4-28-1997

A comparison of special needs children's development of letter naming and letter-phoneme production in a traditional and a whole language classroom

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A Comparison of Special Needs Children's Development of Letter Naming and Letter-Phoneme Production in a Traditional and a Whole Language Classroom

by
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A Thesis

Submitted in partial fulfillment of the requirements of the
Master of Arts Degree in the Graduate Division
of Rowan University
April 28, 1997

Approved by_____
Professor

Date Approved April 28, 1997

ABSTRACT

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Dr. Stanley Urban

Learning Disabilities

This study compared the gains made in recognition and naming of the 21 consonant letters of the alphabet as well as production of the phonemes to the letters by two special needs groups of children from the ages of five to 10. One group of seven students received instruction in a traditional class, with the teacher presenting one letter of the alphabet per week. The second group of 11 students were taught in a whole language class, with an emphasis on reading and writing without isolated instruction in individual letters. The children were pretested in October, 1996 and posttested in March, 1997 to measure their individual growth in each area. A visual inspection of the data collected revealed that in the traditional class, all seven students made gains in naming letters, and three made gains in producing the corresponding phonemes. In the whole language class, 10 of 11 students named all the letters presented at posttesting and also improved their ability to produce phonemes. Overall, more students made gains in the whole language class, and more students failed to make gains in the traditional class.

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ACKNOWLEDGMENTS

I would like to thank my mother, Mrs. Clemmie Jo Prewitt, my husband, John Mosher, and my children, Jennifer, Jack, James, and Josh, who have always encouraged my education, and believed that I could achieve my goals.

CHAPTER ONE

Background

Emergent literacy, a term that is currently in vogue in education, refers to the body of knowledge that young children have acquired about reading and writing, even before they have entered kindergarten. Emergent literacy incorporates the idea that the development of literacy skills is but a "part of the total communication process that includes listening, speaking, reading, and writing" (Freeman & Hatch, 1989). The theory assumes that reading and writing are skills are learned not in isolation, but concurently as a part of language development. Children begin to develop these skills before they enter school, through their daily interaction with their environment (Freeman & Hatch, 1989). For example, many children recognize the word *McDonald's* when passing by a fast food restaurant with golden arches, but will not yet recognize the same word out of that context (Reutzel, 1992).

Strickland (1990) adds that literacy learning involves the interaction of the child with parents, caregivers, and teachers. The significant caregivers in the child's life who are responsive to the child's attempts to read, write, and tell stories are encouraging literacy development. She also states that learning to read and write is "enhanced by shared book experiences" (Strickland, 1990 p. 20). The predictability of often read picture story books is an aid that gives a child the feeling that he is reading, as well as providing an opportunity for him to learn social skills as he interacts with the adult in the activity.

The emergent literacy classroom utilizes many of the same techniques and methodologies as the whole language classroom. Both emphasize the use of books, oral language opportunities, functional writing, and invented spelling. Children are not separated by ability, but are taught homogeneously. A high value is placed on a print-rich environment. Skills are not taught in

isolation, but as a part of a whole literacy experience (Strickland, 1990). Children are encouraged to "express themselves through art, drama, music, and movement" (Freeman & Hatch, 1989).

The characteristics of the traditional or skills based classroom are different from those found in the emergent literacy classroom. In the traditional classroom, individual skills are taught in isolation. The classroom events are teacher directed. The subjects of spelling, reading, and language arts are given separate slots in the teacher's planbook. There is a strong emphasis on phonics instruction. While reading is highly valued, whole lessons are not based on literature (Strickland, 1990).

Emergent literacy, or whole language instruction, is thought of as a process rather than a method. Teachers demonstrate to their students that a question can have more that one correct response. Children imitate the sense of experimentation that the teacher models, and become open to the idea that risk taking and experimentation are valuable strategies in learning (Gersten & Domino, 1993).

Research Question

There is a large body of empirical data documenting the advantages and disadvantages of both the traditional and whole language classrooms as they pertain to literacy learning (Reutzel, Oda, & Moore, 1989; Hoffman & Norris, 1994; Strickland, 1990). The pros and cons of the two methodologies have also been studied as they pertain to the special education population (Keefe & Keefe, 1993; Gersten & Dimino, 1993; Zucker, 1993; MacInnis & Hemming, 1995; Scala, 1993; Hollingsworth and Reutzel, 1988).

This study is an effort to discover if young children who are eligible for special education learn a greater quantity of the letters of the alphabet in a skills based (traditional) or a whole language (emergent literacy) classroom atmosphere.

Value of the Study

Walsh, Price, and Gillingham (1988) report on studies that show a strong "positive relation between young children's accuracy of letter naming and their later reading achievement" (p. 110). Reading achievement is affected by letter naming skills because of the following concepts: (1) associating a name with a with a printed letter symbol contributes to familiarity with the symbol; (2) having a name for a symbol facilitates memory for the symbol; (3) it is easier for a phoneme to be associated with a letter symbol when the child has a name for the symbol (Walsh, Price, & Gillingham, 1988). Further pointing to the importance of learning the alphabet is a study by Hildreth, Griffiths, & McGauvean (1965), who report that the alphabet subtest (identification of letters) of the Metropolitan Readiness Test is the best predictor of later achievement in school.

Conversely, however, Worden & Boettcher (1990) report on studies that have not made a "a causal link between letter-name knowledge and learning to read" (p. 278). They note that Venezky (1975) reported that knowledge of letter names could hinder a child from learning the sound system due to the inconsistency between the letter name and its corresponding phoneme.

Even though Worden & Boettcher (1990) provide information which disputes the correlation between learning the alphabet and learning to read, they conclude that "learning the alphabet is expected of most young children in contemporary America. They are taught their ABCs in school, on toys, in books, on computers, on children's programs like Sesame Street. They are also taught sounds the letters make and words beginning with each letter in alphabet books and computer software" (p. 278).

Learning the alphabet is an important task for children in both regular education and special education to accomplish. Several studies are available on alphabet learning among children in regular education which compare the acquisition of the learning in a skills based or whole language classroom

environment (McIntyre & Freppon, 1994; Reutzel, 1992; Reutzel, Oda, & Moore, 1989). However, no studies could be found specifically related to learning the alphabet in the two types of classroom atmospheres (skills based and whole language) for young children receiving special education services. Because there is a correlation between learning the alphabet and school success, a need exists to determine what type of classroom environment is more conducive to young children in special education in learning the alphabet.

Limitations of the study

The small sample size should be considered when generalizing the results of this study. Effort has been made to insure that the two groups of children are equivalent. Variables matched for the comparison have been the intelligence quotients of the children, their ages, and their current levels of knowledge of the alphabet.

In spite of the efforts to insure that the two groups of children are comparable, differences between the groups may exist. For example, the children could vary in their previous exposure to the alphabet either at home or at a previous school placement. Also, various children may or may not experience current additional exposure to the alphabet in settings away from school such as tutoring from parents or siblings, children's educational television program viewing, others reading alphabet books with the child, etc. Individual children may also have attentional or memory deficits affecting their ability to learn the alphabet letters. They may have difficulty in processing either auditorilly or visually which could affect the speed and accuracy of their learning.

Finally, while the two teachers involved in the study are based in either a traditional/skills based or emergent literacy/whole language philosophy, they may not adhere with 100 percent consistency to a strict style of either traditional or whole language teaching. There may be times when they

discover that an opportunity exists to find a middle ground in teaching a particular point, violating a particular style.

Definition of Terms

The following terms used in this study have specialized definitions which follow here:

1. "Eligible for special education" refers to students who have been classified by a child study team in Salem County, New Jersey, according to the New Jersey Administrative Code 6:28.

2. "Letters of the alphabet" means printed consonant letters in the upper case.

3. "Phoneme" means the auditory sound that is represented by the printed letter.

CHAPTER TWO

Review of Related Research and Literature

This review of literature will include three areas: first, general literature on children leaning the alphabet will be reviewed; second, studies comparing children in regular education learning the alphabet in traditional and whole language settings will be examined; third, the advantages and disadvantages of using whole language and traditional approaches with special needs children will be explored.

