs beyond the high school years and is exemplified by knowing what to read as well as what not to read in abstracting information and meaning from print.

Because each stage in Chall's model builds on skills of previous stages, it is imperative that beginning readers acquire initial decoding skills in order for all subsequent reading abilities to develop. The developmental view, therefore, suggests the application of direct or explicit, systematic instruction

in letter-sound correspondences (phonics) as a foundation for all beginning readers.

### Phonics Instruction

Foorman (1995) defines phonics as an educational term that refers to a myriad of methods used to teach beginning readers about correspondences between letters and sounds. The two most common methods of phonics instruction are to teach the student to segment and blend the letter sounds in a word, or to teach the student to recognize common spelling patterns in words, such as the "at" word family in words like rat, sat, cat, and mat.

In addition, approximately 75-100 phonics rules are typically taught to children that act as hints as to how letters might be pronounced in a given word, although reading curriculums can vary as to the amount of opportunities provided for students to practice such rules (Foorman, 1995). Thus, phonics instruction is viewed as a highly systematic, teacher-directed, task analysis of the prerequisite skills necessary for reading.

Across the instructional literature and research on reading, the value of phonics has been consistently demonstrated with hundreds of studies showing that beginning reading has much to do with phonology (Chall, 1992; Lehr & Osborn, 1994). For example, Foorman (1995) found that, in multiple studies, the common factor linked to poor reading skill was lack of phonological coding ability. Similarly, Aaron (1995) found poor phonological skills to be associated with poor decoding or word recognition.

While phonics studies have compared varying classrooms, children, and instructional methods, the studies collectively show that phonics

instruction leads to higher group achievement in word recognition and spelling at least in the primary grades, and especially for low socioeconomic and learning disabled children (Lehr & Osborn, 1994).

For example, a study by Carrasco (1994) investigated the effects of a whole language, literature-based reading instruction and a phonics/skills reading instruction on reading achievement. Participants consisted of 30 third grade students in each of the two classrooms located in Chicago, Illinois. Reading achievement was measured by The Language Booklet Reading Test which includes standardized measures of reading, comprehension, vocabulary, and phonics. Using a posttest control group design and a t-test for independent samples, the results indicated that the group of students in the phonics program outperformed the students in the literature-based, whole language program.

Further, a review by Chall (1992) claims that phonics instruction is responsible for improved reading scores. She reports that reading textbooks of the 1970s contained heavier instruction in phonics, whereas reading textbooks of the 1980s focused on reading comprehension and word meanings. Chall compared these findings to the reading achievement scores reported by the Reading Report Card (NAEP, 1994), which indicates steady improvement of reading for nine-year-olds from 1970 to 1980 and no improvement and possible decline for the years 1980 to 1988. Subsequently, the early advantages of phonics instruction were found to have been maintained when the nine-year-olds were tested at age seventeen.



## Whole Language Instruction

While phonics can be seen to exist at the teacher directed, task analysis end of the reading spectrum, whole language falls at the other end. This end of the spectrum is commonly characterized by student directed, holistic approaches to reading instruction.

Whole language was pioneered by Ken Goodman, a psycholinguist, in 1968 as a "psycholinguistic guessing game" model (Goodman, 1986). The premise of this model was that knowledge of syntax, semantics, and phonology allowed the reader to make guesses about the meaning of unknown words.

The whole language movement that followed in the 1980s went on to determine that instruction in phonics or the association between letters and sounds was unnecessary because reading was seen as a natural extension of oral language competencies (Chall, 1992; Foorman, 1995; Stanovich & Stanovich, 1995). In other words, by immersing children in all forms of language, they learn to read in the same manner they learn to talk. Children were assumed to learn language best if learning occurred in natural settings using authentic materials, such as trade books and child-authored stories, rather than artificial basal readers used in traditional phonics programs. Phonics instruction was thus seen as a rote procedure that isolated print from its functional use, taught skills out of context, and thereby discouraged reading and made it harder to learn (Stanovich & Stanovich, 1995).

Over the years, whole language has come to mean different things to different people. Most argue that whole language is not a specific method,

but rather a philosophy that underlies instructional decisions. These decisions empower children to direct their own learning and empower teachers to construct classrooms to meet children's individual needs (Chall, 1992; Stahl & Kuhn, 1995).

Others define whole language as a view of literacy, learning, and teaching, rather than a set of practices or any set approach. Yet, certain tenets have become consistent with whole language assumptions. These include: a) emergent literacy or the idea that children learn to talk and read in the same manner; b) a focus on functional reading and purposeful writing within natural contexts; and c) the inappropriateness of teaching phonics skills in isolation, since they do not occur that way in written language (Tierney, Readence, & Dishner, 1995).

Some whole language advocates view whole language as allowing teachers to teach what they want by integrating reading with writing, speaking, and listening (Chall, 1992). Others oppose the use of basal readers but not phonics instruction, while still others think basal readers and phonics instruction should be included in all whole language programs. A continuum of reading curriculums has thus resulted which has prompted numerous examinations as to which instruction is most beneficial to beginning readers.

For instance, a study by Reutzel and Cooter (1990) compared two first grade whole language classrooms with two first grade phonics basal classrooms in two suburban communities in the Midwest and the Rocky Mountain West. The whole language classes consisted of 53 students and the phonics basal reader classes consisted of 38 students. The authors were

interested in whether or not children taught in a whole language reading environment would score as well on a standardized achievement test of reading at the end of first grade as children taught with a phonics basal reader approach. An analysis of covariance performed on scores from the Gates-MacGinitie-R Reading Survey Test indicated a significant difference favoring the whole language method over the phonics basal approach on total reading, vocabulary, and reading comprehension scores.

