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A comparative study of the effectiveness of two approaches to reading instruction, whole language and direct instruction with perceptually impaired students

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A COMPARATIVE STUDY OF THE EFFECTIVENESS OF TWO APPROACHES TO READING INSTRUCTION, WHOLE LANGUAGE AND DIRECT INSTRUCTION, WITH PERCEPTUALLY IMPAIRED STUDENTS

by
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ABSTRACT

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May, 1996
Dr. Jay Kuder, Thesis Advisor
Special Education Department

This study was designed to investigate the reading achievement of two groups of special education students classified as perceptually impaired. The two groups of children were provided with two different types of reading instruction in two different settings. One group received whole language reading instruction in the regular classroom as mainstreamed students. The other group received direct instruction reading in a self contained classroom.

At the conclusion of the study, it was found that both groups of students made some progress. All students improved their scores of reading achievement as measured by the CAT V inventory test. Pre- test results showed that students taught reading through a whole language approach scored better overall on the test given in September. The post- test given in April showed that the scores of students taught using direct instruction approaches were higher than those of the other group.

Many previous studies show that direct instruction has proven to be effective with environmentally and educationally "at risk" students, while whole language instructional approaches may be better suited to those students who are functioning at their age and grade appropriate reading levels. However, very few programs have shown effectiveness in increasing reading achievement with all students in all educational situations.

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This study investigated the effectiveness of the whole language and direct instruction methods of teaching reading to students classified as perceptually impaired. Results indicated that students taught using whole language methods scored higher overall on the CAT V pre- inventory test, while students using direct instruction scored higher overall on the post- test and had greater improvement gains.

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Chapter 1

Statement of the Problem

Introduction

The research on educational and instructional strategies is constantly increasing. It seems like there is always some new teaching strategy which claims to help children learn math faster or teach children to read better. Whether or not they are effective is another story. The creators, proponents and advocates of a specific teaching strategy will insist that their method is the pinnacle of effective teaching strategy.

Many techniques are tried and true - tested empirically and piloted in several districts to test their effectiveness before being put on the market. These methods are often comprehensive programs that, when used properly, will yield successful results. Other methods, however, are truly what many educators call "fads". They are seen as new trends in education which may or may not actually produce the results they claim to produce.

The issue of what is effective in teaching reading, for

example, never fails to generate controversy. What is not taken into deep enough consideration when districts or individual teachers decide to use one program over another is the fact that children learn in very different ways. What may work well for one child or group of children, may be ineffective for others. There are many aspects of the child, and his or her personal learning style that have to be taken into consideration. At the same time, it would be equally ineffective to use sixteen different instructional methods to teach sixteen different students in a class. Although there needs to be a middle ground, very few programs have proven effectiveness with all students in all situations across the board.

Educators in general, and teachers specifically, need to review many aspects of a program or method, with consideration for their students, before adopting it as their primary mode of instruction. Aspects to review, at the very least, should include the level of research done around it. For example, a program that has been empirically tested and piloted in an actual school district would have more proof of effectiveness or ineffectiveness than one which was used by a couple of teachers who say it is a good program because the students seemed to like it.

In addition to the proven effectiveness of a method, the structure of the program, ease of implementation, assessment procedures, enrichment opportunities, and the appropriateness of academic levels or the ability to generalize to other levels is important. Particularly

substantial for special educators may be the program's remediation procedures, mastery attainment and the pacing of the program.

The controversy over the best teaching methods are evident in many areas. My district advocates using more than one program at the same time. However, these two programs are considered to conflict on the basis of educational philosophy and practice. More importantly, these two programs are used concurrently with two different populations of students. One is regular education, and the other is special education. The Elementary Education department supports the Whole - Language method "whole heartedly", while the Special Education department insists that every special educator (primarily in self contained classrooms) use Direct Instruction. Special Education Administrators would suggest that direct teaching, using the direct instruction method, is the only way to remediate our students and prepare them to contend in the mainstream.

Statement of the Problem

This study will investigate the effectiveness of the whole language and direct instruction methods of teaching reading to students classified as perceptually impaired in self contained and mainstreamed classrooms. These students are currently functioning on a first grade reading level. For the purpose of this study, effectiveness will be defined

as the degree to which the students can successfully meet the success requirements of the reading curriculum on the first grade level. This includes completing all reading assessments with at least 80% accuracy. In addition, students' feelings about and toward reading in general will be measured on an attitude scale.

According to the New Jersey Administrative Code (Title 6, Education - Chapter 28, Special Education), "...perceptually impaired means impairment in the ability to process information due to physiological, organizational or integrational dysfunction which is not the result of any other educationally disabling condition or environmental, cultural or economic disadvantage and is characterized by... a specific learning disability manifested by a severe discrepancy between the pupil's current achievement and intellectual ability in one or more of the following areas: (1) basic reading skills, (2) reading comprehension, (3) oral expression, (4) listening comprehension, (5) mathematic computation, (6) mathematic reasoning, and (7) written expression."

The subjects for this study will be three self contained students who are mainstreamed, and three who are not. The students who are mainstreamed are taught reading through the instructional methods of whole language. The other students who are not mainstreamed receive direct instruction as their primary mode of instruction for reading.

The difference between a self - contained class, and a mainstreamed class is that the students in the self -

contained class receive all instruction (full time) from a special education teacher. Students who are mainstreamed, leave the self - contained class (part - time) for two or more subjects, and are taught by a regular educator in a regular education class. For this study, the three mainstreamed subjects, go to a regular class for reading.

Hypothesis

Analysis of reading achievement scores will show that those of the perceptually impaired students taught using the direct instruction method are higher than that of those using whole language in the regular classroom.

This study will include observation and description of instructional methods of the programs used in the classroom, and study and comparison of periodic checks for mastery (Direct instruction), quarterly topic tests (Whole language) and standardized test scores. The CAT V (California Achievement Test) will be the standardized test used district wide to determine the academic achievement of the students. Pre- and post- scores will be obtained for all regular education students.

This year, Special education students will also be taking the test, but the students' scores will not be coded for district norms. The six students used for this study have had testing specifications included in their IEP, (Individualized Education Program) which mandates by law that, 1. They take the test, whether the rest of the special

education students in the district do or not, and 2. That their scores be included in district norms. Pre- and post-scores will therefore, also be available for these students.

Purpose

One of the major arguments in this district is over which innovation is better for which group of kids. Special educators contend that the DI (Direct Instruction), with its high structure, fast pacing and highly interactive approach to teaching, is essential for remediating and returning special education students to the mainstream. Whole language, on the other hand takes a holistic approach. The program is not prescriptive or "prepackaged". It is complex because it is not composed of a set of scripts or materials, rather, the program is based on many innovations like cooperative learning, critical thinking and integrated instruction. Direct instruction emphasizes basic skills such as phonics and decoding, while the whole language program emphasizes the interrelatedness of reading, writing, speaking and listening.

To debate over instructional methodology , to the extent that two totally different programs are incorporated in the same district with no way to bridge the programs, is somewhat idiotic. Administrators should either decide on one program to use or develop ways to bring our student populations closer together. At this point, they are only implementing decisions that widen the gap between the two departments and

thus, the children, by incorporating very different methods of teaching (especially reading); direct teaching and holistic teaching.

Since the educators cannot obviously agree on which is best, I agree that both programs should be used. If one is generalized to work better than another with a specific population of students, I would advocate it's use. However, a middle ground should be sought for the sake of the students who are further isolated from one another when those in control of their education cannot agree on how to give it to them.

Overview

Chapter 2 will review a representative sample of the literature available on the strengths and weaknesses of each program. The populations researched to be most positively effected by the use of these programs will also be reviewed. The literature will give light to the structure, components and set up of each program as well as the reported effectiveness of each.

Chapter 3 will reveal the research design of this study. The subjects will be expanded upon as well as will be the procedures used, methods of collecting data, and an explanation of the data analysis methods used.

A full report of the findings of the study will be available in Chapter 4, and Chapter 5 will contain a discussion of the results, conclusions made from the results

and suggestions for the use of the research.

Chapter 2

Review of the Literature

Introduction

Several authors suggest that there is a growing concern for the general level of literacy among Americans (Franklin, 1992, Idol and Rutledge, 1993, etc.). Other authors have cited poor reading methods as the reason for illiteracy in this country, suggesting that if we, as teachers, were doing our jobs right all along, there would not be an illiteracy problem (Smith, et al, 1993). Edwards (1981) suggests that the emphasis is being placed on competency, especially regarding the basics.

Franklin (1992) and Willert and Kamii (1985) would disagree with the idea of the importance of basic skills education. In their article, they imply that the practices of immersing Kindergarten children in reading to prepare them for First grade is wrong. They specifically note how children in kindergarten are being subjected to long sessions of worksheet practice and memorizing, sounding out words and

copying letters and words. They suggest instead, that children be exposed to real reading and writing, and use activities that are meaningful and real, and that students can feel some connection to.

On the other hand, authors like Erickson (1987), Gersten and Keating (1987) and Becker and Carnine (1980), support teaching such basic reading skills early in school. Their work with Project Follow Through supports teaching reading strategies and skills for reading and writing in Kindergarten and first grade, saying that these children are better equipped for reading because they have a beginning of the understanding of the complex system of language that we call English.

Students who wear the label "at risk" (learning disabled, or reading disabled, slow, low income or even minority), are believed to be lacking in educational skills (Becker and Carnine, 1980). They require support services and explicit instruction in acquiring the skills they are deficient in (Lazzari and Wood, 1993).

Nord and Shinn (1991) agree that the instructional needs of general education and regular education students are different. Students may not be able to learn the same things in the same way. However, if the goal of Special education is to reorient the special education student to what is going on in the regular classroom, we as educators need a way to make the experiences of the students similar.

Students who have problems with attention, organization and independent initiation and completion of activities are at a

great risk of failure in classrooms where these attributes are important (Lazzari and Wood, 1993). On the other hand, students who enjoy discovering on their own, and have some of the skills necessary to begin exploring and learning language on their own, or with little help, run the risk of failing in a classroom that is too structured, or teacher controlled (Idol and Rutledge, 1993).