Learning the Alphabet

Smythe, Stennett, Hardy, and Wilson (1970-71) studied the rate of development of upper and lower case letters of the alphabet in children in grades kindergarten through three. They found that children follow a general pattern of first learning most upper case letters from the first half of the alphabet before lower case letters are learned. A similar correlation for lower case letters was not found. They suggest that an educationally relevant use for this research is to teach from a known item (i.e. upper case letter) to the to-be-learned item (i.e. matching lower case letter).

Worden and Boettcher (1990) completed a similar study for children aged two and one half to seven and one half years. Tasks studied were childrens' ability to recite the alphabet, name upper and lower case letters presented out of order, print the letters, provide the appropriate phoneme for each letter, and name a word beginning with each letter. Findings included the fact that children develop at different rates, and that knowledge about the alphabet is acquired gradually. They also found that children performed better on naming and printing upper case letters. Sound and word association tasks were more and equally difficult. "In spite of the common practice in our culture of teaching letters by associating them with whole words, there was no tendency for children to be able to link letters with whole words before they

could produce isolated sounds" (Worden & Boettcher, p. 288). The authors conclude that there is not a relationship between letter name knowledge and early sound decoding. The authors also point out that an important limitation of their study is that it did not involve an exploration of the teaching style to which the children had been exposed, and that "Children's knowledge about the alphabet is undoubtedly affected by different forms of reading instruction" (p. 290).

Walsh, Price, and Gillingham (1988) describe the skill of letter naming as a low-level process, through which children progress to higher levels as they learn to read. One area that their study attempted to correlate was the rate of letter naming with reading achievement in kindergarten children. They found that there was a high correlation between letter naming speed and subsequent reading achievement. They also discuss the ramifications of this information on teaching styles: the bottom-up (code emphasis or skills based style) and the top-down (meaning driven or whole language style). One of the conclusions of the study is that "code emphasis should not be overlooked in beginning reading" (p. 119).

Byrne and Fielding-Barnsley (1989) studied preliterate children, aged three to five, to learn about the extent of their alphabetic knowledge. Their definition of alphabetic knowledge "falls short of full reading, but it is more extensive that letter-sound knowledge" (p. 313). They were interested in discovering if children could transfer their knowledge about letters and sounds to a novel example. The children were taught to read the words *mat* and *sat*, then were asked to transfer their learning to the novel words *mow* and *sow* in a forced choice. They found that children could do this transfer consistently only after they had an understanding of the graphic letter symbols needed for the task, as well as the ability to identify the phonemic segments of the words in the task.

McGee and Richgels (1989) investigate what children know about the

alphabet, and how to best meet conditions to teach the alphabet to children. They note that when children enter kindergarten, they come with various amounts of knowledge about the alphabet. Some children may know the whole alphabet, some may not know any letters. Children have knowledge about letters and written language even before they are able to name the letters; educators speculate that it is this other knowledge which is so important to becoming literate. For instance, "Learning about letter features and learning to use special ways of talking and thinking about letters are at least two of the important concepts that young children acquire as they learn letter names" (p. 217). Children learn about the shapes of letters, and that they are made of curved, horizontal, or vertical lines. Children make use of this realization in their attempts to write, using these shapes in their pretend letters. Children who will then "read" their pretend writing have an understanding that symbols represent words. As children become more advanced and can begin to associate letters with sounds, they can use certain letters to represent words or parts of words (syllables). Invented spelling is a next step in literacy development. Children enjoy playing games with letters during their development in learning the alphabet. They begin to recognize letters on signs and packaging in the environment, and may assign their own word meanings to them. Interaction with the parents spawns development, and maintains the child's interest. Children imitate their parents' talk about letters as their metacognitive skills are activated. For instance, a parent may teach his child to associate his first initial with the first initial of a sign in the environment.

Alphabet Learning in Regular Education: Whole Language and Traditional Approaches

McGee and Richgel's (1989) article supports the meaning driven (whole language) style to learning the alphabet. They feel that the traditional letter a week approach is not appropriate because it does not address the use of the

letters as a way to impart meaning. They also note that opportunities for children to obtain meaning do not occur in the isolated setting of the classroom studying one letter at a time.

Strickland (1990) describes differences in the way the alphabet is taught using the whole language process and in the traditional method. She states that in the skills based classroom, children are taught with a series of workbook pages. All children complete the same pages, regardless of what knowledge they bring to the classroom. In the whole language process, the teacher acts as a facilitator, presenting a lesson and guiding each child to use their prior knowledge to learn what is developmentally appropriate to him. As she guides her students in learning the alphabet, "emphasis is not placed on merely matching letter to sound, but on helping children gain an understanding of a pattern in their language - that certain letters and sounds are often related" (p. 21).

McIntyre and Freppon (1994) have conducted a study which compares childrens' development of alphabetic knowledge in a skills based and a whole language classroom. This was a two year study which followed children from kindergarten through grade one. The term "alphabetic knowledge" included instruction in the following skills: graphemic and phonemic characteristics of written language; grapheme/phoneme correspondence; and using graphophonics to read and write.

Furthermore, McIntyre and Freppon (1994) reviewed research by Chall of the Harvard University Reading Clinic which stressed the importance of phonics and alphabetic instruction in learning to read. The idea that systematic, sequential phonics instruction is a basic element to reading has continued to be a widely held view by many. The central feature of phonics instruction has been to teach correspondences between letters and their pronunciation. However, many children gain an understanding of the alphabet without formal phonics instruction (McIntyre & Freppon, 1994).

They do this by interacting with others while exploring print. This is referred to as meaning based or whole language learning. According to this approach, the children experiment with decoding before they can actually read. Studies suggest that "at some point in their development toward conventional literacy, all children lend conscious analytic attention to sounds and symbols regardless of whether they are comprehending" (McIntyre & Freppon, p. 393). Likewise, children practice writing by making drawings, scribbles, and marks which they may identify as letters or words.

McIntyre and Freppon (1994) randomly selected three children each from two styles of classrooms: skills based and whole language. They found that all six children learned alphabetic skills, including the realization that sounds correspond to symbols in written language, but the children learned at different rates. The skills based teacher taught this skill using whole class oral drill activities. The whole language teacher integrated the teaching of sound/symbol correspondence with writing, creating a functional use for the skill. The primary difference in the two groups of children was not how fast or how well they learned their alphabetic concepts, but in how they used their new knowledge. In the skills based group, they used their new knowledge for decoding words in isolation or in sentences. One of the three skills based children "also used her alphabetic knowledge to do some writing across the two years" (p. 401) of the study. However, all three children in the whole language group "read literature and [wrote] extensively on self-selected topics daily during kindergarten and first grade" (p. 403). One conclusion of this study is that Chall was correct in stating the necessity of phonics in reading instruction, but that phonics can be taught successfully in different instructional contexts.

Reutzel, Oda, and Moore (1989) also compared the effect of various instructional approaches on the development of print awareness in kindergarten. They, too, reviewed literature which indicates that children

who are immersed in a print rich (or whole language) environment can satisfactorily achieve literacy. They point to a conflict in that children who have learned words environmentally have poor generalization to other contexts. To remedy this weakness, some researchers recommend a combination of teacher directed instruction and exposure to language in print rich environments.

In Reutzel, Oda, and Moore's study, one hundred thirty two kindergarten students were taught using one of three instructional techniques. The techniques were: the school district's reading readiness curriculum; an immersion in print treatment group, and an immersion in print plus teacher led instruction treatment group. Results of the study indicated that "a print rich environment and structured experiences with print guided by an informed teacher can be a significant factor in developing children's awareness of printed language" (p. 215).

A study by Hoffman and Norris (1994) compares a whole language curriculum with an alphabet based curriculum in the instruction of at risk, low socioeconomic status kindergarten students. The authors make an interesting point by writing about the hesitancy which many teachers feel in implementing a whole language program in fear that students will not acquire basic skills needed for reading.

For this study, both whole language and alphabet based curriculums were developed collaboratively by the classroom teachers and the speech - language pathologists. The alphabet based curriculum included the following features: focus on a single letter weekly; use of a theme for each letter, giving daily opportunities to identify, trace, write, name, and associate the corresponding sound to a letter; listening for the sound of the letter in words; and providing words beginning with the target letter. The themes were carried over into other subjects as well, and activities were done in both small and large group settings.