A similar study compared the effects of whole language practices with the effects of a skills-oriented phonics program on the reading achievement of children from kindergarten to the end of second grade. This study (Manning, 1989) found children in the whole language group to be better readers as measured by the reading portion of the Stanford Achievement Test. A third study by Miller and Milligan (1989) compared a whole language first grade reading program with a traditional phonics basal reading program by measuring decoding and comprehension abilities. Findings from the Nonsense Word Test and the Deletion Test supported the whole language approach.

#### Combined Approach: Phonics and Whole Language

As evidenced, both phonics and whole language advocates have presented convincing cases that methods and materials do affect reading achievement. Unfortunately, diverse opinions exist. For instance, Foorman (1995) claims that research clearly favors instruction in alphabetic coding in phonics. Palincsar and Perry (1995) counter that research supports the use of holistic approaches. However, leading experts and practitioners in the

literacy field argue that the controversy over phonics and whole language instruction is not an “either/or” question. Rather, they recommend a balanced instructional approach which combines the explicit teaching of the phonics skills needed to develop reading fluency with literature-rich activities associated with whole language (Honig, 1996).

In this way, the focus of the debate moves in the direction it should: toward the individual child. Because many different learning styles can be found within a single classroom, a combination of instructional approaches is necessary to accommodate all children. For example, children who typically do well in phonics-based classrooms tend to have strong auditory and analytic reading styles (Carbo, 1996). Auditory learners can hear and remember the letter-sound correspondences that comprise phonics. For analytic children, the logic of phonics makes sense to them and they can proceed naturally from isolated pieces of phonological information to the whole picture of fluent reading.

At the same time, children who do well in whole language classrooms tend to have visual, tactile, and global reading styles (Carbo, 1996). These children can recall readily the words they see and hear repeatedly. Experience with story writing aids tactile learners in that they remember words they have felt as they write them. Further, global learners find appeal in the popular literature, hands-on learning, and peer interactions associated with whole language programs.

As the importance of developing reading curriculums that draw on the strengths of both phonics and whole language philosophies has gained

acknowledgment in the literacy field, corroborating research is beginning to surface. For example, Eldredge (1991) concurs that a "modified" whole language approach combined with word recognition skills (phonics instruction) is superior to a phonics only approach. His findings, based on the Gates-MacGinitie Reading Test , indicate higher reading achievement in the modified whole language program than in the phonics basal program. Mallak's (1991) study of students in grades kindergarten through second grade also suggests that incorporating the necessary skills of sounds/symbols within the whole language literature lesson is the best approach to adopt in creating a classroom that is real, natural, and functional.

A similar study by Thomson and Miller (1991) examined the effects of combining whole language and phonics approaches to enhance reading instruction for students. Eighty first graders' reading achievement was examined in four whole language classrooms, of which two incorporated Reading Mastery Fast Cycle phonics as a supplement to the Houghton-Mifflin integrated whole language approach. Findings from the Woodcock-Johnson Individual Reading Achievement Test indicate that the classrooms that incorporated direct instructional phonics with whole language made more progress than the whole language only classrooms.

Further, Mills, O'Keefe, and Stephens (1992) conclude that combining phonics and whole language practices is optimal because it allows children to use three cueing systems. These three systems are phonics, syntax, and semantics. Because the cue systems are used simultaneously to construct meaning from print, no cue system can be sufficient by itself.

While the phonics and whole language camps appear to be moving toward a reconciliation in developing the most effective method of teaching children to read, questions involving instructional and curricular issues persist. These questions relate to best practice on the specifics of skill development and how phonics should be organized, taught, and integrated into a whole language program.

### The Spalding Method

The Spalding method is one example of phonics instruction that teaches the prerequisite skills of reading. It was developed by Romalda Spalding in 1957 to prevent and remediate reading and writing problems (Spalding & Spalding, 1990).

The Spalding method begins by teaching a set of 54 basic phoneme-letter units called phonograms. Phonograms consist of a single letter or a fixed combination of two, three, or four letters. The letters act as a symbol for one sound in a given word.

According to Spalding and Spalding (1990), as children learn the phonograms, paired-associate learning occurs and neural links between letters and their sounds are established in long term memory that can be easily accessed. In their book, The writing road to reading: The Spalding method of phonics for teaching speech, writing, and reading, the authors explain how children utilize all sensory channels as they learn. By hearing, saying, writing, and seeing words, written language is presented through four different avenues of the mind. (See The writing road to reading: The

Spalding method of phonics for teaching speech, writing, and reading for more information about the Spalding method).

Spalding and Spalding (1990) provide standardized test scores as evidence that the Spalding method is effective. For example, school districts in Arizona using the Spalding method report reading averages for their classes in the upper ninetieth percentile as measured by the Iowa Test of Basic Skills. A study by Auckerman (1984) reports average reading grade levels of Spalding classrooms as 2.8 for first grade students, 3.76 for second grade students, and 5.24 for third grade students. Additional data shows that Spalding students' scores tracked in reading and language on standardized tests ranked in the eighty-sixth to ninety-eighth percentile (Spalding & Spalding, 1990).

The Spalding method differs from other phonics instruction methods in that it teaches the saying and the writing of the phonograms of language prior to encouraging children to read. Other phonics methods typically teach letter-sound correspondences as they are encountered in print. In addition, these methods have traditionally used basal reading materials and workbooks to teach skills that have little or no connection to meaning. Skill development also can be hard to achieve with basals because they do not provide much opportunity for practice. As a result, phonics instruction can mistakenly be taught as an end in itself.