Reading Methodologies

Whole Language

Overview of the Program

Among the many strategies for teaching reading, "Whole Language" emerges as the "innovation of choice for the 1990s" (Moss and Noden, 1994). More than a system of sequenced steps to teach a subject, whole language is a belief system that drives instruction. Premised on respect and empowerment, teachers are seen as intelligent professionals, capable of understanding what children are trying to learn, and how they are trying to learn it (Shanahan, 1991). The program is not a collection of methods or materials, nor is it a prepackaged curriculum, or set of instructional strategies. It is, rather, a philosophy that utilizes ideas and beliefs about the way children learn (Jordan and Smith, 1992). Most advocates support a rejection of textbooks, basal readers or any prepackaged materials.

Based on the professional knowledge of teachers, there is no need for textbooks to guide instruction or to develop instructional goals. Standardized tests are also rejected by whole language proponents because such tests do not depend on any personal or professional interpretation.

Views of whole language include that, 1. The child is the major reason or basis for reading instruction, 2. Language is used primarily for communication, 3. Language development cannot occur without meaning, 4. Reading, writing, listening and speaking are interrelated, 5. Writing is the major component of literacy, and 6. Learning activities should be authentic and meaningful (Moss and Noden, 1994).

Child Centered

Whole language is child and teacher oriented. The success of a classroom depends on the teachers empowerment of students and their ability to make learning a whole - child experience (Moss and Noden, 1994). Children make choices about what they will learn and how they will learn. This allows them to have a more active role in learning. The child is seen as an independent learner. They have problem solving abilities and creative thinking abilities (Benelli, 1991). By allowing them avenues to grow, become and explore their own learning they have ownership of their learning (Willinsky, 1994).

Ownership of learning belongs to the teacher in traditional methods, where the teachers do the planning

without much input from students. They decide what will be learned and what assignments will be completed. In whole language, it is not uncommon for students to direct activities. For example, a teacher may bring up a specific topic, and ask what is already known about it. Children and teacher generate interest for the topic, and then decide together what they should learn about it; what they want to know (Whitmore and Goodman, 1992). When students do not have ownership of their learning, students are led to see activities as tasks; something to do rather than something to learn (Shanahan, 1991).

Children need to manipulate their environment in order to understand it (Shanahan, 1991). In so doing, invented spelling and make believe reading is good, because it provides students with the framework of actual reading and writing. Such active involvement leads to an understanding of the importance of reading and writing. This leads to discovery of what it is and why it is, rather than being told about it. The best way to teach tree is not necessarily, by telling a child, "this is the word *tree* ". To denote such an object or concept by simply the word, is "artificial" (Willinsky, 1994).

Activities used in the classroom can include any of the following components: Language experience activities, critical thinking activities, independent reading, process writing, literature based instruction, cooperative learning and integrated instruction. The outcome of such self-directed and extending activities is that students take

charge of their own learning. With the teacher as a guide or facilitator, not as a dispenser of information, students are allowed to develop their imagination; viewing the world through different forms of expression while engaging in language or other academic learning.

Teachers as facilitators of learning

Whole language is a process of teachers choosing options rather than prescriptions. Teachers must be able to understand and adapt learning activities to what works best for the class. This is not easy to do, therefore teachers need training, support and colleague collaboration before, during and after implementation of such a program. A pilot program called the Tennessee Project (Hatch, 1992), was designed to help teachers incorporate the components of whole language into their classrooms. The goal of the Tennessee Project was to have teachers reflect on current practices and make choices about what works best for them, while taking into account their personal abilities, beliefs and preferences and the needs of their students.

Jordan and Smith (1992) suggest that teachers should not be bound to one method, but should use a variety of methods, strategies or activities that allow students to encounter the relationship between language, and other academic subjects, and real life. The activities that the teachers choose are tools geared to the individual needs of students that help them achieve specific educational goals.

Just as children have choices and ownership of learning,

so to should teachers have the right to decide what activities to engage in, based on their personal philosophies of education. Therefore, Whitmore and Goodman (1992), Hatch (1992) and Moss and Noden (1994) suggest that whole language will not work when it is mandated. Such mandated "all - or - nothing" approaches to whole language do not take into account the fact that this is directly opposed to what many teachers have been doing for years. Rather than to jump into whole language, Hatch suggests that teachers incorporate holistic methods in small steps, allowing students and themselves to adjust to the change gradually.

Integration of subjects

Whole language is very broad; it has an impact on every area of the curriculum. Language is taught through integrated units. Reading, writing, math, art, social studies, and science are all used together. Integrating subjects allows students to share content through forms other than reading or writing.

Math can be integrated through students manipulating blocks, or figuring out the price of items at a grocery store to make stone soup. Social studies could be incorporated into lessons by drawing a map to find items, locate a place, or tell about a story. Students could experiment with cooking or discover how Jack's beanstalk grew by planting beans (Science), or perform and create various art forms as extensions of reading, and / or writing.

Drawing, painting, drama, dance and poetry, are all art

forms that students can use as a way to express what is learned, rather than doing a worksheet. In any subject, learning is a creative process, (Manning and Manning, 1992). Students go from drawing a line, to making a rectangle, to drawing a house; from recognizing the letters in one's name, to using invented spelling to write a letter to writing a story with correct spelling and grammar.

Authentic Learning

Complete and authentic experience is the most valuable component of learning. Filling out a worksheet or copying from the board are activities, but authentic activities are those that are student directed and student centered. They are activities that engage the students to do some critical thinking or problem solving (Shanahan, 1991). Whitmore and Goodman (1992) see the most important and truly authentic learning activities are those that actively engage a child in talking, reading or writing, or otherwise experimenting with ideas that are real and relevant to them, and to their daily lives.

Hands on experiences challenge children's thinking. They discover how to expand their knowledge and language usage when culminating and opening activities are not just teacher directed tasks. The above authors also suggest that play, is another way that children explore parameters. Their work with early childhood education shows that there is no need for students to be ready to read and write. When students are actively engaged in activities (drawing,

cutting, acting out, sorting, etc.) they become aware of the need to read and write and begin to realize the thinking processes involved in problem solving and exploring.

Jordan and Smith (1992) also suggest that each activity needs to be meaningful and authentic not isolated. Activities should provide language learning opportunities, and should contribute to and be appropriate for the overall focus of the curriculum, theme or unit that is being studied.

Other Strengths of the Program

Just as children learn naturally to speak, listen, play with peers and so forth, so to is learning to read a natural process. Through whole language strategies, it is also a socially interactive process. Developmental domains include cognitive, physical, social, emotional and intellectual. Benelli (1991) suggests that it is unnatural to learn through isolating specific subjects or developmental domains.

Whole language de - emphasizes taking apart the skills in reading and writing, such as Phonics programs do. Shanahan (1991) proposes that if these skills are taught in isolation, students may have difficulty incorporating them as a whole. The natural way for students to learn is to teach the skills together, usually over the course of several periods in the day. Students learn by doing, not by "...practicing... separate parts, until some later time when the parts are put together and finally used" (Benelli, 1991).

Learning should be interesting and relevant for the

students. The materials that teachers choose can make it so. This offers another strength of the program. Advocates insist that the program should not be mandated but voluntary. This gives teachers the power to choose what activities and materials they use. After all, teachers, not necessarily administrators, know what works best for them and their children and what they and their children can do (Hatch, 1992).

Another positive aspect of this philosophy is that students gain an understanding and appreciation of concepts in literature, such as fiction and non - fiction, through immersion in and discussion of various books. Unlike traditional methods which *prepare* students to do something *someday*, whole language recognizes that the learner is somebody valuable today. Students *do* something *now* (Shanahan, 1991).

Also, whole language incorporates opportunities to develop social skills while developing literacy. Students actively participate in, and thus learn about, helping, sharing, cooperating, negotiating and problem solving. The teacher guides students in the development of these skills, rather than simply discussing them.

Criticisms of the Program

Because whole language is not a product of one person's work, the definitions offered by advocates are too broad and often "invite misunderstanding and confusion" (Willinsky,

1994). Shanahan (1991) described whole language as defying definition. As a vague concept, the methodology also lacks precision. One can only get a "sense" of whole language. The name itself does not properly identify the method. Willinsky indicates that whole language points out the differences between itself and other reading programs, such as basal readers and phonics programs.

Willinsky also implies that this vagueness or lack of precision sets up an adversarial tone or attitude, which makes people more opposed to whole language. While agreeing that whole language has natural and real qualities, I also agree that the mood surrounding whole language is controversial. The fact that there is no set standard for instruction, classroom practices can vary from teacher to teacher. This can be negative because there is no consistency between classes.

Whole language is student centered and largely student directed, however, children can be immature learners and may not know enough about what there is to learn to make their own decisions about what to discover. Also, whole language is based on individual needs and relevance. It is obvious that what may be of importance or interest to one child does not necessarily mean that it will be of equal importance or relevance to another child, much less the rest of the class.

Both Shanahan (1991) and Hatch (1992) found that although whole language rejects using direct or skills teaching, there is some need for strategic use of direct instruction in word analysis skills. Although advocates

also reject standardized testing as a way to assess student achievement, many districts continue to use such measurements with students. Therefore, many whole language teachers must incorporate skills training and direct teaching to properly prepare students for standardized testing. This could lead one to assume that whole language does not prepare students in the areas of the basic skills needed for reading and writing.

Because whole language is such a combination of personal viewpoints and intellectual and social beliefs, many teachers lack the training and / or self confidence to move away from guided instruction. Many teachers are over burdened with high numbers of children, as well as inadequate materials and collaboration. Also, planning can be a great hardship on teachers, because the program is based on a very broad curriculum and is very interactive. This suggests to me that perhaps not all teachers do well with this method.

Goodman (1989) suggests whole language is a philosophy that rests soundly on a wide base of research. He lists the holistic, psychological research of Piaget and Vygotsky, who suggest the concepts of stages of growth and cognitive development, and a view of teachers as mediators who facilitate learners' transactions with the world, respectively. He also suggests that whole language takes the the statement by Dewey about the importance of "starting where the learner is" very seriously. However, despite Goodman and others who stress that whole language is solidly rooted in scientific research and theory, there is a

tremendous lack of empirical research validating the effectiveness of such methodologies when it comes to teaching reading to actual students.

Lastly, some see the de - emphasis of teacher direction and incorporation of teacher facilitation as negative. Shanahan (1991) suggests that new teacher roles may be seen as downgrading teachers or even as a way for teachers to put the burden of teaching and planning on the students.