The whole language curriculum was child driven, exploring themes centered around narratives and discussions. Literature was used as a way to teach the themes and as a way to find multiple levels of meaning, beginning with concrete levels and progressing through more abstract levels. The curriculum employed the Situational-Discourse-Semantic model by Norris and Hoffman (1993). Alphabetic knowledge was taught within a metalinguistic context of print. The teacher increased metalinguistic awareness of the children by discussing the print in books. For instance, the teacher discussed elements such as the title, author, elements of the printed words, spaces between the words, and word boundaries. Metalinguistic analysis was also used to point out cues between the print and the pictures in the book. "The relationship of letters to meaning is stressed, or how readers use them to make sense of print, with no specific emphasis on any one letter or explicit teaching of that letter outside of the book reading or other meaningful context" (Hoffman & Norris, 1994, p. 46).

The children in this study were pretested and posttested using the Test of Early Reading Ability - 2 (Newcomer & Hamill,1988), measuring Meaning, Alphabet, and Conventions. The whole language children made greater gains than the traditionally taught children on all three measures.

Hoffman and Norris (1994) conclude that children in the whole language group learned basic skills such as sound symbol correspondence as well as the children taught in a traditional classroom. They speculate that most children can learn the alphabet without specifically focusing on it, and that concentrating on any skills in isolation may not be the most beneficial use of classroom time. The authors feel that a whole language approach addresses the needs of students by supplying them with all skills necessary to become literate.

Reutzel (1992) discusses research that purports that "Teaching the alphabetic principal (i.e. establishing cognitive insight into the systematic

relationships between printed letters and spoken sounds) is an important, if not critical step toward independent and skilled reading" (p. 20). Reutzel reports that a common instructional practice in teaching the alphabet is to teach one letter per week, but that as teachers become more familiar with whole language techniques, they are retreating from that practice. He outlines the following five concepts on how children can learn the alphabetic principle in a whole language atmosphere.

Concept One: Learning the alphabetic principle is a developmental process that is a part of overall awareness of written language. This awareness includes the child's realization that printed language has a function and imparts meaning.

Concept Two: Children will learn the alphabetic principle in enjoyable activities. A child who is exposed to letter names and sounds during the course of reading and writing is involved in fun activities and at the same time is learning the usefulness of the alphabet.

Concept Three: Children learn the alphabetic principle in a print rich environment.

Concept Four: Children require only limited guidance in learning the alphabetic principle. Reutzel (1992) claims that "Once alphabetic insight is established for some letters, this knowledge typically generalizes to other letters without further training" (p. 21). He does concede, however, that "mere exposure to printed and oral language does not always teach attention to individual letter sounds. Some letter-sound associations may need to be taught explicitly" (p. 21).

Concept Five: Learning and practicing the alphabetic principle occur in authentic reading and writing events. According to this concept, meaningful encounters with print encourage learning of written language.

Reutzel (1992) continues with specific activities which apply these concepts. These include using the interest of the child in choosing language

experiences (i.e. selecting literature in which the child has an interest), using environmental print (i.e. product packaging, bumper stickers, etc.), having each child create their own alphabet book, choosing logos they recognize (i.e. *McDonalds* for /m/), learning rules for reading from environmental print (i.e. final silent "e" in *Coke* and *Tide*), having on hand a quantity of materials allowing alphabet and word play (i.e. magnetic letters, stencils, flash cards, puzzles), use of songs, chants, and poetry, and use of a wide range of various alphabet books. According to Reutzel, employment of these strategies and materials is useful in a whole language environment, rather than using the traditional letter a week presentation approach to learning the alphabet and its sounds.

Smolkin and Yaden (1992) have investigated the efficacy of alphabet books in constructing literacy knowledge. They state that preschool children who have been read alphabet books by their parents learn about the graphic form of language as well as how books are used. Their analysis of the contribution to literacy of this parent-child activity revealed the following applications, which appear to transcend the simple grapheme-phoneme associations presumed to be the paramount goal.

> "Books are places to make identifications.
> Books supply parents an opportunity to test knowledge.
> Books provide environments to play with the sounds of language.
> Books are places to acquire word meanings.
> Books have structure to support the readers' efforts.
> Books afford environments to wonder and speculate.
> Books are places to make connections between one's own world and another book world" (p. 436).

Smolkin and Yaden admonish teachers not to solely focus on the acquisition of letter sound relationships when using alphabet books with their students. They feel that there are many levels of learning occurring when children and their parents read alphabet books together.

Yaden, Smolkin, and MacGillivany (1993) continued to study the relationship between the reading of alphabet books to preschool children and the acquisition of literacy. They state that

> "It may be that the robust correlation between the knowledge of letter names and reading achievement does not so much derive from the conventional understanding, that is, that the letters become known as the building blocks of a visual representation of language, but rather that children learn early on that these letters symbolize something and are encouraged in the activity of making meaning when the symbols are displayed. It is the drive to make meaningful connections with the letters that perhaps keeps the process moving forward as the child increases in understanding of their actual referent to the phoneme level of language, which may come some months or years later" (p. 60).

In other words, exposure to alphabet books at this young preschool level does not necessarily teach the skill of letter to sound correspondence, but does teach that the letters are symbolic and that they represent meaning. This knowledge is a base for future literacy learning.

The Use of Traditional and Whole Language Approaches in Special Education

The results of the preceding studies have indicated that a whole language/emergent literacy approach can be a beneficial method to utilize in the teaching of alphabet skills. However, these projects have all involved studying children who are in regular education, not classified into special education programs. While no research has been located by this author relative to the learning of the alphabet by children in special education, the following is a review of literature that relates to using either a whole language or a skills based approach in special education.

MacInnis and Henning (1995) provide literature establishing a rationale for utilizing a whole language curriculum with learning disabled students. They begin by naming learning characteristics which are common to children with learning disabilities. According to the authors, learning

disabled students: are accustomed to teaching approaches which are highly teacher directed, thereby causing the students to be dependent on others for their learning; are not adept at monitoring their own learning performance and fail to adopt strategies for use in various learning circumstances; have memory deficits resulting in the inability to provide the necessary links to remember material; have difficulty in acquiring elementary units (such as recognizing the alphabet and establishing sound-symbol relationships); are less likely to be able to generalize learning to other contexts; and often approach a new task with the expectation to fail because of repeated incidents where they were expected to learn something for which they were not developmentally ready.

The authors purport that a whole language curriculum can address these characteristics in the following ways. The whole language approach is child centered, encouraging the child to learn at his own developmental level. He is interested in the material which reduces dependence on the teacher and encourages his ability to transfer what he has learned to other contexts.

Teachers who accept the premise that children who are learning to read and write go through developmental stages as do children who are learning to speak, are more likely to expect and accept errors. The students feel more in control, building self confidence and increasing the likelihood that they will be willing to take risks in their learning.

The whole language curriculum is open ended, so that an individual lesson is appropriate to the various learning levels of the different students in the class. Each student uses the lesson to develop skills appropriate to his own level. Again, this reduces the student's dependence upon the teacher.

Language use in the whole language atmosphere is triggered by genuine attempts at communication. This helps promote social interaction, personal responsibility for learning, and generalization to other contexts. MacInnis and Henning (1995) feel that "Overall, a curriculum guided by whole

language principles broadens the learning opportunities for all students. It provides the type of atmosphere that enhances students' growth, one in which they are treated with respect and carefully nurtured throughout the learning process" (p. 542).

Zucker (1993) reports on her own whole language classroom of kindergarten and grade one learning disabled and language impaired students. She feels that the whole language classroom environment allowed her to focus on her students' abilities rather than their disabilities. She outlines five benefits to applying the whole language philosophy with special needs students. First, weaknesses are addressed more effectively than in traditional models by focusing on the language processes which were the basis of many of her students' learning problems. Second, the developmental approach emphasized by the whole language model enables a more individual format than a traditional model, increasing the opportunity for success. Third, the whole language approach emphasizes a meaningful, integrated approach to literacy rather than the learning of fragmented skills. Fourth, multi-sensory language learning experiences are created that are meaningful and fun. Fifth, there are vast opportunities to coordinate classroom learning with remedial support services (i.e. speech and language therapy). Along with these five benefits, Zucker (1995) notes that the whole language orientation of her classroom fosters development of social skills during activities requiring partners and small groups. Her students moved more easily between the mainstream and special education settings and exhibited greater self esteem.