Current research data on the Spalding method can be difficult to obtain for several reasons. One reason is that many research articles do not specify which type of direct or explicit phonics instruction was taught in the

classroom under investigation. This makes it difficult to directly compare methods and forces a reliance on the testimonials of parents, educators and administrators as to the effectiveness of the Spalding method of phonics instruction. In addition, teachers are not taught the Spalding method in their college courses and must often learn about the Spalding method through inservices and workshops once they are in the teaching field. Moreover, special education teachers, who are spending increasing amounts of time with nonreaders, receive even less training in reading instruction. The International Reading Association (Carbo, 1996) reports that three-quarters of states surveyed require no more than one course in reading instruction for special education teachers.

### Standardized Measurement

In addition to the lack of current research data on the effectiveness of combined reading instructional approaches and the Spalding method, a review of the limited, existing data indicates that researchers have exclusively relied on the use of traditional, standardized tests as their unit of measurement. Traditional tests are increasingly coming under attack for lack of authenticity and treatment utility. Standardized reading tests have received criticism as to their poor psychometrics, inadequate content validity, lack of useful information provided, lack of usefulness in making educational and instructional decisions, and failure to consider fluency of oral reading (Charlesworth, Fleege, & Weitman, 1994; Joshi, 1995; Salvia & Ysseldyke, 1995; Shinn, 1989).



Salvia and Ysseldyke (1995) cite several major problems in using standardized measures to assess reading. The first concerns the match between what is taught in a child's curriculum and what is tested by standardized tests. If there is no overlap between the two, then a child may perform poorly on the test when the class material has actually been learned. Research investigating the degree of overlap between five commonly used basal reading series and four commercial, standardized achievement tests for first to fifth grades indicates little and inconsistent overlap (Shapiro, 1989). Because reading series differ as to the skills taught, the emphasis placed on skills, the sequence in which the skills are taught, and the time in which skills are taught, children in different curriculums will score differently on the same standardized test.

Second, standardized tests are not necessarily appropriate measures for addressing specific educational decisions. Standardized tests compare a student to same-age peers and may be appropriate for making special education eligibility decisions, but do not typically provide insight for remediation and instructional planning.

A third limitation is that few technically adequate standardized tests exist that exhibit sufficient standardization, norming descriptions, reliability, and validity for assessing reading capabilities.

Most importantly, standardized tests are typically not designed to measure learner outcome or progress because they are not sensitive to gain (Shinn, 1989). Measuring a student's gain in a given curriculum requires

repeated testing which can be problematic with standardized tests which are susceptible to practice effects from one testing to the next.

### Curriculum Based Measurement

Given the constraints that standardized measures exhibit, educators, psychologists, and researchers alike have begun to advocate the use of new approaches in assessing reading abilities. One approach that is receiving attention as a viable alternative to standardized tests is curriculum based measurement (CBM) (Charlesworth, Fleege & Weitman, 1994; Deno, 1985; Joshi, 1995; Salvia & Ysseldyke, 1995; Shinn, 1989).

While various methods of CBM exist, three essential features are common to all (Deno, 1985; Fuchs & Deno, 1994; Fuchs, Fuchs, & Hamlett, 1990). First, the student is tested from material taken from the school curriculum currently being taught. In so doing, the problem of teaching-testing overlap is eliminated. Second, assessment occurs frequently over time so that gain can be determined. Because the curriculum changes throughout the year as gain is being measured, practice effects are not a concern. Repeatability over time therefore becomes a key advantage of CBM. Third, information obtained from CBM measures is used to formulate educational and instructional decisions. Reading assessments of this type have two objectives: to determine if the student is placed at the appropriate reading level; and to monitor progress in the reading curriculum (Shapiro, 1989). One type of assessment of reading abilities involves administering one-minute oral reading probes taken from the student's reading series in

which the student is currently being instructed and determining the number of words read correctly or the reading fluency.

Fluent reading consists of at least two independent components: word recognition and comprehension (Joshi, 1995). As a reader becomes more adept at word recognition or the ability to pronounce words, more attention can thus be directed toward comprehension or extracting meaning from the text. In this way, CBM oral reading fluency provides a good index of reading proficiency by measuring reading speed and accuracy, as well as reading comprehension.

Unfortunately, fluency is typically not measured by standardized reading tests. Palincsar and Perry (1995) refer to oral reading fluency as the "neglected reading goal." However, through the advent of CBM, fluency is coming to the forefront of reading assessment as one of the principal building blocks on which reading skills are built (Shinn, 1989). As a result, empirical research is surfacing which indicates that CBM oral reading fluency demonstrates discriminant validity, longitudinal change, treatment validity, and sensitivity to changes in reading programs (Shinn, Good, Knutson, & Tilly, 1992).

In addition, over twelve years of CBM studies have shown oral reading fluency to be a reliable and valid measure of a student's general reading skill, including comprehension (Fuchs, Fuchs, & Hamlett, 1990; Shinn, 1989; Shinn, et al., 1992). For example, a study by Shinn et al. (1992) offers support for the face validity of oral reading fluency by relating CBM oral reading fluency to the reading process. In this study, third- and fifth-grade

students were administered eight reading measures including tasks of CBM oral reading fluency, comprehension, and decoding. As expected, the efficacy of oral reading fluency as a measure of reading proficiency and comprehension was supported as the results found the best measures of overall reading competence to be CBM oral reading fluency for both grades.