Direct Instruction

Overview of the Program

A 1985 report of the Commission of Reading suggested that teachers should use well designed, yet simple phonics instruction with early readers, and continue its use at least until second grade (Idol and Rutledge, 1993). Direct Instruction has been equated with phonics instruction. Although direct instruction methods focus on skill teaching and strategic use of phonics, the two are not synonymous.

Becker and Carnine (1980) describe direct instruction as a straightforward, logical approach to problems related to skill deficiencies. Their research suggests that this instructional model is the most effective for achieving educational gains. It is a highly interactive approach with an emphasis on competency and basic education (Gersten and Keating, 1987 and Edwards, 1981). This approach includes the use of structured, and even scripted lessons, step by step skills taught with specific remedies for problems, and

mastery teaching with immediate feedback. Students are guided toward comprehension of their reading, through the use of prompts and decrease of structure.

Teaching Behaviors

Brophy (1979) suggested that the teaching behaviors which characterize Direct Instruction, are also those that characterize effective teaching. Those teaching behaviors include, but are not limited to: the use of many factual questions, controlled practice, large vs. small groups, fast paced instruction, quality control, through the use of scripts, and the use of explicit examples, models and demonstration.

Components of Direct Instruction

Rosenshine (1979) and Edwards (1981) describe Direct Instruction (DI) as meaning: 1. There is a focus on academic goals. The teaching activities are focused on academic material. 2. There are high levels of student involvement. 3. There is extensive content coverage, as well as continuous and sufficient time allotted for instruction. 4. Although the teacher selects instructional goals and materials, the goals and objectives are made clear to students. 5. Learning activities are highly structured. 6. Student progress and performance is highly monitored. 7. Feedback is immediate and academically oriented. 8. A learning environment is created that is task oriented yet relaxed and even fun suggests Becker and Carnine (1980).

Purpose of Direct Instruction

While reviewing literature on academic engagement time, McFaul (1983) uncovered three purposes of Direct instruction. The first purpose is philosophically based in that the teacher has the responsibility to maximize the students' engagement time, or time on task. The second purpose is pedagogical; the teacher provides an interactive way to increase quality learning time that benefits all of the students. Lastly, DI has a psychological purpose in that the behaviors of the teacher provide motivation for the students engagement on a task.

SRA Reading Mastery

This company name is well known to users of direct instruction materials. They publish various levels and contexts of direct instruction reading materials. Erickson (1987) used the SRA Reading Mastery series with students in the Kindergarten and First grades to determine the effectiveness of such programs in preparing students for reading in the second grade. The study was done in rural Montana over the course of two years. The results of the study suggest that those students who can read at an early age are more able to learn in later grades. These students had a more positive attitude toward reading and learning and felt competent as learners. The author suggests that such attitudes will continue in students, regardless of the instructional approach or materials used, or of the quality of the teaching. The students who were exposed to reading in

kindergarten were more mature because they knew what was expected in the teaching learning process. These students learn on task behavior and are able to experience success.

The SRA Reading Mastery series is typical of direct instruction approaches in that it follows one of the basic tenants of DI; to teach more in less time. Becker and Carnine (1980) describe how this can be done. They suggest that a small set of building blocks be taught. From these, students are able to generalize to greater knowledge. This building on pre skills is common to direct instruction programs. Erickson's study (1987) demonstrates that students learn a skill in one task, and then apply it in another and then review it in another.

DI approaches to Reading problems

Direct instruction programs ensure that common reading problems are avoided. Possible reading problems include: students are unsure of sounds, students drop vowels or first sounds of words, students guess at words, disfluent reading, poor comprehension or students are inattentive to reading. In the Direct instruction approach, all sounds are taught to mastery, so students would not be unsure of sounds. Sounds are blended left to right before they are read as one, or read the fast way, so no sounds can be dropped. Errors are corrected immediately, so that mistakes are not learned. Students move from saying sounds without stopping between them (blending) to reading the whole word.

There is no guessing because every sound is known

before a student attempts to read it as a whole. Fluency is developed from constant word and sentence reading and re - reading and timed reading. Students model after the teacher often, so they hear and practice the right way to read. There are no comprehension problems because reading is fluent and firm before attempts at comprehension are made. Lastly, because students are constantly involved, through group responses, students rarely have an opportunity to be inattentive. Whole language proponents would argue that such problems are really not problems at all. They are all a part of the reading discovery process, however, early failure at attempts to reading can lead students to lose interest in learning (Erickson, 1987).

Idol and Rutledge (1993) developed a method of direct teaching of sounds and sound combinations that is similar to the SRA Corrective Reading series. This method, using a sound sheet, is an approach which the authors feel is most useful for teaching poor readers. The sound sheet provides students with supervised practice on phonics skills, by giving them advanced knowledge of sounds and sound combinations that will be encountered in classroom reading materials.

Sound sheets are derived from words that are taken directly from the student's text, following the same sequence and order. The ten to thirty sounds are taught in isolation yet the practice is not isolated, because students encounter the sounds in actual reading. Teachers would use a standard and consistent model - lead - test - retest method to

introduce and model each sound whether they are single letters or one of a variety of other sound combinations (diphthongs, vowel digraphs, r - controlled vowels, blends, etc.) Teachers would use SRA criteria or if using similar teacher made sound sheets, the criteria would be determined by the teacher.

Strengths of the Program

Chall (1989) discusses the usefulness of direct instruction programs when she says that reading programs that incorporate phonics as a component are superior to those with no phonics. She also suggests that students who are taught through direct skills methods get off to a better start than others, as Erickson's (1987) research also shows.

Rosenshine (1979) and Brophy (1979) concur with Chall's support for Direct instruction and phonics in their research on teacher effectiveness. Methods where the teacher explains, models, demonstrates and illustrates reading skills and strategies are well substantiated as the most effective, in their research. Some definitions of learning are equated with scores of achievement. Edwards suggests that such a definition involves a philosophical basis as well as necessary value implications. However, as our current system is very concerned with scores, research shows that students who are taught with direct instruction methods do better on achievement tests (Edwards, 1981 and Peterson, 1979).

Individualization

Although most authors use the term "large group instruction" (Ex. Goodman, 1992, and Peterson, 1979), Becker and Carnine (1980) suggest that small groups of five to ten students are more efficient than one - on - one instruction. Research by Edwards (1981) also suggests that grouping produces more successful learning than individualized approaches to instruction, such as whole language. Brophy (1979) also agrees that students do better in groups than those taught with individualized or discovery learning approaches.

There are many disagreements about what the outcomes of the school curriculum should be (Edwards, 1981), however, programs oriented to individualized needs fail because school requirements are currently based upon what is to be taught, not who is to be taught (Becker and Carnine, 1980). In groups, teachers are able to provide more adult direction, more prompts and reinforcement and more correction. Because groups are no more than ten students at a time, teachers are able to give true individualized instruction and attention to each student (Becker and Carnine, 1980). DI can also be said to be individualized because the entry level of the student as well as when and what types of correction and reinforcement are used and the number of trials needed to reach mastery depends on the individual student.

Teaching and learning strategies

The approach that a teacher takes should depend on two

things; the type of student being taught and the objective being taught. For example, if a student is to learn abstract thinking or inquiry skills, then DI perhaps is not the best method. However if a student is learning decoding skills, DI would be highly beneficial (Peterson, 1979). McFaul (1983) suggests that teachers should use a variety of methods because they provide excitement for students and therefore decrease boredom.

Learning strategies are behaviors that student use which facilitate learning. They are best learned when they are incorporated into classes like reading (Weinstein, et al, 1988). Strategies would include: study skills, mnemonic or other memory devices, making up analogies, summarizing, drawing charts and graphs, teaching someone else, or comparing and contrasting. Strategies such as decoding would best be taught through explicit instruction.

Edwards (1981), supports a combination of approaches, saying that some learning outcomes are better learned through one instructional approach than another, and he also supports students gaining exposure to a variety of approaches, just as Weinstein et al, (1988) does. These students who have such a flexible repertoire of learning strategies increase their chances of solving a reading problem because they have different strategies to choose from, rather than using one strategy to fit in a situation that it won't work in. When teachers can maximize the learning of students, the need for teacher dominated instruction is lessened.

Academic engagement time

Academic engagement time (AET) is described as time spent engaged on a task with few errors. The amount of this time is directly related to academic outcomes (McFaul, 1983). Research has shown that the more academic engagement time a student spends on a task, the higher their math and reading scores will be. Further, higher math and reading scores are related to Direct instruction. Time allotted for direct instruction provides constant engagement of students because the programs are so interactive.

Effective discipline and student management is accomplished because the brisk pacing limits or minimizes the distractions and disruptions, thus maximizing the students opportunity for learning. They are most often characterized by many overt group or choral responses (Becker and Carnine, 1980). Their research also shows that better academic outcomes are associated with more time, perhaps because more content can be covered.

Quality Control

Most direct instruction programs are scripted, especially SRA materials such as DISTAR, Reading mastery and Corrective Reading. The teachers manual tells the teacher what to do and say. Explicit behavior is scripted as well as pretested examples and sequences of instruction. The teacher doesn't have to figure out possible illustrations for the lesson or analyze teaching sequences. The trial and error of teaching is eliminated. The appropriate language of

instruction and learning sequences are the same across all classrooms, thus providing for a decrease of student confusion and adding to the quality of learning the students receive (Becker and Carnine, 1980).

Procedures for DI Instructional design

Becker and Carnine (1980) offer six "shifts" in implementation, to explain direct instruction programs. These shifts all lead to greater retention, transfer and rapid learning, all positive characteristics of effective teaching methods (Rosenshine, 1979). 1. Learning moves from overt to covert. In the beginning stages of direct instruction programs, every step is explicitly explained. By using prompts and overt responding, teachers can pinpoint the exact skill that may cause difficulty for an individual student. Gradually, the number of overt responses is decreased as students and teachers become more sure of mastery of skills.

2. Contexts move from simplified to complex. This refers to the building of knowledge from small steps to large concepts. Students learn sounds then how to blend sounds, then how to read two story words then how to read three line stories, then to tell what the story is about, etc.

3. Prompts are gradually faded. Modified examples and special wording, allow for successful interactions with reading in the beginning. As students' skills increase, such structure decreases. 4. Massed practice gradually becomes distributed practice. Massed practice in the beginning leads

to mastery learning. Once a skill is mastered, it needs to be remembered and applied to other situations. Distributed practice leads to greater retention through generalization.