Zucker (1993) closes by stating that her students "came to see themselves as writers, rather than as failures. They evolved into successful students who were able to employ alternative strategies for achieving independent learning. They were more sociable and communicative because of their experiences in a supportive environment that fostered their development" (p. 669).

Hollingsworth and Reutzel (1988) have also explored the issue of using whole language with learning disabled children. They feel that the process of becoming literate is made abstract and complex for the child when reading and writing are taught separately. When a child experiences difficulty in a traditional setting where skills are taught through a series of workbook pages, he may be considered to have a language based learning disability. Hollingsworth and Reutzel (1988) point out that the child may not be language disabled at all, but have "a difficult time making sense out of a teaching system that arbitrarily established learning sequences and hierarchies and divorced the learning of reading and writing skills from their real and functional use in society" (p. 479).

According to these authors, "learning occurs best where there is active involvement in an interesting and functionally relevant language learning opportunity" (Hollingsworth & Reutzel, p. 479, 480). They suggest modifying the learning environment to a home like setting including tables, chairs, beanbag chairs, and carpeted spaces arranged into separate areas for discussion and interaction. Walls and bulletin boards are areas to display childrens' artwork and writings. "Interest centers" are available where children can focus on a thematic topic or literature selection. The final characteristic of this setting is the introduction of non-disabled children to share in the activities.

Hollingsworth and Reutzel (1988) provide a list of various instructional methods which can be used or adapted in a whole language setting. They include oral reading variations, predictable story books, sustained silent reading and writing, the writing process approach, using context clues in reading, and use of environmental print.

The overall message of these authors is given in their closing statement, "The solution to the problem for many learning disabled children is to put language together again for the LD learner and help him rediscover the

meaningful relationships that exist in our language" (Hollingsworth & Reutzel, p. 487).

Keefe and Keefe (1993) describe a whole language approach for learning disabled students based on a synopsis of the elements of linguistics. They remind the reader that the subsystems of phonology, syntax, semantics, and pragmatics each provide important cues about oral and written language, and should therefore be presented to the student in concert. "When language is segmented, the learner is not provided the advantage of the cueing systems" (Keefe & Keefe, p. 172). This is especially important to learning disabled students, whose language difficulties can negatively influence their cognitive performance.

Keefe and Keefe (1993) go on to name a number of the teaching behaviors and strategies that other authors cited have noted, along with the following. They stress the notion that children expect to learn to read when they come to school, but that after repeated failure they become convinced that they will never be good readers. They exhibit "learned helplessness," and if they should have any success, they attribute it to luck or the help of the teacher rather than to their own ability.

In the whole language classroom, positive expectations replace negative ones. Teachers let their students know that their efforts will be supported rather than calling attention to the weaknesses of the student. Appropriate learning conditions are supplied to the student, and there are high expectations for his success. This necessitates the teacher having a good understanding of the capabilities of each student. The teacher's response to a literacy attempt must be both supportive and constructive. Students can also regain confidence in their abilities by learning to solve their learning problems. An example is provided by the authors where one child asks another child what to do when he cannot spell a word. Both children benefit; the one who asks learns a new strategy, and the one who is asked is called on to

explain the strategy, thereby reinforcing his own understanding. Risk taking and guessing are encouraged as ways to take responsibility for learning.

Keefe and Keefe (1993) summarize their article by reiterating the worthwhile use of whole language with learning disabled children because of their academic and social needs.

Scala (1993) offers personal observations about using whole language in the regular education setting with special education, mainstreamed students. She presents a month by month synopsis outlining activities completed and successes achieved by her learning disabled students. She notes that expectations of both the teachers (the regular education teacher and herself) and the students were higher when using whole language. The entire class (regular education and special education students) accepted her as a resource for all, rather than as an extra help teacher for just a few. She points out that the success of this venture was partly due to the cooperation between the teachers, as well as because of the support of the principal to the whole language philosophy.

In spite of all the literature available which espouses using whole language methods with special needs children, there are authors who urge caution. Harris and Graham (1996) note that while children enjoy meaningful whole language activities, skills can be a problem with some children. They cite their own first grade daughter, who was evaluated for a perceptual problem because of her slow progress in reading. The assessment revealed that the child had strong comprehension abilities, but poor word attack skills. Harris and Graham began to teach their daughter skills in a specific, direct, and intensive style to remediate her weakness, and were successful in elevating her to an appropriate level.

Harris and Graham (1996) report that extensive, structured, and explicit instruction is necessary to develop skills, processes, strategies, and understandings in students who are challenged in their learning, behavior, or

social/emotional development. They feel that this instruction can be incorporated into a larger literacy context based on an authentic learning environment. They further state that "To some whole language advocates, *teaching* is a dirty word. They believe it is neither necessary nor desirable (and even harmful) to teach explicitly, provide direct explanation, or require practice. This approach has serious ramifications for learners with special needs" (Harris & Graham, p. 27).

While Harris and Graham (1996) do not call for a return to a skills-oriented curriculum, they agree that the whole language curriculum presents problems, primarily in the area of skills development. They report that whole language advocates have learned to disregard criticisms of their approach. Some teachers may be lured into "believing that individual differences in children are neither real nor even problematic and that difficulties will resolve themselves in due developmental time" (Harris & Graham, p. 28). Furthermore, if the whole language teacher has students who do not make adequate progress in their program, they tend to fault the student rather than the program. The result of this is an increase in special education referrals or tutoring services.

Harris and Graham finalize their article with a warning that the lack of critical evaluation of a strict whole language approach causes alternative paradigms to be ignored, with possible dangerous consequences to the learning of students.

Gersten and Dimino (1993) discuss whole language as it relates to special needs children. They point out that the basic tenets of whole language "are opposed to key concepts of special education practice (i.e., direct instruction, teaching to mastery, curriculum based assessment, and the use of explicit reinforcement procedures)" (p. 5). The article traces the origin of the acceptance of whole language to a dissatisfaction with conventional reading instruction. Before whole language, teachers felt overwhelmed with the pace

of maintaining routines and completing all the skills that were to be presented. Little time was devoted to the discussion of reading comprehension questions, the explanation of concepts, the probing of students understanding, or the provision of feedback to them. Additionally, low ability children were presented with "massive amounts of practice in marginally useful skills, at the expense of real comprehension instruction" (Gersten & Dimino, p. 7). Whole language, on the other hand, eliminates ability grouping to provide all students with the opportunity to think about what they read. Whole language advocates believe that a love of reading is restored in at-risk students when the drudgery of skills routines are eliminated. At the same time, the authors question the validity of asking low achieving students to silently read stories that are far too difficult for them, hoping that they will get the gist of the story.

Gersten and Dimino (1993) discuss research where students who were classified as learning disabled, who were being considered for referral to special education, or who were in danger of grade retention were observed. When these children were given a choice between writing their own story or copying one written by the class, they always copied. This activity had little meaning as well as little potential for cognitive development. It was also noted that when students were allowed to choose their own books, two of the three low achieving students consistently selected books which were too difficult for their levels, and they were not successful in reading them. Furthermore, there were infrequent interactions between teacher and student, and the interactions rarely lasted for more than one minute.

Based on this research, Gersten and Dimino (1993) question the suitability of whole language for use with learning disabled students or those with low motivation or skill. They point to other researchers who have concluded that it does not make sense to use whole language as a comprehensive strategy when teaching children with potential reading

disabilities. According to the authors, this is because whole language does not provide a system to learn to break the reading code, and many students need such a system to learn to read.

Gersten and Dimino (1993) report on research that points out that in the real world, individuals are judged on their product rather than the process they used to achieve an end. Whole language focuses on the process of learning, rather than the end product. Risk taking is encouraged, even if it does not produce the correct answer. However, in our society, the individual is expected to produce the "right" answer.