Additional studies have found CBM measures to have good face validity among teachers (Fuchs & Deno, 1994) and to have more acceptability than standardized tests among school psychologists (Shapiro & Eckert, 1994). Impressive findings on CBM reading measures have been found in reliability studies as well (Shinn, 1989). Test-retest reliability coefficients of studies employing intervals of one to ten weeks ranged from .82 to .97, with most estimates above .90. An interrater reliability coefficient of .99 is also reported.

Criterion-related validity studies that have correlated CBM reading measures with published, standardized tests (i.e. the Stanford Diagnostic Reading Test, the Woodcock Reading Mastery Test, and the reading comprehension subtest from the Peabody Individual Achievement Test) have found most correlations to be above .73 (Shinn, 1989; Shinn, et al., 1992). Because standardized tests are not considered to be the most suitable measures of oral reading fluency (as previously discussed), perfect correlations would not be expected in accounting for the variance between reading measures, as is suggested by these studies.

CBM criterion-related validity studies have also correlated CBM reading fluency measures with mastery tests from the basal reading series.

Most coefficients are reported to be above .80 with a range of .63 to .90 (Shinn, 1989). Other studies cited in Shinn (1989) and Shinn, et al. (1992) have examined the relationship between CBM reading measures and teacher judgment of students' reading proficiency and have found correlation coefficients with a median of .86.

Additional CBM advantages that are often cited in the literature indicate that CBM is cost effective, clear in communicating student progress, sensitive to small gains over short periods, not susceptible to practice effects, and simple to administer (Mehrens & Clarizio, 1993). Because CBM is a better match between what is being taught and what is being assessed, student progress can be indexed so that the effectiveness of instruction can be evaluated and better programs can be designed to teach students to read.

#### Purpose of the Study

As illustrated, findings from research comparing phonics and whole language methods are inconsistent and inconclusive. Furthermore, research substantiating the use of various phonics instructions within whole language curriculums is lacking. Given the substantial research base justifying the use of CBM methods to measure reading fluency, and the limited usefulness of standardized tests, research addressing the efficacy of instructional reading curriculums using CBM as the unit of measurement is clearly needed. Therefore, the purpose of the present study was to compare two classrooms with differing phonics instructions integrated into their whole language curriculums by administering curriculum based reading probes to assess students' reading fluency.

It was hypothesized that oral reading fluency gain would be significantly different between the two curriculums under investigation. It was further hypothesized that the classroom integrating the Spalding method of phonics instruction within a whole language curriculum would have greater oral reading fluency gain than the classroom *not integrating the Spalding method of phonics instruction within a whole language curriculum.*

These hypotheses were formulated on the basis of the reading acquisition and stage development theories previously discussed. The cognitive approach to reading development supports the view that the subskills of reading must be taught in a systematic, sequential, and explicit manner. Further, the Decoding stage of reading (for students ages 6-7 in first to second grade) stresses the importance of teaching the letter/sound correspondences of phonemes. The Spalding method is an example of this type of instruction. Therefore, the classroom which incorporated the Spalding method of phonics instruction into their whole language reading curriculum was expected to experience more reading fluency gain than the classroom which did not incorporate the Spalding method of phonics instruction into their whole language reading curriculum.

## II. Method

### Participants

Thirty-eight regular education students from an Iowa school district served as participants in this study. Participants were selected from two intact, nongraded classrooms comprised of students typical of first and second grade classrooms. While information regarding the age of the participants

was not obtained, students attending first and second grade classrooms are generally six and seven years of age.

Initially, 46 students were identified as participants in this study. However, due to a disproportionate number of second grade students contained within one sample, the number of participants was reduced in that particular classroom in order to make the two classrooms more homogeneous. In so doing, eight second grade students' scores were randomly excluded from one classroom sample. As a result, the number of students contained within each sample became 19 for an overall total of 38 participants.

All participants were enrolled in classrooms which taught an integrated whole language and phonics curriculum. Nineteen students (11 girls and 8 boys) attended a classroom in which phonics were introduced as they were encountered in whole language print materials. Of these 19 students, 13 were first graders and 6 were second graders. Nineteen students (13 girls and 6 boys) attended a classroom in which the Spalding method of phonics instruction was taught directly within a whole language curriculum. This classroom consisted of 11 first grade students and 8 second grade students.

Participants were predominantly Caucasian, with a small percentage of Mexican-American and African-American students contained in the participant pool. This sample was representative of the demographic makeup of the school district involved in the study. All participants were English-speaking students.

Participating schools were matched on the basis of socioeconomic status (SES) which was determined by the number of free and reduced lunches at each site as reported to the school district's Food Service Office. The official poverty line is used to determine eligibility for full or partial subsidy of school meals. Full subsidy or free meals are provided if the student's household income is 130 percent or less of the poverty level. Partial subsidy or reduced meals are provided for those with family income of 131 to 180 percent of the poverty level (Entwisle & Astone, 1994). These authors suggest that free and reduced lunches should only be used as a measure of SES when other indices are not available since school records may not be accurate and because not all children who are eligible for subsidized meals will apply. While using free and reduced lunches as a measure of SES does not take into account other descriptors of SES, such as family composition and parental income, research indicates that students' participation in meal subsidy programs is consistent over time and, therefore, a reliable measure of SES. Socioeconomic status was calculated to be nearly identical for the two comparison groups under investigation, as free and reduced lunch percentages of 51 percent and 53 percent were obtained.