5. Feedback which is immediate and constant in the beginning leads the student to feel successful personally and academically. As this feeling becomes self supplied by the student, it is delayed and decreased by the teacher. 6. The teacher acts as a source of information in the beginning. Gradually, as the student learns more skills and strategies, and can apply and generalize them more, the student becomes the source of information. The teacher then takes on the role of guide.

Criticisms of the Program

Direct instruction has constantly been criticized for being teacher centered, as opposed to student centered, and for the lack of input students have in choosing instructional goals and materials. Although not synonymous with whole language, open teaching, follows some of the components that characterizes it. Flexibility of space, students choice and decision making and integration of curriculum materials and activities is one thing which is not common to direct instruction programs (Peterson, 1979).

This researcher also found that students taught through direct instruction methods do worse on tests of abstract thinking, creativity and problem solving, and have poorer

attitudes toward school and their teacher, than do students taught by less structured methods. Edwards (1981) adds that students are not given an opportunity to think nor to be independent. He further argues that instruction in large groups inhibits the teachers ability to effectively monitor individual learning and doesn't take into account the different learning styles of children.

Learning Type

Peterson reported earlier that the approach taken should depend on the type of student. She goes on to identify two types of students; those with an internal locus of control, and those with an external locus of control. Students with an internal locus of control, feel that they have personal control over their successes and failures, and do worse at direction instruction approaches to learning. Students with an external locus of control, believe that someone or something else, outside of themselves, has control over their achievement. These students do better with direct instruction methods.

McFaul (1983) expands upon this notion suggesting that students with an internal motivation source feel controlled and assume that it doesn't matter, nor is it important what they have to contribute. Externally motivated students, such as those with lower abilities or disabilities, tend to need the structure and control provided by teacher directed methods of instruction. Obviously, teaching the same thing

in the same way ignores such preferences in learning style (McFaul, 1983).

McFaul's (1983) research and that of Peterson, (1979) supports the idea that high achieving and / or task oriented students do worse with direct instruction methods. They generally need to explain things to others and otherwise display their knowledge, and are stifled by the structure of DI programs. Consequently, critics of DI say that teachers are also stifled by the structure of such scripted programs (Becker and Carnine, 1980). Lower achieving students seem to prefer to be structured, perhaps because they lack the initiative to create or discover on their own (Peterson, 1979). Even this positive effect is said to dissipate once some of the structure is removed and students are left on their own (Gersten and Keating, 1987). Although this high structure may be engaging for some, Brophy (1979) suggests that it may be dysfunctional for others.

Meaning

Several proponents of whole language believe that self directed learning is the only meaningful learning. They suggest that direct attempts at instruction produce rote learning which is not meaningful (Weinstein, et al, 1988). Although rote learning is beneficial for learning isolated lists of information, it is ineffective for long term memory and application.

McFaul (1983), suggests that learning takes more than time on task. It requires making connections between what

students feel, know and believe and actual academic content. Students must be able to connect what they learn with some prior knowledge. Making personal relevance out of what students learn make it meaningful to them. When they are able to build bridges between what they are learning and what they already know (beliefs, experiences or attitudes), they see how the current knowledge is important and will put more effort into learning (Gersten and Keating, 1987).

McFaul (1983) agrees with the notion supported by direct instruction that teaching the basics is important to build and generalize future learning. She also believes that health, social responsibility and self - esteem are important and needed. These are meaningful concepts that are not addressed in direct instruction programs.

Application to Special Education

Some approaches to teaching reading suggest that students will develop better skills and effective strategies as they get older and mature, and as they spend more time in school. Weinstein, et al (1988), believe that many students won't develop these strategies without instruction. They further suggest that all students, especially those with educational disabilities, can benefit from explicit instruction in learning strategies.

Most research done in the area of the most effective teaching strategy for low functioning or otherwise learning disabled students, indicates that direct instruction is the

best method to teach students the specific skills needed to understand the conventions of the English language (Becker and Carnine, 1980). Peterson's (1979) research specifically states that low achieving / low ability students do better with direct instruction. A study by McFaul (1983) also suggests that Direct instruction is most appropriate for basic skills teaching.

Like Smith (1992), they suggest that the schools are at fault for being unable to adequately educate students with special learning needs. They suggest that schools are primarily designed to meet the needs of middle class, and consequently well educated, parents. Thus, the school system is failing to teach the English language systematically, in a way that is adequate for those students who don't get these skills at home. Speaking of the philosophies of whole language, these authors suggest that there is "no way" that students can learn the arbitrary conventions of the language system on their own.

If educational skill deficiencies are implied in labels, as Becker and Carnine (1980) suggest they are, then the Direct Instruction model serves to provide the approaches to solving problems related to skill deficiencies. Low achieving and low ability students are those who carry the labels such as "learning disabled", thus implying that they need an explicit rather than implicit skills education.

Since students with these learning disabilities are not proficient in the use of phonics and other sound blending strategies, they should be taught them. Such skills are

addressed in direct instruction programs. The faulty logic of many educators with regards to special education, has been to teach to the students' strengths and ignore the weaknesses (Idol and Rutledge, 1993). Such students are limited in the number of strategies that they can draw upon to aid in reading, such as decoding unfamiliar words. Through direct instruction, these students can be taught multiple strategies and be provided with just as many meaningful opportunities to come into contact with text.

Gersten and Keating (1987) agree with the above author, that in order for at risk students to succeed they need high quality direct instructional programs. Without them, these authors say that students will fail to realize their potential and lose ground. Such programs are beneficial for students to overcome their specific reading difficulties and read as well as their peers.

A study involving six 5th grade learning disabled students demonstrated the positive difference a structured reading program can make in the success of special education students (Frankowski, 1992). The study was conducted in a middle school in a transitional rural to suburban township in New Jersey. The subjects were students who had consistently exhibited difficulties with the Basal reading approach. Pre- and post- test results of using direct instruction reading strategies with such learning disabled students provided evidence that such instruction will increase reading achievement. In another study, thirty three learning disabled students in a middle class, suburban neighborhood,

were assessed on their ability to use grammar and other writing components to compose short stories. This study by Sawyer, et al (1992) found that students with learning disabilities who were taught composition skills with explicit strategy instruction received significantly higher scores on tests of writing performance, than did students who did not receive skill instruction through such direct teaching methods.

Marston et al (1995) conducted a study to determine the effectiveness of 6 research - based teaching strategies on the reading ability of 176 third and fourth grade students with mild disabilities. They were concerned with whether or not these approaches, which are advocated as effective, would actually lead to better achievement on the part of students with mild disabilities than the usual instruction they receive from their teachers. They suggested that the results of the programs as advocated by the program makers are often obtained under tightly controlled situations, and wondered if use of the programs in more natural circumstances would produce similar results.

The authors also questioned the differential effectiveness of the approaches. If all of these programs are indeed more effective than "ordinary" instruction, they wondered whether any of them would stand out in increasing the rate of student achievement. The subject used were students who received some resource room instruction. Ninety percent of the students received reading instruction from a special education teacher. All of the students participated

in the regular class for at least part of the day.

Thirty one teachers were trained in one of six methods. They include Peer tutoring, reciprocal teaching, computer - aided instruction, effective teaching principles and two forms of direct instruction. With peer tutoring, students learn academic tasks in dyads. One student plays the role of teacher, while another participates as the learner. This model provides high structure and close monitoring by the teacher. Reciprocal teaching helps develop the cognitive and metacognitive skills required for students to comprehend text. In addition, students receive instruction in decoding, sight word recognition and comprehension.

Teachers using computer aided instruction techniques were given instruction in the use of twelve teacher controlled software programs designed to teach or reinforce reading skills. Effective teaching principles emphasized the elements of effective teaching, including time on task, clear presentation of materials, corrective feedback, guided practice and monitoring of students.

Two forms of direct instruction were utilized in this study. The first was an SRA Corrective Reading program which focuses on signaling, choral responding, guided and independent practice, corrective feedback and reinforcement. This program is said to promote academic engagement time and increase student time on task. The other direct instruction program was one which applied DI principles to a basal reading series. The principles included were methods for review of letter sounds, words, sentences and stories.

Results showed that the only programs to produce higher gains in reading achievement than those reported by previous research on the program, were the computer aided instruction and the direct instruction (SRA) models. They also concluded, from these results, that greatest improvements are likely to occur from using computer aided instruction, direct instruction with a basal series or reciprocal teaching.

Comparison of Two Methodologies

In Support of Whole Language

Varble (1990) compares whole language and direct instruction in this way:

Whole Language	Direct Instruction
Whole to parts learning	Parts to whole learning
Process is most important	Product is most important
Language is based on experience	Language is based on a hierarchy of skills needed
Always write for personal purposes	Sometimes write for personal purposes
Needs → Writing → Skills	Skills → Writing → Needs
Language learned from context	Language learned from skill
Students choose	Teacher chooses
Informal evaluation	Formal evaluation
Invented spelling	Correct spelling

The purpose of this study (Varble 1990) was to examine the quality of second and sixth graders taught writing using either whole language or direct instruction approaches.The sample population consisted of 248 students from seven

schools in Western Indiana. The criteria for evaluation used included quality of content and mastery of mechanics. Samples of writing from students instructed in the whole language or direct instruction method for at least one year were collected and analyzed.

Results indicated that students in the second grade who were taught with whole language produced better writing samples when evaluated on meaning and content. However, there was no difference in writing samples in the correct usage of mechanics in either grade using either approach. The author suggests that these results are beneficial to support the validity of whole language. Although spelling, punctuation, complete sentences, sentence structure, grammar and usage is stressed in the direct instruction approach, there proved to be no difference in the quality of writing between students taught using the different approaches.

Like Varble, most proponents of either method who choose one method as best over another, do so by weighing the strengths of one against the other, or as is the case with Smith (1992), totally discrediting one to show the validity of another. He suggests that the philosophies behind many reading programs fail to take into account how we truly learn. He formulates two views of learning and calls them the official and informal views.

How Children Learn

The informal view is characterized as continuous, spontaneous, and effortless. He says that such learning

doesn't require any special attention or emphasis and that it occurs in all kind of situations. Here he is equating learning with human growth and development. As an illustration to prove his point, he uses the example of learning to speak. Children do this naturally, and on their own, without much intervention, help or specific instruction from others. He further states that learning is social and developmental; it is part of a collaborative process that one is not likely to forget.