The origins of direct instruction are also presented by Gersten and Dimino (1993). This strategy was first used in the Direct Instruction Follow Through model, produced by the United States Department of Education's Project Follow Through. The technique is based on the idea that students who experience daily successes will have greater self confidence and be motivated to want to read. Instruction is well designed to the desired outcome, opportunities to participate are abundant, and feedback is clear. Corrections to student errors are made immediately, keeping the student from getting off track. Teacher-student interaction is frequent with emphasis on the role of the teacher as a provider of information, feedback, and guidance. The efficacy of using direct instruction has been studied and found to be successful across grade levels and in many different settings including those with students who are from low income families, in mainstream classrooms, and in special pull-out programs.

Gersten and Dimimo (1993) also report on concerns in the use of direct instruction. Among them is the question of how well this method prepares students for analysis and comprehension of the written word as well as for independent thought, since the teacher has been in control of the dissemination of material.

The conclusion made by Gersten and Dimino (1993) is that systematic instruction is necessary for some children to break the reading code, but that this instruction could be provided within the context of reading and discussing real stories. They also suggest that beginning readers would benefit from skills training, but that whole language is good for students who have already learned decoding skills. Whole language rejuvenates the joy of reading. The authors call for research in how to best balance the two approaches to offer the greatest success in the development of the ability to read.

Summary

According to the literature reviewed, children need to have alphabetic knowledge as a basis for their literacy development. This knowledge includes the ability to recognize letters of the alphabet as well as to know the sounds that are represented by the letters. The acquisition of this knowledge has been a topic of much study. The advantages and weaknesses of the traditional and whole language approaches have been discussed with applications in both regular and special education. The important themes in the whole language approach are to incorporate all modes of communication (speaking, reading, and writing) in the teaching of literacy, and to encourage the child's motivation to become literate by making learning relevent and interesting, without teaching specific skills. The predominant themes in the traditional approach are to provide a strong background in decoding through an emphasis on the development of phonics skills, and to teach individual skills separately as they are used in reading and writing.

Will the presentation of authentic literature in a whole language setting be suitable for children in special education to gain knowledge of the alphabet? Will they be motivated to learn to read and recognize the letters and sounds of the alphabet by high interest activities and a print rich environment? Or do children with cognitive delays and learning disabilities need to be taught by using a hierarchy of specific skills? With this review of

whole language and traditional approaches to teaching in mind, this project will attempt to evaluate the efficacy of those approaches in the acquisition of alphabetic knowledge in young, special needs children.

Sample

Sixteen children between the ages of five and ten years old were selected for this study. They attend a kindergarten through fourth grade school with a total enrollment of 475 students. The school is located within a small town in a largely rural area of Salem County, New Jersey. The subjects of the study are enrolled in one of the two special education classrooms within the school. One of the special education classrooms is composed of special needs students from within the district. The other classroom is leased by the home district to the Salem County Special Services School District, and is comprised of special education children from other public school districts within the county.

Each classroom is staffed with a full time teacher and an instructional assistant. Various therapists including speech, occupational, and physical, work on a part time basis with children in the classes. The teachers in each classroom have had several years of experience in teaching handicapped children and both have been named "Teacher of the Year" by their respective districts. Their teaching styles, however, are noticeably different. Each teacher was given a questionnaire (see Appendix A) based on the "Summary of Instructional Practices" of skills based and whole language teachers taken from by McIntyre and Freppon (1994). Each teacher was also interviewed and visited in her classroom to gain further insight regarding her teaching philosophy and methods. A synopsis of each follows.

Mrs. F is the teacher of the children in the home district. She relies heavily on what would be considered a whole language approach to learning. According to her responses on the questionnaire, she strongly espouses the following whole language methods: allowing students to select story books as a choice, planning for a daily writing/journal time, reading several story books daily, encouraging the use of invented spelling, and using language skills to

compose the "News of the Day" to take home to parents.

In addition to the information compiled from the questionnaire, a better understanding of Mrs. F.'s teaching style was garnered from her interview and classroom visit. A description of the physical setting of Mrs. F.'s classroom follows. Upon entering the class, students pass a small table covered by a map of the world tablecloth. There is a sign-in sheet placed there daily for students to record their presence in a method appropriate to their level, from writing their name to finding their name on the list and making a mark beside it. Word labels are placed on many classroom items, and charts, graphs, posters, and children's projects are abundant on the walls. There are no rows of desks in the room, rather there are areas designated for these activities: art, library, math, writing/journal, computer, a large table for group activities, and a carpeted area for students to bring their chairs or to sit on the floor.

Mrs. F. incorporates the various activity areas into the current reading story. The library area has a small bookcase filled with books of various reading levels, bean bag chairs, pillows, and a tape player with earphones to listen to story cassettes. Included in the library area are a drama center with puppets, dolls, costumes, and a flannel board to enable the children to reenact either their reading story or a story they have heard. The art area may be used to make props or pictures for a presentation of the reading story. The math center may have activities related to the story, as well.

Mrs. F. reported that literacy instruction is accomplished with a whole language curriculum and supplemental literature. Big books, choral reading, repeated readings (hearing a story many times), echo reading (students repeating one line of the story at a time after the teacher), and use of context clues (pictures in the story) are all employed. The children in the class are at various levels, therefore the lessons are adapted to these levels on an individual basis. For instance, when doing their daily journal activity, the children draw pictures. If they are able, they write words or sentences about

the pictures. If they are unable to write, they dictate to an adult who writes what they want to say for them.

While an alphabet chart is available at eye level for the children to see at the writing/journal center, the alphabet is not explicitly taught. Rather, Mrs. F. emphasizes phonemes with the children. For instance, if a child asks how to spell a word, Mrs. F. provides the phonemes rather than the letters. The children try to associate the phoneme with a letter to write; invented spellings are encouraged and accepted. Mrs. F. also uses a "gross motor alphabet" with the children. For this activity, each phoneme is assigned a corresponding action. For example, the children say the phoneme /b/ while pretending to bounce a ball.

At the end of each day, the children in Mrs. F.'s class write the "News of the Day." Mrs. F. uses a standard format newsletter on the overhead projector. With the help of the students, Mrs. F. writes what the children say about their day, incorporating punctuation and correct spelling. The children are asked to draw pictures for the newsletter, increasing their ownership of the document. Copies are made and sent home daily, encouraging families to engage in language and recall with their children.

Miss C. is the classroom teacher in the Special Services District classroom. According to her responses on the questionnaire, she espouses a teaching style in line with a traditional or skills based approach. She selected the following choices on her questionnaire: use of work books and worksheets to teach letter-sound recognition, teaching one letter of the alphabet per week, teaching sight words, reading one story book a day to the students, and following a formal reading readiness program involving letter recognition and sound correspondence.

Classroom visitation revealed that Miss C. also has her classroom divided into areas. There is a table where reading groups meet for activities, a computer center, and two areas where groups of desks are arranged together

for a hands-on/tactile center and a reading skills reinforcement center. There is a listening center where children listen to cassette tapes and can follow along in a story book. Manipulatives, such as Legos, are available under the direction of Miss C. The walls and closet doors are decorated with the children's artwork. The chalkboard is an often used area in Miss C.'s classroom, with an alphabet chart hung above it. One of the most striking differences between this classroom and the whole language classroom is the rows of desks present where the children spend much of their school day.

Miss C. uses the traditional letter a week presentation in explicit teaching of the alphabet. A new letter is introduced on Monday with instruction on that letter continuing on the remaining days of the week, or a group of a few letters may be reviewed for a week. For a new letter, a routine is followed for the week involving completion of different daily activities. Standard weekly activities include the following.

1. Forming the letter using paper lines, curves, and/or dots by gluing them onto a separate paper model of the letter.

2. Finding the letter of the week on the alphabet chart.

3. Constructing an item with the beginning sound of the letter of the week, i.e. a popsicle stick jet for "J." The children enthusiastically take these items home on the day they are made.

4. Using a model of the letter itself to construct an item beginning with that sound. For example, a play dough "J" shape was used as a pendant on a string to construct "jewelry."

5. Pictures (flash cards) of items that begin with the letter are shown and named on the second through the fourth day of the week.

6. The oak tag outline of the letter is filled with an item beginning with that letter. For example, the letter "J" is covered with jelly beans that have been glued to the oak tag.