### Setting

The reading instruction in each classroom consisted of an integrated phonics and whole language curriculum. One classroom used Houghton Mifflin Literary Readers and trade books to teach phonics within whole language thematic units. The necessary phonics skills within each unit were targeted for teaching as part of introductory activities, games, songs, and



worksheets. The other classroom taught the Spalding method of phonics instruction through a whole language approach. The 54 phonograms used in the English language were incorporated and taught through the use of poems, songs, and trade books. A listing of these phonograms can be found in Table 1.

Table 1

Listing of the 54 Basic Phonograms


---

b	f	c	g	d	h
j	m	k	n	l	p
qu	t	r	v	s	w
x	a	y	e	z	I
o	ir	u	ur	er	wor
ear	th	sh	ay	ee	ai
ow	oi	ou	aw	oy	au
ew	ch	ui	ng	oo	ea
ar	or	ck	wh	ed	oa

---

## Materials

The materials used in this study consisted of three reading probes taken from the beginning, middle, and end of the participants' current reading curriculum. Generic reading probes as previously determined through district-wide CBM norming of the student population were utilized (See Appendix A). Permission to photocopy the reading probes had previously been obtained from the Area Education Agency (AEA) serving the school district.

Code numbers were assigned for each student to ensure confidentiality. A listing of the names and codes was retained and secured in a locked file cabinet. The examiner used a coded copy of each probe and the student was given an uncoded copy from which to read. A stopwatch was used to time the one-minute administration of each of the three reading probes.

## Procedure

Assent forms for children (Appendix B) and parental consent forms (Appendix C) were sent home with all of the students in each of the two comparison groups. Permission was therefore obtained from all participants and their legal guardian(s) prior to the start of data collection.

The study was conducted at the respective schools of the two classrooms designated for this study. Administration of the reading probes occurred in a private room free from distractions and suitable for testing purposes. One primary and two secondary experimenters were involved in the collection of data. The primary experimenter collected both pretest and

posttest data with the assistance of one secondary experimenter for pretest data collection and the assistance of the other secondary experimenter for posttest data collection. Pretest data was obtained over a two day period as was posttest data for a total of four data collection sessions. The experimenter and the participant were seated at a table with no materials present other than those necessary to carry out the experiment

The reading probes were individually administered by the experimenter. Before beginning, the following directions were given to the participant:

"When I say 'start', begin reading aloud at the top of this page. Read across the page [demonstrate by pointing]. Try to read each word. If you come to a word you don't know, I will tell it to you. Be sure to read as quickly as you can without making mistakes. Do you have any questions before we start?"

The participant was then instructed to begin reading and the experimenter timed for one minute.

As the participant read, the experimenter followed along and marked errors on the coded copy as follows: a) an error of omission was recorded if the participant left out an entire word; if an entire line was omitted the participant was redirected to that line and only one error was recorded; b) an error of substitution was recorded if the participant said a wrong word; and, c) if the participant struggled for more than three seconds to pronounce a word, the word was supplied by the experimenter and was recorded as an error. All errors were recorded by marking a hash mark through the omitted,

substituted, or unknown words. Self-corrections and repetitions of words were not counted as errors.

At the end of one minute, the student was told to stop reading and a vertical line was marked on the coded copy after the last word read. The number of words read correctly per minute were counted and oral reading fluency thus determined. These steps were repeated for each of the two remaining reading probes. A median score was then established for each participant and served as a baseline for comparison in accordance with the procedural guidelines for curriculum based measurement (Shinn, 1989). This procedure was repeated for each participant in the study. Each participant was given a small prize upon completion of both the pretest and the posttest.

A pretest was administered toward the beginning of the school year in early November and a posttest was administered toward the end of the same school year in March. Interrater reliability was determined throughout data collection by computing percent agreement among primary and secondary experimenters. Percentages were calculated at the beginning of each of the four sessions in which data were collected. One hundred percent interrater reliability was obtained for both the two pretest and two posttest sessions.

### Design

This study utilized a pretest posttest design. The independent variables under investigation were the two types of reading curriculums. The dependent variable was oral reading fluency gain as determined by the administration of CBM reading probes. Gains in oral reading fluency were

used to compare the effectiveness of the reading curriculums under investigation.

### III. Results

It was determined that several students from the experimental pool were receiving remedial reading instruction beyond that provided in the classroom with the curriculum under investigation. These students were allowed to take part in the study and receive a reward for their participation. However, since it was not possible to determine how much of their reading skill was due to the classroom curriculum and how much was due to additional instruction provided outside of the classroom, their scores were eliminated.

In addition to the scores eliminated due to additional reading instruction, attrition rate also had to be taken into account. Data for 12 additional participants had to be eliminated due to the fact that these students had relocated between the times that pretest and posttest data were collected. Even after consideration of the attrition rate, the Spalding classroom contained more second grade students than the other classroom under investigation. For this reason, the initial sample was modified by randomly reducing the number of second grade students in the Spalding classroom. The two classrooms were thus matched on the basis of total sample size in making the two classrooms more homogenous.

Findings were tabulated according to means and standard deviations as indicated in Table 2. A  $t$ -test for independent groups was then utilized to ascertain if any statistically significant difference existed between the mean

scores of the two comparison groups. The hypothesis was tested at the pre-determined .05 level of significance.

Independent  $t$ -tests were conducted for the pretest, posttest, and gain scores. Results of the pretest, as shown in Table 2, indicated that there was not a significant difference between the two groups prior to data collection of reading fluency gain, ( $t = 1.69$ ,  $p > .05$ ).