On the other hand, the official view of learning is one that he believes many educators rely on. This frame of thought, sees learning as work. It is something that is a matter of individual effort, and is usually done in order to prove to someone else that a concept is known. Because this type of learning is not meaningful and really makes no difference, it is usually forgotten unless it's rehearsed or practiced. Smith uses words like "transient", "scientific", "controlled" and "dependable" to characterize this view of learning.

The first view of learning is equated with the philosophies behind whole language. He says that people who read to children and those who write books for children are in the best position to spark children's interest and get them interested in reading. "We learn from the company we keep", says Smith. Therefore, children will want to learn to read if that is what others around them do. He calls this being a member in the reading (and writing) club.

He dispels the notion that children will learn to be

dependent if they are read to by suggesting that children are too independent and too impatient by their very nature to let people read to them, when they can do it for themselves. Other authors suggest that a child's own curiosity and initiative will spur them to explore and discover what language in the form of reading and writing is all about (Willart and Kamii,1992). The skills approach to reading overlooks this natural motivation of children.

The Purpose of Reading

As opposed to teaching children the sounds of letters, which he says has no evidence of teaching reading, Smith (1992) contends that learning to read is a matter of identifying more and more words. He further indicates that children can learn to recognize many complete words in print if they are meaningful. In addition to demeaning the impact of phonics interventions by suggesting that there is no evidence to support the claim that children learn to read through such approaches, he goes on to demolish the strategies of phonics instruction by saying that the rules of phonics are complex and unreliable, and that no one could learn this way because sounding out words will produce incorrect products too often.

As opposed to unlocking meaning, which holistic approaches see as the purpose of reading, phonics approaches emphasize reading as the process of decoding sounds from symbols. Duffy (1992) supports this notion that direct instruction is characterized by a lack of emphasis on

understanding and meaning. He states that the materials and activities used in such phonics approaches are uninspiring, dull, boring and meaningless. He further suggests that although children may be taught to read using direct instruction methodologies, they still are not truly literate because they don't understand the elements of language used in real reading, like meaning, main ideas, or punctuation.

In recognizing some of the criticisms of whole language approaches, Smith rejects them. When whole language doesn't work, Smith argues that it is because of misuse or distortion of the principles, by teachers and administrators who either don't understand it or are afraid to relinquish control over classrooms. These educators, Smith suggests, are unable to realize that methods don't teach reading, but that people do.

A study in one kindergarten class suggested that children construct their own knowledge by going through steps and stages of trial and error. In this study, Willart and Kamii (1985) observed students from similar socioeconomic backgrounds, and compared their natural attempts at reading to the cognitive development stages outlined by Jean Piaget. The attempt to understand childrens' developmental processes with respect to reading came from the notion that children would learn to read sooner or later.

The teachers in the class identified several strategies that students used on their own to learn to read or otherwise understand or recognize print. They included; focusing on letters (known or unknown) or other letter / word configurations, using semantic or picture clues, copying and

using invented spelling respectively, and using invented phonics to sound out words. The authors called it "invented phonics" because the teachers provided no formal instruction in reading.

In response to the criticism that there are generally too many students in a classroom to give individualized reading attention, Smith (1992) says that the responsibility of the teacher is minimized when students are actively engaged in authentic learning activities and collaborative reading and writing. Willart and Kamii (1992) suggest that although it is harder to foster curiosity, initiative and confidence in children than to teach from a prescriptive method, it is more beneficial. They suggest that whole language principles will enhance a child's desire to read and write, because it will be meaningful to them to learn how to communicate effectively with others through reading and writing as well as speaking.

Thus, some educators and researchers suggest that reading instruction is not necessary; teachers need only to encourage and assist. However, Goodman (1992), an advocate of whole language himself, negates the idea that whole language excludes direct instruction, or other phonics approaches to reading. He concludes that whole language by its name alone implies that it should include phonics and other skills instruction.

At - Risk Students

And what about students who don't learn to read this

way? First of all, says Smith (1992), if children from poor classes, minority groups or those who are learning disabled, fail to learn to read using whole language, it is the fault of the school and personnel, not the method of teaching. He further states that all these children need to succeed is more sensitivity and patience, still supporting the notion of spontaneous learning, rather than more immersion in strategic instruction.

Smith, Reyna and Brainerd (1993) offer a response to Smith's (1992) discussion of the debate on learning to read. Smith dismisses the scientific study of learning as "nonsense", which leads to the official view of learning. One cannot dismiss this scientific view, not only because many effective programs are based on this model, but simply because it does have relevance. Not all scientific studies involve nonsense material. In a study of one volume of a journal of scientific study, twenty seven of the thirty - three articles reviewed involved subjects learning relevant and meaningful material (Smith, Reyna and Brainerd, 1993). In addition Smith (1992) fails to acknowledge the evidence provided in support of direct instruction and phonics methodologies, such as that of Jeanne Chall (see *In support of Direct Instruction*).

Another advocate of whole language (Goodman, 1992) disagrees with the phonics idea of the nature of the language process, and the phonics way to teach children how to read and write. He also puts this debate into a political light. He suggests that people other than educators and

educational researchers are using the issue of whole language vs. direct instruction to begin or continue political stands. Since all education, including literacy education, is political, this author suggests that the true battle between whole language and direct instruction is becoming more and more political. He further states that when politicians make statements like that made by U.S. Representative J.E. Brennan, "Whole language is the real cause of illiteracy...", it simply shows that politics is not ready for the philosophy of natural literacy.

Despite the lack of empirical research supporting the ability of whole language approaches to increase the reading achievement of students with disabilities or those who are otherwise at risk, one study demonstrated the inability of direct instruction methods to continue to be successful with teachers (Klesius et al, 1990).

Seventy four college juniors enrolled in reading methods courses in the Elementary Education program at the University of South Florida, served as the subjects for this study. They were instructed with either the demonstration - practice - feedback method of direct instruction called the Directed Reading Activity, or were instructed using videotaped and simulated classroom teaching performances.

Using a systematic observation instrument, the students were evaluated on their lesson delivery, based on the following factors: Student preparation, presentation of content, guided practice and independent practice. While the authors advocate the use of direct teaching and stress that

students need to be proficient in the use of such instructional strategy, the results of this study showed no short term differences in the performance of the students. However, results also showed that those students who were instructed without direct instruction, retained and used the information better over a longer period of time.

In Support of Direct Instruction

Direct instruction differs from whole language in two areas - Theory and Use of Phonics. First, whole language views learning reading as a natural process, and that it is not necessary to teach reading. Direct instruction views reading as needing to be taught systematically. One cannot compare learning to read and write with learning to speak, for instance. Nor can on equate such learning as effortless. Learning to read and write does take effort, because unlike the natural process of speaking, which also requires effort, written language was invented, therefore it needs to be learned systematically (Smith, Reyna, and Brainerd, 1993).

Second, whole language views reading as the same language - cognitive process at all levels of development. Direct instruction views reading in terms of the developmental progress of the learner. It can be said that Direct instruction is in fact learner centered because instruction moves from very structured basics to less structured refinements of language (Duffy, 1992). Although direct instruction is teacher centered in the sense that the

teacher decides what to learn, it is also learner centered because what is taught depends on what the students need to learn and can learn (Spiegel, 1992). Chall (1989) explains that students move from reading familiar texts, used to give practice at decoding and identification of words, to more advanced literature in which students look for word and story meaning, comprehension and critical thinking.

Phonics

Direct instruction favors the systematic teaching and learning of phonics. Whether called the relationships of symbols to sounds, decoding, word attack, word analysis, or sound symbol relationships, whole language undermines the necessity of such instruction. Proponents argue that students learn to discriminate the relationships between symbols and sounds through actually reading. Advocates such as Hatch (1992) ,Willinsky (1994) and Goodman (1992) prefer incidental phonics, not systematic phonics. They propose that phonics be used on an "as needed" or individual basis. Whole language as a "whole", simply does not accept the need for systematic phonics instruction (Chall, 1989). Duffy (1992) offers a humorous look at whole language without explicit skills instruction.

> "Students just jump into reading and start. It is fun and exciting and very meaningful (as long as you already know how to read or can learn to read without much assistance)."

Smith, Reyna, and Brainerd (1993) agree that a small number

of students will learn to read through exposure, but most will be unable to decode without instruction. They further suggest that if this was not so, there would not be the incredible adult literacy problem we face in this country.

Research

Contrary to the statements made by Smith (1992), there is research to support the use of direct instruction as an instructional strategy to teach reading. When students were compared, those who were exposed to direct instruction achieved more in reading assessments, particularly those "at - risk" (Chall, 1989). At - risk refers to students from low income families, those in the minority and students with learning disabilities.

Research has also shown that the best predictors of reading achievement (mastery learning, confirmation, reinforcement, high expectations and structure) are inherent components of direct instruction programs. The best predictor of early reading success was found to be phonological awareness; better than IQ (Chall, 1992). Chall also found that most successful remedial reading programs are teacher directed and highly structured, again, components of direct instruction programs.

In a study to determine the effects of direct instruction on reading skills, Stevens, et al (1991) suggest that direct instruction of strategies, particularly comprehension strategies in this case, is an important aspect of effective teaching. This study involved 468 students in

the third and fourth grades who were assessed on their ability to identify the main idea of passages.

This study investigating the impact of Direct instruction and cooperative learning on reading comprehension involved two experimental groups, and one control group. The control group used cooperative learning as a strategy to teach reading. Traditional approaches were used to teach main idea skills as prescribed by the curriculum. This was followed up with collaborative dialog discussing the topic from the standpoint of the importance of cooperation in order to achieve the team goals.

The other two groups used direct instruction. One group used direct instruction methods to teach main idea skills in reading groups, followed by independent practice of skills at the students seats. The second group again used direct instruction methods to teach main idea, but included cooperative practice during the initial learning. Students then practiced independently and checked each other's work.

Results provided evidence that students taught with either of the two experimental treatments that involved direct instruction on main idea strategies performed better in identifying main ideas of passages, than did other students in the control group. This research provides evidence of the significant impact of direct instruction on teaching students specific reading comprehension strategies.

At - Risk

Duffy (1992) suggests that at - risk students, as

defined above, cannot successfully learn from whole language methodologies. He implies that without explicit instruction and assistance, students will have a difficult time of "figuring out" the system of language and the strategies used in reading and writing language. They may not have the help of prior knowledge or support from persons at home to suggest the importance of reading. Students end up feeling like they're dumb or that reading is dumb. This perpetuates a cycle of failure.