7. The children color a worksheet picture of the letter and a word beginning with that letter. For "J," a picture of a Jack-in-the-Box was colored.

8. The children recite the entire alphabet daily, with Miss C. using the alphabet chart and a pointer to denote the letters. Miss C. also uses the sign language alphabet when doing this activity, adding a kinesthetic/tactile element to the instruction. She reports that the children are learning this mode, as well.

9. The computer is utilized to reinforce learning the alphabet. A program is used which provides visual stimulation by showing the letters, audio stimulation by saying the name of the letter and words that begin with that letter, kinesthetic stimulation by tracing the letter with a finger as it appears on the moniter screen, and visual motor stimulation by finding and pressing the letter on the keyboard.

11. On the fifth day of the week, a cooking activity is done with the children involving the letter, i.e. Jello was made for the letter "J."

12. Children are asked to independently name words beginning with the letter on the fifth day. They glean their words from their experiences during the week.

13. Miss C. reads the children a story with the letter of the week in the title. Jack in the Beanstalk was read for "J."

The children in both classrooms have all been determined to be eligible for special education services by their home district child study teams. Nearly all had a preschool handicapped experience before their fifth birthday, and many also were enrolled in an early intervention program before their third birthday.

Miss C.'s class consists of seven students, ranging in age (at the pretest) from 5-3 to 10-3. They are all classified as multiply handicapped. Their intelligence quotients range from the "trainable mentally retarded" range to the "average" range. One of Miss C.'s student's intelligence quotient was

reported to be "unattainable" at the time of testing. Miss C.'s class is self contained, but some children are mainstreamed for music, art, physical education, and library. They have lunch and recess with regular education students.

Mrs. F.'s class is designated as a resource center, however, several children remain in the class for the entire day. Others are mainstreamed to various degrees for specials (art, music, physical education, and library), social studies, and science. All of the children have lunch and recess with their "homeroom" class. The kindergarten children in Mrs. F.'s class have circle time, rest time, and free play time with their homerooms, as well.

The eleven students in Mrs. F.'s classroom range in age from 5-10 to 10-8. They have various classifications, including the following: perceptually impaired, communication handicapped, neurologically impaired, trainable mentally retarded, and multiply handicapped. Intelligence quotients in this class also range from the "trainable mentally retarded" to the "average" range.

Instrumentation

Each child in each classroom was pretested to determine how many letters they could name and how many corresponding phonemes they could say. A small booklet was prepared for the testing, with one computer prepared, upper case consonant letter of three-fourths inch in height per page. Only the 21 consonant letters were used to avoid possible confusion in providing the phonemes for the vowels. The letters were presented in the booklet in random order rather than in alphabetical order. A data sheet was kept on each student to record answers (see Appendix B). In scoring the number of letters that the student knew, the correct number given out of 21 was recorded.

To determine how many phonemes the student knew, the same booklet was used to display the letters again. This time, the first page ("B") was used

for a demonstration. The student was told, "Each of these letters says a sound; for instance, 'B' says /b/, /b/, /b/." The pages were then turned and the student was asked to say the sound the letter shown makes. The same record sheet was used to tally the data, however in scoring, the letter "B" was eliminated as the demonstration item. For the letter "C," either phoneme /s/ or /k/ was accepted, and for the letter "G," either phoneme /g/ or /dg/ was accepted. Phonemes for the the letters "Q" and "X" were eliminated, as there are no individual corresponding phonemes for those letters. This reduced the number of phonemes tested to 18. In scoring, the number of correct responses out of 18 was recorded.

Collection of Data

The children in both classes were pretested in October, 1996. Postesting was accomplished in March, 1997. A response sheet (see Appendix B) was kept on each student to record answers from both the pretest and posttest.

Research Design and Analysis of Data

Pretest and posttest results will be presented for the traditional and whole language groups. Through the use of charts and graphs, the data will be inspected visually to determine if there are meaningful differences between the groups in the achievement of letter naming and phoneme production. A narrative describing differences in individual students and trends between the groups will be provided.

CHAPTER FOUR

Introduction

The special needs students in the whole language and the traditional classrooms were pretested in October, 1996 to determine the number of letters they recognized and could name and how many corresponding phonemes they could produce. No special methods were used to instruct the children other than the techniques described in Chapter Three as stated by the classroom teachers. After five months of instruction in their respective classrooms, the children were posttested (March, 1997) to measure changes in their ability to recognize and name letters and to produce the corresponding phonemes.

Results

Letter Recognition and Naming

In the traditional classroom, three of the seven subjects named all of the 21 consonant letters at pretesting (see Table 1 and Graph 1). At posttesting, the results were the same for those students; those three maintained their ability to name all 21 letters. Each of the other four students made gains. Subject 1 improved from naming one letter to naming 14, Subject 3 gained from 12 to 21 letters named, Subject 4 named two letters after knowing none at pretesting, and Subject 6 improved from naming nine to 17 letters.

In the whole language classroom, three students also named all 21 of the letters presented at the pretest, one named none, and the other seven students named between 11 and 18 of the letters (Table 2 and Graph 2). At the posttest, all of the students except Subject 4 were able to name all of the consonant letters. At the pretest, Subject 4 demonstrated no interest or ability in naming the letters on three separate attempts, nor would he attend to the stimuli, thereby attaining a score of zero out of 21. At posttesting, Subject 4 did attend to the stimuli, but incorrectly named each of the 21 letters as either "H," "J," or "Q." While Subject 4 was unable to name any letters correctly, his attention

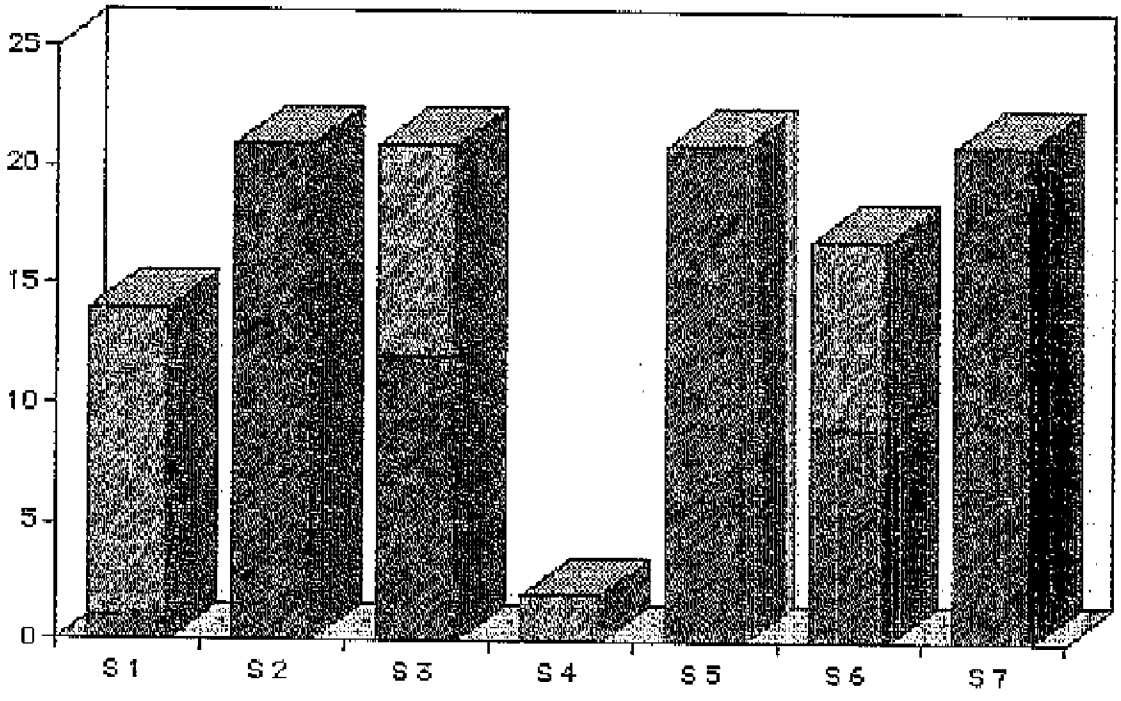
Table 1 - Traditional Class
Description of class composition and results of pretest and posttest