Results of the  $t$ -test calculated on posttest scores collected in March also indicated that there was not a significant difference between the two classrooms' reading fluency, ( $t = 1.01$ ,  $p > .05$ ).

The results of the  $t$ -test comparing reading fluency gain as measured by the posttest were statistically significant, ( $t = 2.51$ ,  $p < .05$ ). These results are also summarized in Table 2.

Table 2

t-Test Results

	Pretest		Posttest		Gain	
	S	NS	S	NS	S	NS
	(t = 1.69)		(t = 1.01)		(t = 2.51)	
	p = > .05		p = > .05		p = < .05	
N	19	19	19	19	19	19
Mean	43.53	23.47	57	43.89	13.47	20.42
SD	128.80	69.46	168.67	129.89	39.87	60.43

S = Spalding

NS = No Spalding



#### IV. Discussion

The results of this research indicated that there was a significant difference in reading fluency gain between the two beginning reading curriculums under investigation as hypothesized. In addition, the hypothesis that the classroom integrating the Spalding method of phonics instruction into their whole language curriculum would achieve greater fluency gain than the classroom that used Houghton Mifflin Literary Readers and trade books to teach phonics within whole language thematic units, was also supported.

This study addressed the issue of whether or not explicit instruction in phonics should be the emphasis of beginning reading instruction within a whole language reading curriculum. The findings supported the contention that explicit instruction in the Spalding method of phonics leads to greater reading fluency gain when compared to another phonics instructional method.

The pretest indicated that at the beginning of the school year, the Spalding group had a mean reading fluency nearly double that of the Houghton-Mifflin group. Although it appears that the Houghton-Mifflin group achieved greater reading fluency gain over the course of the year, the posttest data indicated that the mean reading fluency for the Houghton-Mifflin group at the end of the year had only increased to the level at which the Spalding group initially began at the beginning of the school year.

Due to scheduling conflicts, the pretest data was not obtained until the first week of November. Since school had already been in session for

approximately two months, it is possible that the participants in the Spalding classroom were already putting into practice the skills they were learning in the classroom. Because the Spalding method first teaches letter/sound correspondences before encouraging children to read, it seems likely that the Spalding classroom would have learned more phonics skills necessary for fluent reading at the time pretest data was obtained in November than the Houghton-Mifflin group which learned phonics throughout the year.

It was assumed that the participants were at the Stage 1 or Decoding stage of reading at the outset of the study based on age and grade level. However, given the fact that the Spalding group had a pretest mean fluency nearly double that of the Houghton-Mifflin group, it is plausible that the Spalding students were reading at an advanced reading stage when pretest data was collected. Because Stage 2 (Confirmation and Fluency) readers use previously acquired decoding knowledge to gain fluency and speed, the Spalding group may have actually progressed to Stage 2 by the time the pretest was conducted.

The results of this study support the contention that the Spalding method of phonics instruction is superior to other phonics instructional methods in teaching children to read. While both groups achieved reading fluency gain with integrated phonics and whole language reading instructions, it appeared that the phonics instruction which was presented in an explicit, systematic manner was the more effective approach.

### Implications for Practitioners

The most significant implication of this study is in its contribution in designing beginning reading instruction that teaches the way that students learn best. While the findings did support the perspective that beginning reading instruction should include explicit, systematic instruction in letter-sound associations as dictated by the Spalding method of phonics instruction, reading fluency gain was achieved in both classrooms. This suggests that the whole language, integrated reading curriculum was effective in increasing the number of words per minute as read by students in both classrooms. In responding to the debate over whether or not explicit instruction in phonics should be emphasized within whole language curriculums, the findings of this study suggest that beginning readers taught explicit phonics demonstrated significant reading fluency gain.

Several implications have specific meaning for school psychologists. One of the most frequent reasons for referrals for a psychological evaluation is reading difficulty. Because there is such a demand for reading assessments, school psychologists need to be knowledgeable about the nature of reading and how it corresponds to the different stages of reading development. In this manner, effective instruction can be promoted in the schools.

Further, 85-90 percent of children classified as having learning disabilities have a reading disability (Palincsar & Perry, 1995). Consequently, school psychologists must be able to relate diagnostic findings to remedial instruction decisions. Whereas treatment utility is often lacking

with standardized assessment measures, CBM can index individual progress while providing specific information relating to instructional needs and growth. Because reading skills are absolute prerequisites to the study of most other subjects in education, early intervention and remediation is essential in assuring that all children meet their educational potential.

The results of this study were consistent with studies that have applied standardized tests of measurement to justify the use of a combined phonics and whole language method of reading instruction (Eldredge, 1991; Thomson & Miller, 1991). Yet, CBM has benefits that go beyond criterion-related validity. CBM connects student learning and development to teaching and instruction. Because CBM is more sensitive to small changes, it brings assessment closer to the classroom in which the learning is occurring and instructional programs are being designed. As schools begin to experience a shift away from the domination of standardized tests toward measures that are connected with what is going on in the classroom, CBM is proving to be an educationally relevant alternative that is valid, reliable, and efficient.

### Limitations

The greatest difficulty encountered in conducting this study was in finding schools that use pure methods of reading instruction. Because phonics and whole language have become such highly controversial topics, many schools hesitate to clearly define their language arts program or grant permission for research which compares different methods.