Other support for this idea comes from Spiegel (1992), who suggests that reading disabled and poor children are unlikely to figure out the strategies needed for reading by themselves. Process oriented approaches to reading, such as whole language, may be inappropriate for minority and other at - risk students. They are held accountable for knowing a set of rules that they have never been taught. Upper class children generally come to school with some knowledge of reading codes, or rules. Lower class students do better at reading when these unknown codes are taught directly. In other words, they need to be taught why we need to learn.

Viadero (1991) reports on a school district that reverted to direct instruction after using whole language for over 6 years. This school district made a blanket decision, across the district, to stop using DISTAR (Direct Instruction Teaching Arithmetic and Reading) and start using whole language approaches. Central Administration in the District liked the fact the such methods focused more on literature and writing, whereas DISTAR was very heavily structured and

paced children through repetition and drills. After six years, eight of the 170 elementary schools in the district wanted to revert back to using direct instruction approaches. In addition to the decline of scores on standardized reading tests, principals said that the kids were "suffering". They weren't enjoying classes using whole language and were not meeting with the same success in school.

The schools opposed to whole language were in predominantly low socioeconomic areas. Teachers and principles argued that the students were doing poorly, partially because they were not getting the at - home support needed to make whole language work. Whitmore and Goodman (1992), whole language advocates, also stress the importance of home - school relationships. They suggest that parents are childrens "first teachers" and should participate in the natural learning process.

Project Follow Through was an educational experiment which began in 1968. The U.S. Office of Education implemented this program by applying twenty innovative programs to inner - city and rural schools in New York, Washington, D.C., South Carolina, Michigan, Illinois, and Texas. The purpose of the study was to determine the effectiveness of each program for educationally at - risk students. The Direct Instruction program was one of those used for the experiment. Researchers concluded that direct instruction was the most effective in teaching academic skills in mathematics, reading comprehension, and language (Gersten and Keating, 1987).

Classrooms at the K - 3 level were involved in the study. Students using direct instruction showed significant improvement in reading achievement on standardized tests. The majority of students performed at or above the national norm or grade level throughout the study (Bennett, 1994). Results also showed that students often performed significantly above their peers in traditional programs in local schools (Gersten and Keating, 1987).

The results of a longitudinal study done in 1982 showed that many students maintained the gains that were made in the early grades. Different states produced different results, but positive long term effects for students in the direct instruction programs were found. In Michigan, for instance, 20% of direct instruction students, as compared to 42% of comparison (non - direct instruction) students, demonstrated significant attendance problems (defined as 10 or more absences per year). Significantly fewer students (34% versus 55%) in rural South Carolina, had to repeat grades after Project Follow Through. In New York City, results of the follow - up study indicated that 40% of direct instruction students dropped out of school while 58% of the comparison group did so. The results of these studies overwhelmingly suggest that in order for such at - risk students to succeed, they need high quality programs in kindergarten and primary grades, but also in the intermediate grades and beyond (Gersten and Keating, 1987).

In Support of a Combination

In her 1989 article, Chall's presentation of the "reading debate" was that there were two ways to teach reading, through direct instruction or through whole language, perpetuating the dichotomy of reading instruction. In fact, many authors disagree with this view of instruction. Goodman (1992), a whole language advocate, implies the unfortunateness of the depiction of whole language as being an instructional method that compares unfavorably with phonics instruction. Duffy (1992) describes the dichotomy by saying that one philosophy relies on the exclusion of the other.

Chall later admitted (1992) that direct instruction is most effective when balanced with "open teaching methods and learning procedures". She expounds upon the developmental nature of the learner and the fundamental principles of direct teaching, by suggesting that as the reading abilities of students develop and become more proficient, the amount, nature and kind of direct instruction given can change or even decrease.

Many advocates of reading methods suggest that process is more important that product such as Willart and Kamii (1992). Whole language advocates who reject the notion of testing as a form of assessment may altogether reject the importance of product such as Smith (1992). However to suggest that product is not important in this society where adults are daily judged on the basis of product is a travesty. It is perhaps more realistic to acknowledge that

both process and product are of equal importance (Spiegel, 1992).

Similarities and Benefits

Chall (1992) found several similarities in the two programs. Both programs are concerned with enhancing student achievement in reading and writing. Both want students to develop a lifelong interest in and enjoyment of reading and language and to be motivated about it. Both want students to read all types of literature and text with high levels of proficiency, and with few students failing or falling behind. Both want teachers to be free to make decisions while at the same time employing methods that are useful and meaningful as opposed to those that represent mindless routine and procedure.

There are advantages to both programs or philosophies. Whole language excites teachers and students, allows them both freedom to choose experiences and activities, encourages them to read more inside and outside of school and uses authentic assessment (portfolios, and work samples) as opposed to standardized testing that compares students' achievement to that of others.

Direct instruction on the other hand, offers identified goals and objectives and specific strategic steps to take in order to reach those goals. It is characterized by systematic activities and assessment that relates directly to the objectives taught. The students and teachers focus on stated, explained and understood aims, and there is lots of

modeling and explanation, guided practice and independent application. Direct instruction teaches to mastery. The objective has not been accomplished unless true transference of knowledge has occurred and can be proven.

Building Bridges and Making Connections

There should be a balance and a sense of moderation in any instruction. Direct instruction and whole language in balance will produce better results than whole language without phonics or with incidental phonics (Chall, 1992). Teachers who use only whole language methods will cause their children to miss out on learning skills and strategies that help them grow and think as readers. On the other hand, teachers who use only direct instruction will perhaps stunt the creative growth of students because they may not have the opportunity to read and write in real situations.

An "all - or - nothing" stance seems to benefit no one. Rather, a combination of both systematic direct instruction and whole language will provide students with what works best for them. Duffy (1992) calls this "adaptive teaching". Teachers should be able and allowed to choose a model of teaching that works for them as individuals and meets the need of their individual classrooms. He goes on to indicate what aspects of each model could be incorporated. From holistic principles, one could take the concept of authentic activities and evaluation, based on real activities or products, not contrived exercises or arbitrary assessments, such as standardized tests. From direct

instruction, one could incorporate the concept of direct teaching of skills, and the progression of instruction, from highly structured to less teacher intervention.

Teachers should begin to think in terms of a continuum rather than a dichotomy. They should "blend the best of both" and build bridges to provide children with the best and most opportunities to reach their literal potential (Spiegel, 1992). Whether called inspired teaching, empowered teaching, or just making good sense, making connections between two obviously worthwhile and effective programs would serve to be more effective with more students than not.

Chapter 3

Research Design

Background

In this study, I have examined the reading achievement of six students classified as perceptually impaired based on the reading method they were instructed by. The students are from an elementary school of approximately 550 students, located in a large urban school district in New Jersey.

Subjects

Four of the six subjects are in the same self contained special education class. There they receive direct instruction in reading, math, language and spelling. One of the four subjects in this class is mainstreamed for reading and math. This subject goes to a regular first grade class for approximately three hours each day. She is instructed in reading using whole language approaches which incorporate a few literature based lessons. The other three subjects in the class do not leave the classroom for any academic subject. Their reading instruction is based on SRA's Reading Mastery Program. The entire class is integrated into a regular first grade class for all special areas (art, music,

and gym) four times a week. Consequently, they go to the same class that the other subject is mainstreamed into for reading and math.

Another of the subjects is in a different self contained class. He is mainstreamed to a first grade class for reading, math, social studies and science. Direct instruction is not used for any of these subjects, however, whole language is used, with a literature base, to teach reading. His self contained class is also mainstreamed for special areas.

The sixth subject was to be a student in the previously mentioned first self contained class. She was mainstreamed for reading and math as well, however, she transferred out of the school after the study had already been planned. She was substituted with a classified student who is in a regular first grade class for the full day. He is classified as perceptually impaired and receives in class support for reading and math. In class support is defined as educational support from a special teacher (resource teacher) who comes into the classroom at the scheduled reading and math time and reinforces what the regular teacher does in instruction.

The six subjects chosen ranged in age from 6.1 - 8.3 (average age 7.2) at the start of the study. Reading levels range from Primer to 2.0. There are two female subjects and four male subjects. Two of the subjects are of African American descent, three are Hispanic and one is Caucasian. Two students were from two - parent households, two are from single parent homes, one is being raised by a grandparent,

and another by two adoptive parents. All students were from low socioeconomic backgrounds, as evidenced by their eligibility to participate in the district's free - lunch program.

The students disabilities are manifested through an inability to achieve academically, at the expected rate of age appropriate peers. In addition, one subject has a severe speech impediment (primarily articulation). He receives speech therapy twice a week for 35 minutes.

The students' perceptually impaired classification implies a learning disability or "...impairment in the ability to process information due to physiological, organizational or integrational dysfunction which is not the result of any other educationally disabling condition or environmental, cultural or economic disadvantage, and is characterized by... a specific learning disability manifested by a severe discrepancy between the pupil's current achievement and intellectual ability in one or more of the following areas: (1) basic reading skills, (2) reading comprehension, (3) oral expression, (4) listening comprehension, (5) mathematic computation, (6) mathematic reasoning, and (7) written expression" (New Jersey Administrative Code, Title 6, Chapter 28 - Special Education).

Assessment Instrument

The students were assessed on the Pre - inventory component of the California Achievement Test in the areas of reading, spelling, language and mathematical concepts.

Specifically, students were assessed on reading vocabulary, reading comprehension, decoding and word analysis, study skills and language. According to the Tenth Mental Measurements Yearbook, the purpose of the test is to "...measure achievement in the basic skills commonly found in state and district curricula". In addition to including subtests of study skills, social studies and science, students in special education classes were given locator tests to match them with the appropriate functional level, whether it is above or below their expected grade level. Students in the regular classes were given the first grade through fifth grade level of the test.

This standardized test is used district wide, on the elementary level for all regular education students. Special education students are generally exempted from the test presumably because they are measured on a wide range of skills, many of which are not part of the curriculum, or are not covered in time or mastered by students. The same can be said of the regular education population in some cases, but this standardized measure continues to be used.