Subject	Age	Classification	IQ	Letters Known		Phonemes Known	
				Pretest	Posttest	Pretest	Posttest
Subject 1T	5-3	MH	92	1/21	14/21	0/18	0/18
Subject 2T	5-4	MH	59	21/21	21/21	0/18	0/18
Subject 3T	5-4	MH	TMR	12/21	21/21	0/18	0/18
Subject 4T	5-5	MH	not measureable	0/21	2/21	0/18	0/18
Subject 5T	5-10	MH	72	21/21	21/21	0/18	13/18
Subject 6T	7-7	MH	86	9/21	17/21	0/18	0/18
Subject 7T	10-3	MH	TMR	21/21	21/21	15/18	15/18

Table 2 - Whole Language Class
Description of class composition and results of pretest and posttest

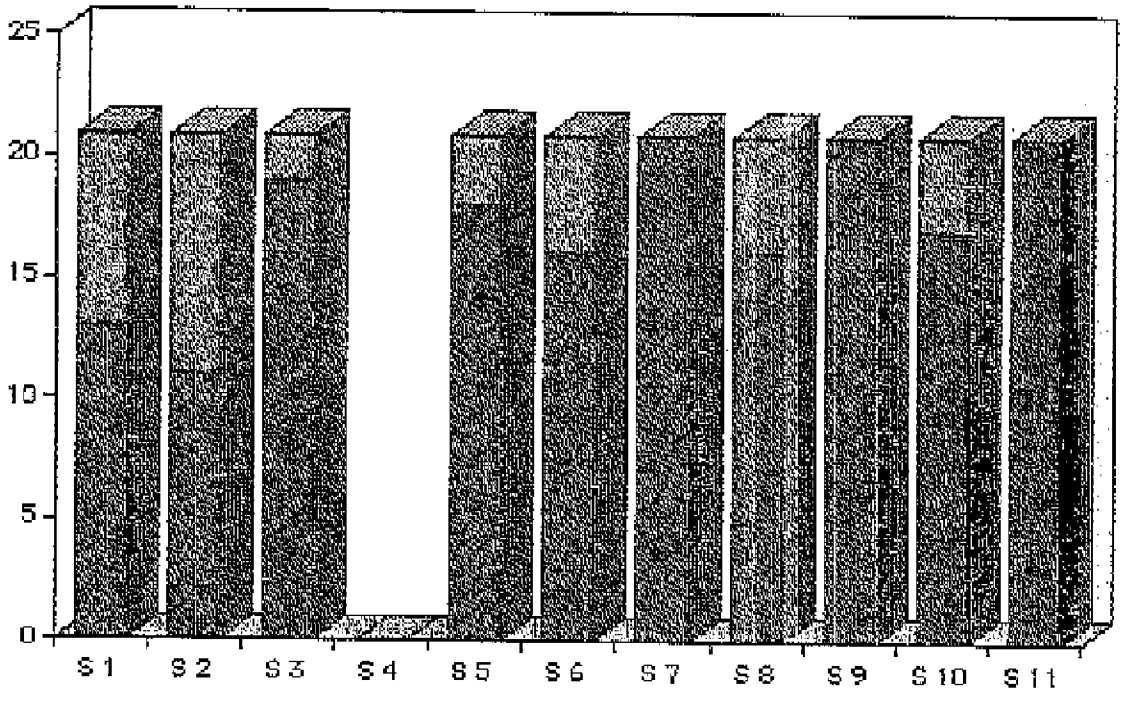
Subject	Age	Classification	IQ	Letters Known		Phonemes Known	
				Pretest	Posttest	Pretest	Posttest
Subject 1WL	5-10	CH	84	13/21	21/21	0/18	8/18
Subject 2WL	6-5	MH	75	11/21	21/21	8/18	16/18
Subject 3WL	6-9	CH	99	19/21	21/21	15/18	17/18
Subject 4WL	6-8	TMR	40	0/21	0/21	0/18	0/18
Subject 5WL	7-1	PI	80	18/21	21/21	6/18	18/18
Subject 6WL	7-3	MH	57	16/21	21/21	7/18	10/18
Subject 7WL	7-11	MH	71	21/21	21/21	18/18	18/18
Subject 8WL	8-4	NI	76	16/21	21/21	10/18	11/18
Subject 9WL	8-5	MH	65	21/21	21/21	9/18	14/18
Subject 10WL	10-8	MH	40	17/21	21/21	5/18	9/18
Subject 11WL	10-5	MH	65	21/21	21/21	16/18	17/18

Graph 1 - Number of letters named by subjects in the traditional classroom



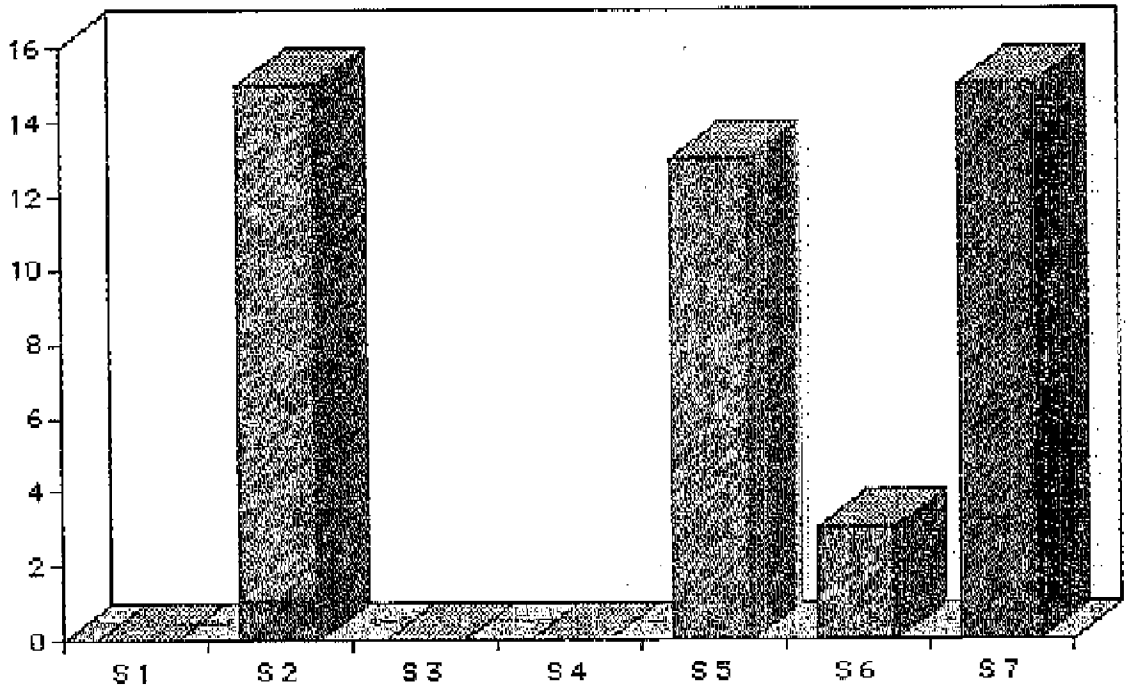
Red Bar - Number known at pretest
Green Bar - Additional number known at posttest