Another limitation inherent in this study was related to the small N or total number of students available for participation. With increased numbers, the power to detect a real effect would also have been increased and a significant difference may have been obtained in the results. Due to the limited sample size of participants from a single school district, the results cannot be readily generalized to other settings. Generalization to other populations is also problematic given the homogenous nature of the participants involved in this study.

Also, due to the transient nature of the school district, twelve students that were involved in the pretest were not available for the posttest. Because these students were unable to participate in the study to completion, their pretest scores had to be removed from the data pool. While it is possible that the scores of these highly mobile students would have had the effect of lowering the overall mean, it was not possible to ascertain how these students' scores would have affected the overall outcome of this study.

It is quite possible that the participants in this study possessed differences in intelligence quotient (IQ). Group cognitive abilities testing scores were not available for this study and matching participants for IQ was therefore beyond the scope of this study. The participants were, however, matched for SES which was determined to be relatively the same for both groups.

### Suggestions for Future Research

Because of the restricted population utilized in this study, additional studies examining a more diverse population are justified. Whereas the

participants were primarily in the first and second grades and were ages six and seven, further research addressing efficacious instruction at other developmental stages would be beneficial for contrast and comparison.

The data included in this study were collected over a four-month period. Extending the study over a longer period of time would allow for a greater interpretation of the findings. It would also be interesting to conduct longitudinal research involving the same participants in order to analyze accumulative effects of reading instruction.

Previous research suggests that phonics instruction is most beneficial for the primary grades, for low SES populations, and for children with learning disabilities. While the first two of these three variables were included in this study, scores from identified students receiving special education or Chapter 1 services were not included in this study. Additional research which addresses the instructional needs of these students would be quite useful.

Oral reading fluency is just one of many ways in which CBM can be incorporated into classroom assessment. Additional studies could utilize other forms of curriculum based evaluation (e.g., cloze procedure and error analysis) in making adjustments in curriculum to ensure that students meet their learning potential.

## V. Conclusion

One of the first and foremost jobs of elementary schools is to teach children to read. Children who do not read well are in grave danger of doing poorly in school and eventually dropping out. Because success in reading is

so important for all subsequent learning, controversy and confusion in the literacy field center around how best to teach children to read.

The benefits of teaching phonics instruction in a reading program are well documented. In addition, the whole language movement has improved classrooms by promoting reading and writing practices that motivate and encourage children to embrace books. A review of literature further indicates that a child's learning style, coupled with his or her developmental stage, should dictate the approach to teaching reading which will be the most effective for all children within a classroom.

Despite fluctuating research, reading programs which draw on the strengths of both phonics and whole language philosophies are becoming more prevalent. Research is increasingly suggesting that the two approaches need not be mutually exclusive and that a balanced approach which plays on a student's strengths is likely to be the most successful. At the same time, research which demonstrates that one form of phonics instruction is superior to another when delivered within a whole language curriculum is lacking.

The results of this study indicated that the type of phonics delivery model utilized within a whole language classroom had an effect on reading fluency gain. In other words, there was a difference in reading fluency gain of students in the Spalding classroom on CBM reading probes when compared to students who were not in the Spalding classroom. The results further suggested that explicit phonics instruction which promotes the continuous combining of students' hearing, saying, writing, and seeing in the

teaching of words did lead to greater gain as compared to students who did not receive explicit phonics instruction.

The importance of interfacing educational practice and scientific research to examine and evaluate instructional techniques and create curriculum objectives which foster student success cannot be overstated. At the same time, the role of the parent in creating an environment conducive to learning is also vital. Therefore, educators must examine current reading practices, identify the most successful approaches, and enlist parents and leaders responsible for educating children in the common goal of ensuring that all children are being taught using the best educational formula for promoting literacy.



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Appendix A  
Reading Probes  
GOING HOME

My mother always likes to go home. She was born on a nice farm in a valley. Her father started the farm before she was born. When she was a little girl they lived in a very old log house on the farm.

One day her father said that they were going to build a new house. That made my mother, her sister, and her brothers very excited. Her father said that he was going to build the house himself with help from their neighbors. Since my uncles were already very big boys, they said they would help.

They picked a place on top of a hill to build the house. My mother stood on that place and looked in every direction. She could see their little town in the distance. She could also see the railroad tracks that went right through their farm and into town. At the bottom of the hill was a creek that ran under the railroad tracks. She loved to watch the trains as they crossed the creek on the bridge. The place that they had chosen to build the new house was perfect. It became their new home and they all loved it, especially my mother.

## I LIKE TO EAT

I like to eat. Do you like to eat? I like cookies. I eat big cookies and small cookies.

My mom makes cookies. Her cookies taste good sometimes. Sometimes we buy some cookies at the store. My mom's cookies taste better than store cookies.

I like to eat apples. I like the noise I make when I bite an apple. I also like the taste of an apple. When you chew an apple the juice tastes good. My mom says apples are good for you. We try to eat an apple every day.

I like to eat hamburgers. I think every kid likes hamburgers. I wish I could eat more than one. I would eat more than one but they are too big.

When I grow up I will be able to eat more. That will make me very happy. Then I will be able to eat all I want. Maybe I shouldn't eat so much. I might get too fat. I don't want to get fat!

Mom says if I eat "good food" that I don't have to worry about getting fat. The problem is that the things she says are good for me are not the things I like to eat!

## FRIDAY FUN

Today is Friday. It is always a fun day. The boys and girls want to play a game. "What should we play?" said the teacher. "I want to play tag," said Bobby. All the boys and girls wanted to play tag.

They played all morning and had lots of fun. After the game it was time for a drink. Inside the school the teacher gave them milk and cookies. When the snack was over the children went back to their room.