All of the subjects chosen for this study, though classified students, took this test as a pre - inventory test at the beginning of the treatment period in September, and again as a post test at the end of the treatment period in April. Of the three subjects taking the test from the first self contained class, the DI group, the scores of two of the students will not be coded for district norms. In other words, their scores will not be averaged into those of the

rest of the district. Their taking the test is strictly for test taking practice and diagnostic purposes. The other full day self contained student's scores will be included in the district norms as will the scores of the three mainstreamed students.

Students were also given an attitude survey (Appendix A) in an attempt to measure their perceptions toward, and / or attitudes about reading.

Treatment

Direct Instruction Group

Students in class one for the full day are taught reading using a direct instruction program called SRA (Scientific Research Associates) Reading Mastery. This program is designed to improve and accelerate the rate of decoding, pronunciation of words, whole word identification, timed sentence and passage reading and reading comprehension.

The Reading mastery format is highly structured and fast paced. All lessons are scripted so the teacher knows what to say and do at any point in the lesson. Remediation techniques are provided and used based on the type of error made. Not only are there explicit error remediation techniques in the teacher's manual, there are charts for error correction procedures on the wall where the teacher can see them at any given point during the lesson. They are also posted as a requirement of the Special Education department.

Error correction usually consists of immediately stopping the student or students, telling them the correct

response, and requesting that response again. This trouble spot must be reviewed at least three more times before the lesson is completed. Such delayed practice let's the teacher know if the error was internalized or if the skill truly has been learned.

The program is set up with a spiral design. This means that skills are introduced in one lesson and practiced and repeated often. However, even after the skill is mastered, it is not dropped. Students get distributive practice on skills because they reappear seemingly randomly, throughout the lessons. Progression of skills moves from easy to difficult, and structure is high when a new skill, sound or concept is introduced. As the skill is repeated and assumingly mastered, structure decreases and students do not get as much repetition or as many prompts. This program involves corrective feedback in the form of contingent praise and points for good behavior and correct answering or reading of sounds, words and sentences which, in addition to independent practice in a workbook, translates into a grade for the lesson.

Students are expected to master one lesson each day in this series. If skills are not mastered at that rate, students are re - taught, or the skill is reviewed in some other way. For example, if there are 12 exercises in a lesson, and the students only master 7 of those exercises, they must repeat the other five until they are mastered. The teacher can progress to the next lesson on the next day if, after reviewing the five exercises the students had problems

on, they show significant improvement. If only one student is having difficulty, that student is given opportunities for individual practice rather than repeating the lesson or exercise for the entire group. However, if more than one student is not at mastery, the group must repeat the skill.

Mastery as defined by the program manual, is when all students respond, correctly, on signal, the first time, and without any prompts from the teacher. There is an emphasis placed on choral responding during the initial practice of a new skill, but once that skill is determined to be mastered by the group, it must be determined to be mastered by individual students.

Students in this program receive at least 45 minutes of reading instruction each day. Students are taught in small groups of 6 - 8 students. Here they do group activities which involve sound identification, sound blending (sounding out), rhyming, picture identification, sound and symbol discrimination and word and sentence reading. As the students progress, sound and symbol identification, pronunciation and discrimination decreases and word, sentence and story reading increases.

After oral exercises are completed, the students work in a work book. Called the "take home", students read a story (whether one word or 2 pages depends on the students progression in the series), and review independent exercises which they are to complete on their own. The independent exercises consist of word and sentence writing, symbol and word matching, sound writing, or identifying and / or

discriminating pictures that show what a word says, or vice versa. For example, a box may contain a picture of a shell and the word wagon. As this is incorrect, the student would cross it out. However, if the picture showed a dog house and the word said dog house, the students would circle it, color it or otherwise indicate that there is a match between the picture and the word. Students who continue to exhibit difficulties are referred to the instructional assistant in the class for further remediation after the lesson.

Whole Language Group

Students who are mainstreamed receive whole group reading instruction which is presented with a whole language approach. In the regular class, these students use a Houghton Mifflin Whole Language Series five days a week. Lessons were said to take all day, because everything is connected and based on the literature or reading they have done. The reading instruction includes language and spelling.

The day/ week typically begins with a story. Students are actively engaged in reading the story with the teacher or alone, and the rest of the subjects flow from this story. Spelling words are based on the words in the story, and math problems may be the same as those encountered in the story (using character names for word problems). Even social studies and science activities can come from the story (family concepts, plants and animals, etc.)

Teachers use teacher made tests once or twice each week

to diagnose the students' progress. Teachers are encouraged to teach higher order thinking skills and help students approach tasks from a problem solving standpoint. The evaluations used in class should represent all levels of Bloom's taxonomy.

Procedure

Students in the direct instruction group received 45 - 50 minutes of reading instruction each day (five days per week). They received 45 - 50 minutes of language instruction and 30 - 40 minutes of spelling instruction separately, three days per week. Students in the whole language group received approximately two hours to two and one - half hours of communication arts five days a week. Communication arts includes reading, language and spelling.

In addition to CAT reading scores, intermittent test data, and quarterly report card grades and averages were recorded. Data was gathered for the direct instruction group through periodic mastery tests. The Reading Mastery series tests students in two ways. Every five to ten lessons students are orally tested on skills they are presumed to have mastered thus far in the lessons. Every twenty lessons, students are given a written mastery test on similar skills. Students are expected to achieve at least 80% accuracy to continue to the next lesson without remediation.

The district offers Quarterly Topic Plans (curriculum guides) which dictate what should be taught and when. These plans determine what skills are to be covered in one marking

period, or quarter. Regular education teachers make up their daily lessons and lesson plans based on these QTPs. Periodic tests are teacher made and are based on the progress through the curriculum.

In addition to such periodic tests (weekly or twice each week) the whole language group is tested each quarter (approximately 45 days) with a Quarterly Checkpoint Test. These tests are generated by the curriculum department and are directly in line with the QTP. Scores on the quarterly checkpoint test provide a picture of the students' progress in communication arts. The topics or areas covered in each QTP, thus in each checkpoint test, include: word analysis, vocabulary, decoding and spelling, reading comprehension, language mechanics and written expression, and study skills (locating, organizing and remembering).

Chapter 4

Results

Review of Research Design

The purpose of this study was to investigate the effectiveness of the whole language and direct instruction methods of teaching reading to students classified as perceptually impaired in self contained and mainstreamed classrooms.

Students were given a pre- and post- inventory version of the CAT V. The pre- test results were obtained in September. The post- test results were obtained in April. Sub - areas evaluated include: Word analysis, Vocabulary and Decoding, Comprehension, Language and Study skills.

Results

Pre- inventory test

Pre- test results, prior to seven months of intervention, indicated that students in the Whole Language group scored better overall on the inventory test. Scores were higher on word analysis and study skills sub tests for students in the whole language group. The direct instruction

group scored better than the whole language group on sub tests of vocabulary / decoding, comprehension and language mechanics.

District standards require that students score an overall average score of 85%, to have passed the test. According to these district mandates, out of the six subjects tested on the CAT pre- inventory test, no student passed. Four students scored below 60%;two from the whole language group and two from the direct instruction group. One student, from the whole language group, scored between 60% and 69%. One student, from the direct instruction group got the highest score on the test, which was an 83%. See Table 1 for a breakdown of scores according to district criterion.

Post- inventory test

Post- test results show an increase in scores for all students in both groups. Unlike pre- test results, post- test results indicated that students in the direct instruction group scored better overall than did the students in the whole language group. In addition to averages being higher for the direct instruction group, the difference between pre- and post- test averages was higher. Pre- and post- test results for the CAT are available in table 2.

Although students in the whole language group scored better on sub tests of word analysis, comprehension and language mechanics, students in the direct instruction group scored higher on sub tests of vocabulary and decoding and study skills. Also, an analysis of the difference between

Table 1 - District Criteria Analysis

PRE- TEST					POST- TEST				
Percent	# of students	Group	Average	Pass?	Percent	# of students	Group	Average	Pass?
100%					100%				
99% - 90%					99% - 90%	1	D.I.	94%	Y
89% - 80%	1	D.I.	83%	N	89% - 80%	1	W.L.	82%	N
79% - 70%					79% - 70%				
69% - 60%	1	W.L.	61%	N	69% - 60%	2	W.L. D.I.	60% 66%	N N
Below 60%	4	D.I. W.L.	20&,48% 39%,58%	N N	Below 60%	2	W.L. D.I.	59% 48%	N N

W.L. - Whole Language
D.I. - Direct Instruction

Table 2 - CAT Pre / Post Test Results

WHOLE LANGUAGE GROUP	Word Analysis		Vocabulaary/ Decoding		Comprehension		Language		Study skills		Total Test		Diff-erence
	Pre-%	Post-%	Pre- %	Post- %	Pre-%	Post-%	Pre-%	Post- %	Pre-%	Post- %	Pre- %	Post-%	
Student 1 (TS)	79	72	33	64	16	73	0	56	67	33	**39**	**60**	+21
Student 2 (AD)	63	92	83	67	50	83	52	91	56	78	**61**	**82**	+21
Student 3 (MC)	83	89	33	18	73	80	47	62	56	44	**58**	**59**	+1
DIRECT INSTRUCTION GROUP													
Student 1 (MS)	50	71	83	67	42	67	48	48	22	78	**48**	**66**	+18
Student 2 (MV)	71	92	67	100	100	92	79	97	100	89	**83**	**94**	+11
Student 3 (NB)	17	29	14	16	10	75	19	55	41	67	**20**	**48**	+28

pre- and post- scores for each group shows that students in the direct instruction group had a greater amount of improvement on the word analysis, vocabulary and decoding, and study skills sub tests. See table 3 for a comparison of scores for sub tests.

According to district standards, one student passed the post- test. The student's score was 94%. This students was from the direct instruction group. Although not passing, the next highest score was for a student in the whole language group. This student missed the passing mark by 3 points with an 82%. Two students, one from each group, scored between 60% and 69%. Finally, one student from each group scored below 60%. See table 1 for a further analysis of district criterion.

Classroom data

Table 4 shows the averages reported from classroom measures. These include Quarterly Topic Checkpoint grades, unit tests and classroom performance scores, for students in the whole language group. Quarterly averages for students in the direct instruction group are computed from grades for periodic mastery tests given in the SRA reading series, teacher made tests and classroom performance.