Graph 2 - Number of letters named by subjects in the whole language classroom



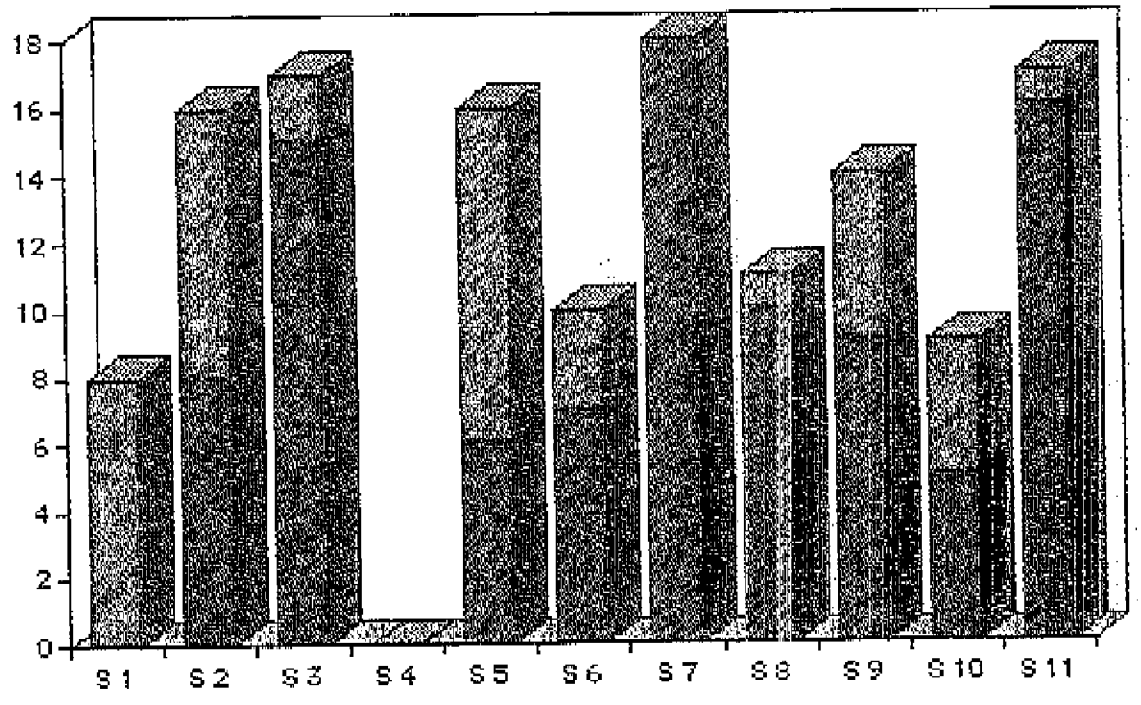
Red Bar - Number known at pretest
Green bar - Additional number known at posttest

Graph 3 - Number of phonemes produced by subjects in the traditional classroom



Red Bar - Number known at pretest
Green Bar - Additional number known at posttest

Graph 4 - Number of phonemes produced by subjects in the whole language classroom



Red Bar - Number known at pretest
Green Bar - Additional number known at posttest

to the task and his ability to provide letter names (even though incorrect) is seen as progress toward the skill of letter naming.

Phoneme Production

In the traditional classroom, pretesting revealed that five of the seven students could not produce any phonemes, one could produce one phoneme, and one knew 15 out of the 18 phonemes presented (Table 1 and Graph 3).

At posttesting, three of the subjects continued to be unable to produce any phonemes. Subject 2 improved from producing one phoneme to producing 15, Subject 5 improved form producing zero to 13, and Subject 6 improved from zero to three phonemes produced. Subject 7 showed no improvement, producing the same 15 phonemes as on the pretest.

In the whole language class, two subjects could not produce any of the phonemes at pretesting, one produced all phonemes, and the rest produced from five to 16 phonemes (Table 2 and Graph 4). All students made gains in their ability to produce phonemes, except for Subject 7 who knew all at pretesting, and Subject 4 who produced none at pretesting. The nine remaining students showed the following gains in phoneme production: Subject 1, from zero to eight; Subject 2, from eight to 16; Subject 3, from 15 to 17; Subject 5, from six to 16; Subject 6, from seven to 10; Subject 8, from 10 to 11; Subject 9, from nine to 14; Subject 10, from five to nine; and Subject 11, from 16 to 17.

Summary

Students in both the traditional and whole language classrooms made gains in naming letters and in production of the corresponding phonemes. Gains in naming letters were most evident in the whole language classroom, with all but one student naming all 21 consonant letters presented at posttesting. Gains in producing the phonemes corresponding to the consonant letters were also most evident in the whole language classroom, with nine of the 11 students making improvements in that area (a tenth student knew all phonemes at pretesting, an eleventh knew none at pretesting or posttesting).

Meaningful gains were made by individual students in both classes in both areas tested, but some students made no gains. In the traditional class, four of the seven students showed no gains in phoneme production. In the whole language class, one student did not make gains in either area tested. Overall, a visual inspection of the data reveals that more students made gains in the whole language class, and that more students failed to make gains in the traditional class.

CHAPTER FIVE

Summary

This study compared the gains made by two groups of special needs children between the ages of five and 10 in recognition and naming of the 21 consonant letters of the alphabet as well as in production of the phonemes corresponding to the consonants. One group of seven students received instruction in a traditional class, with the teacher presenting one letter of the alphabet per week. The second group of 11 students was taught in a whole language class, with an emphasis on reading and writing without isolated instruction in individual letters. The children were pretested, then posttested after five months to measure their individual growth in each area. A visual inspection of the data collected reveals that in the traditional class, all seven students made gains in naming letters, and three of the seven made gains in producing the corresponding phonemes. In the whole language class, 10 of 11 students named all the letters presented at posttesting and made gains in phoneme production. Overall, more students made gains in the whole language class, and more students failed to make gains in the traditional class.

Conclusion

While a visual inspection shows that more gains were made in the whole language class, care must be taken in generalizing these results to other classrooms. The samples from each class are small, making direct comparisons between the classes difficult. For instance, in the traditional class, five of the seven students were under the age of six at pretesting, and were experiencing their first academic instruction. In the whole language class, only one student was under six years old at pretesting, with most of the others having had previous exposure to letter naming and phoneme production instruction. Also, the number of students in the whole language class (11) is greater than the number of students in the traditional class (seven), which makes comparisons of the two classes as wholes difficult. Taking such variables into account, solid

conclusions as to a preferred philosophy of instruction (whole language or traditional) to make the greatest gains in letter naming and phoneme production cannot be made.

Discussion and Implications

Gersten and Dimino (1993) examined the usefulness of the whole language and direct instruction approaches for special needs students. They disclosed advantages and disadvantages to each method and state that "Much needs to be learned about the exact balance between explicitness and discovery, between the use of well-sequenced activities and naturally occurring texts" (p. 10). It may be that there is a place for both of these approaches in teaching special needs children; that students will develop a love of books by immersion into literature, but that they also need skills based instruction to learn decoding skills.

Implications for Further Study

A larger sample size would offer the opportunity to obtain more reliable results if this study were to be replicated. Having a larger group of children who could be matched more evenly, considering their age, intelligence, and previous exposure to learning the alphabet would be beneficial in securing data. Also, a longer time in which to conduct the study would be advantageous to make comparisons among individual subjects and between the groups.

Other areas could be explored along with letter naming and phoneme production, such as gains in vocabulary skills between the children in a whole language class and a traditional class. Use of functional writing skills could be assessed to determine if one type of instruction promotes that area of literacy. Finally, a study comparing students who are taught using a blend of whole language and traditional methods with students taught purely by one approach or the other would be most interesting, to determine if the best ideas from both methods might be the key to teaching special needs children.

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Appendix A
Teacher Questionnaire

Please fill in the lines below to indicate which most accurately describes your instructional practices.

Use: 0 if you do not use the method
1 if you sometimes use the method
2 if you frequently/always use the method

_____I use workbooks/worksheets to teach letter/sound recognition.

_____I allow children in my class to select and look at story books as a choice.

_____I teach one letter of the alphabet per week.

_____I teach sight words.

_____My students have a daily writing/journal time.

_____My students hear several story books read aloud daily in school.

_____My students hear one story book read aloud daily in school.

_____My students do not hear a story book read daily in school.

_____I routinely encourage the use of invented spelling with my students.

_____I follow a formal reading readiness program with my students.

_____My students use language skills in helping to compile and write the "News of the Day."

_____I plan activities using various art/household materials (i.e. clay, rice, noodles)for my students to increase learning.

_____I employ a reward system to encourage my students to stay on task.

Appendix B
Student Response Record Form

STUDENT_____ Pretest Date_____
TEACHER_____ Posttest Date_____

	NAMES LETTER		PROVIDES PHONEME	
	Pretest	Posttest	Pretest	Posttest
B			sample	
T			/t/	
K			/k/	
S			/s/	
M			/m/	
P			/p/	
C			/k/ or /s/	
F			/f/	
N			/n/	
H			/h/	
Y			/j/	
Q			not tested	
G			/g/ or /dg/	
W			/w/	
D			/d/	
X			not tested	
R			/r/	
J			/dg/	
Z			/z/	
V			/v/	
L			/l/	