The next thing to do was draw. All of the children took out their crayons. The teacher asked them to draw an animal. Mary drew a deer. Bobby drew a picture of a bear. Jenny had a picture of a tiger. She had seen one at the zoo.

Soon it was time to go home. Bobby told the teacher that he had fun that day. "What are we going to do next week?"

"I have planned a trip to the zoo," said the teacher. "Who would like to go to the zoo?"

All the boys and girls raised their hands. They were all happy about the trip and were excited about their next fun Friday.



## Appendix B

**CHILD ASSENT FORM  
IRB #104-97**

**TITLE OF THE RESEARCH STUDY**

**SOUNDING OUT THE READING DEBATE: THE EFFICACY OF  
EXPLICIT PHONICS INSTRUCTION WITHIN A WHOLE LANGUAGE  
READING CURRICULUM.**

1. We would like to invite you to take part in this study. You are being asked to take part because you are learning to read.
2. Please talk this over with your parents before you decide whether or not to take part. Your parents will also be asked to give their permission for you to take part in this study.
3. If you have any questions at any time, please ask.
4. In this study we will try to learn more about the best ways to teach children to read.
5. In this study, you will be given part of a story to read. You will be asked to read out loud. You will be told when to start and when to stop. You will be given a total of three stories to read.
6. You will not be asked to do anything that could harm you in any way.
7. It is possible that this study may help children to learn to read better.

**YOU ARE MAKING A DECISION WHETHER OR NOT TO BE IN THIS STUDY. SIGNING THIS FORM MEANS THAT YOU HAVE DECIDED TO PARTICIPATE AND HAVE READ ALL THAT IS ON THIS FORM. YOU AND YOUR PARENTS WILL BE GIVEN A COPY OF THIS ASSENT FORM TO KEEP.**

\_\_\_\_\_  
**SIGNATURE OF SUBJECT**

\_\_\_\_\_  
**DATE**

\_\_\_\_\_  
**SIGNATURE OF INVESTIGATOR**

\_\_\_\_\_  
**DATE**

**IDENTIFICATION OF INVESTIGATORS**

**PRIMARY INVESTIGATOR  
Ellen Loper**

**SECONDARY INVESTIGATOR  
Dr. Lisa Kelly-Vance**

## Appendix C

**PARENTAL INFORMED CONSENT FORM  
IRB #104-97****TITLE OF THE RESEARCH STUDY****SOUNDING OUT THE READING DEBATE: THE EFFICACY OF  
EXPLICIT PHONICS INSTRUCTION WITHIN A WHOLE LANGUAGE  
READING CURRICULUM.**

You are invited to permit your child to participate in this research study. The following information is provided in order to help you to make an informed decision whether or not to allow your child to participate. If you have any questions please do not hesitate to ask.

Your child is eligible to participate in this study because your child attends a classroom that uses phonics and/or whole language reading instruction.

The purpose of this study is to investigate the effectiveness of explicit phonics instruction within a whole language reading curriculum in teaching children to read by using reading passages from classroom books rather than using formal tests.

This study will take approximately five minutes of your child's time. Your child will be given a reading passage and will be asked to read aloud. At the end of one minute, the child will be told to stop reading. This procedure will be repeated twice more using different passages. Each time, the number of words your child reads correctly will be counted. Two sessions will be needed to collect information. The first session will occur in October, 1996, and the second session will occur in March, 1997. The procedure will take place in your child's school in a classroom free from distractions. The use of reading passages to assess reading ability is considered a routine testing procedure in your child's school.

There are no known risks associated with this research.

As a result of your child's participation in this research, the information obtained from this study will help to determine the most effective ways to teach children to read.

Any information obtained during this study which could identify your child will be kept strictly confidential. The information obtained in this study may be published in scientific journals or presented at scientific meetings, but your child's identity will be kept strictly confidential.

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Parent's Initials

Your child's rights as a research subject have been explained to you. If you have any additional questions concerning your child's rights, you may contact the University of Nebraska Institutional Review Board (IRB), telephone 402/559/6463.

You are free to decide not to enroll your child in this study or to withdraw your child at any time without adversely affecting their or your relationship with the investigator or the University of Nebraska. Your decision will not result in any loss of benefits to which your child is otherwise entitled.

**DOCUMENTATION OF INFORMED CONSENT**

**YOU ARE VOLUNTARILY MAKING A DECISION WHETHER OR NOT TO ALLOW YOUR CHILD TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE CERTIFIES THAT YOU HAVE DECIDED TO ALLOW YOUR CHILD TO PARTICIPATE HAVING READ AND UNDERSTOOD THE INFORMATION PRESENTED. YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP.**

\_\_\_\_\_  
**SIGNATURE OF PARENT** \_\_\_\_\_  
**DATE**

**IN MY JUDGMENT THE PARENT/LEGAL GUARDIAN IS VOLUNTARILY AND KNOWINGLY GIVING INFORMED CONSENT AND POSSESSES THE LEGAL CAPACITY TO GIVE INFORMED CONSENT TO PARTICIPATE IN THIS RESEARCH STUDY.**

\_\_\_\_\_  
**SIGNATURE OF INVESTIGATOR** \_\_\_\_\_  
**DATE**

**IDENTIFICATION OF INVESTIGATORS**

**PRIMARY INVESTIGATOR** **SECONDARY INVESTIGATOR**

**Ellen Loper** **Dr. Lisa Kelly-Vance**

**IRB APPROVED**

**VALID UNTIL 10/7/97**