These report card grades show that 2 out of 3 of the students in each group had averages which increased from the first to the third quarter. A group score for average reading achievement based on classroom activities for the whole language group is 85%, while the same for the direct

Table 3- Comparison of Two Groups

SCORE	WHOLE LANGUAGE		DIRECT INSTRUCTION		DIFFERENCE Overall		Gain	
					W.L.	D.I.	W.L.	D.I.
CAT Pre Total	53		51		+2		+14	+19
CAT Post Total	67		70			+3		
	PRE-	POST-	PRE-	POST-	W.L.		D.I.	
Word Analysis Total	75	84	46	64			*	
Vocab. / Decoding Total	50	50	55	61			*	
Comprehension Total	46	79	51	78	*			
Language Total	33	70	55	67	*			
Study skills Total	60	52	54	78			*	

* Greater amount of improvement

Table 4 - Quarterly Averages

WHOLE LANGUAGE GROUP	FIRST Quarter		SECOND Quarter		THIRD Quarter	
	Average	Letter grade	Average	Letter grade	Average	Letter grade
Student 1 (TS)	87.3%	B	82.2%	B	76%	C
Student 2 (AD)	92%	A	85%	B	95%	A
Student 3 (MC)	76%	C	80%	B	87.6%	B
DIRECT INSTRUCTION GROUP	Average	Letter grade	Average	Letter grade	Average	Letter grade
Student 1 (MS)	93%	A	91%	A	89%	B
Student 2 (MV)	91%	A	90%	A	96%	A
Student 3 (NB)	75%	C	87%	B	83%	B

instruction group is 88%.

Attitude Survey

The students were given an attitude survey to determine their feelings about reading. Each student was asked to indicate whether or not they agreed with a positive statement about reading and the degree to which they agreed or disagreed. Students could respond in one of three ways to each statement: very much, a little or not at all.

Results were closely split. Slightly over one - third of student responses were "very much" and slightly under one - third of the responses were "a little" or " not at all". Since two of the choices offered for responses would indicate some like or acceptance of reading, it can be said that approximately two - thirds of student responses indicated positive attitudes towards reading. See table 5 for number of responses.

The responses of both groups were very similar. In the whole language group, 22 responses were "very much", 19 were "a little" and 18 were "not at all", for a total of 60 responses. In the direct instruction group, students responded "very much" 24 times, "a little" 18 times and "not at all" 19 times, again, for a total of 60 responses.

Table 5 - Attitude Survey Results

Group	Response A - Very Much	Response B - A Little	Response C - Not at all
Whole Language Group	22	19	18
Direct Instruction Group	24	18	19
Total	46	37	37

Chapter 5

Conclusions

Review of Hypothesis and Results

In this study I looked at the difference in effectiveness of two reading methodologies as evidenced in reading achievement. The two reading methodologies examined were whole language and direct instruction. Subjects used for this study were special education students classified as perceptually impaired. These students were being serviced either in the self contained classroom, as was the case with all students in the direct instruction group, or they were being serviced in the mainstreamed classroom, as were the students taught using whole language methods.

My hypothesis was that special education students taught using the direct instruction method would have higher reading achievement scores than the students taught using whole language methods in the regular classroom. Results indicated that both groups showed growth in reading achievement. The two groups were given a pre- and post- inventory version of the CAT V. Students in the whole language group had higher scores overall in the pre- test. However, the post- test showed that students in the direct instruction group had higher scores overall when averaged. In addition, students

from the direct instruction group made greater gains, as evidenced by the post- test results.

Discussion of Results

CAT V

Although one group scored higher than the other in both the pre- and post- tests, the difference in scores was minimal. The whole language group scores on the pre- test were only 2 points higher than the direct instruction group. Similarly, the direct instruction group total score was only 3 points higher than the whole language group on the post- test. Direct instruction students also had a slightly greater increase in scores than did the students in the whole language group. These results can be said to support the notion that perceptually impaired students do better in reading when taught through direct instruction methods. However, these results do not offer very strong evidence of such a conclusion.

Student scores on sub tests fluctuated greatly. Sub test scores ranged from 0% to 83% on the pre- and from 18% to 92% on the post- test for the whole language group. Direct instruction scores ranged from 10% to 100% on the pre- and from 16% to 100% on the post- test.

Sub tests include word analysis, vocabulary / decoding, comprehension, language mechanics and study skills. Each student improved overall, although several of them scored lower on some sections of the post- test than they did on the pre- test. Students in the whole language group scored

the same on the vocabulary / decoding sub test, which could suggest little growth in this area. This is conceivable as whole language does not stress decoding skills. In addition, the group score dropped on the test of study skills, by eight points. This could indicate, again, a lack of stress being placed on the importance of study skills. The direct instruction group improved on all sub tests.

Student improvement was greatest for the direct instruction group on the sub tests of word analysis, vocabulary / decoding and study skills. The whole language group had the greatest amount of improvement on the sub tests of comprehension and language.

Quarterly Averages

Again, there was great diversity among the quarterly averages of the students in each group. Students in the whole language group had averages which ranged from 76% to 95% (grades A - C). The direct instruction group had averages ranging from 75% to 96% (grades A - C). The group average for the whole language group was 85% while that of the direct instruction group was 88%. In each group, two out of the three students showed some growth or improvement in reading averages from the first to the third quarter. These results suggest that the groups were similar in makeup, yet does not offer strong support for the growth of one group over another.

Attitude Survey

Students were given affirmative statements about reading and were asked to indicate the degree to which they agreed or disagreed. Slightly more of the direct instruction students' responses were very positive (very much). The direct instruction group had 24 "very much" responses while the whole language group had 22 responses. This shows that more than one - third of the students responded positively about reading in each group. Since two of the choices offered for responses would indicate some like or acceptance of reading, it can be said that approximately two - thirds of the students have some degree of affinity or tolerance for reading.

Comparison of results with results of similar studies

Whole language is a process of teachers choosing options rather than prescriptions. It is a philosophy of teaching that allows teachers to choose activities, strategies, and methods that both work well for her class, but also allow students to learn what they need to know. Jordan and Smith (1992) suggest that teachers should not be bound to one method but should use a variety of methods, strategies and activities that allow students to encounter the relationship between language, and other academic subjects, and real life.

Most whole language proponents reject using direct or skills teaching. Willinsky (1994) suggests such teaching methods are artificial. Others, such as Shanahan (1991) and

Hatch (1992) suggest that there is some need for strategic use of direct instruction, for example in the area of word analysis. The scores for both the pre- and post- test were higher for the whole language group, although the direct instruction group showed a greater increase in scores. This offers support for the need of some skills instruction in whole language classrooms, as both Goodman (1992) and Chall (1992) would agree.

Students in the direct instruction group scored higher in the pre- and post- test in the area of vocabulary / decoding. They also showed the greatest amount of improvement on this sub test. The whole language group showed higher scores on the sub tests (pre- and post-) of comprehension, and had a greater amount of improvement on this sub test. Edwards (1981) suggests that some learning outcomes are better learned through one instructional approach than another.

Peterson (1979) found in his research that students taught using direct instruction methods do worse on tests of comprehension, abstract thinking, creativity and problem solving. Erickson (1987) concurs with this research and adds that direct instruction methods are best for teaching word attack and decoding. McFaul's (1983) study also concluded that direct instruction is most appropriate for basic skills instruction such as decoding and vocabulary.

The difference in scores on the comprehension sub test would suggest that students taught using whole language were better prepared to think and comprehend, while direct

instruction students were better at decoding and vocabulary, which a skills based approach like direct instruction would focus on.

Limitations of Study

This study was limited in the number of subjects available. Results could have been more conclusive if there were more subjects used. However, identifying 6 students who fir the criteria selected was a task in itself. The students chosen were all classified as perceptually impaired, and were being serviced in self contained or regular classrooms with or without support. They were all functioning on the first grade level and were taught with either direct instruction or whole language methods.

However, students were on different plateaus within the first grade level. They had different strengths and weaknesses and different levels of understanding. This is typical with most groups of children, but the study may have been more concise if variables such as cognitive functioning, language ability and even age, could have been controlled for.

Another limitation was that students in cities move often. The six students selected for the study in September changed many times. It was difficult to replace students who left with students who met the criteria and fit into the specifications laid out for the original student. If more than six subjects are used, and the study is open to many more children, it may not be so hard to replace subjects, or

easy to eliminate other students. Numbers would be high enough that one student dropping out will not disable the study.

Implications for future research

Results indicate an improvement in several areas in the direct instruction group, but they also indicate such in the whole language group as well. The results support research that suggests direct instruction is better for certain academic subjects, and that whole language without some sort of direct teaching will leave students lacking in certain areas.

It might also be worth while to take this same study further by incorporating writing ability of students. Reading inventories could be done as pre- and post- tests to determine the exact level of functioning at the beginning and end of the study, and some test of cognitive functioning could give an idea of the difference or similarities in the preparedness of students.

Many previous studies have shown that direct instruction has proven to be effective with environmentally and educationally "at - risk" students, while whole language instructional approaches may be better suited to those students who are functioning at their age and grade appropriate reading levels. However, very few programs have shown effectiveness in increasing reading achievement with all students in all educational settings.

The district selected for this study insists on

separating the instructional methods used for students in regular and self contained classrooms. This does not take into consideration the special education students who may be returning to the regular whole language classroom from the direct instruction self contained class. These two programs are incorporated into the district with no bridge between them.

It is evident from this research that students will learn and improve with either method, however, all students will not improve in all areas of reading with only one of the programs. Because of the successes of both programs in different areas, it would not be wise to dismiss one in favor of the other. Rather, teachers should be allowed to use different methods to teach different areas, as evidenced by the effectiveness of one or the other in that area. By continuing to use two very different methods of teaching reading, the gap between student in the mainstream and those in self contained classrooms is widened.

Conclusions

This study investigated the effectiveness of two reading methodologies, whole language and direct instruction, with students classified as perceptually impaired and being educated in the self contained or mainstreamed classroom.

Six subjects were selected. Three students were being instructed in reading in the regular classroom and were taught using whole language methods. The other three subjects were taught using direct instruction in the regular

classroom.

The students were given a pre- and post- inventory version of the CAT V, in September and April respectively. For the seven months between pre- and post- assessment, the students were taught reading through direct instruction or whole language methods. Students were also given an attitude survey about reading, and were asked to indicate the degree to which they agreed or disagreed with affirmative statements about reading.

Results indicated that although students in the whole language group scored higher overall on the pre- test, the direct instruction group scored slightly higher on the post-test. The direct instruction group also made greater improvement gains in the areas of vocabulary / decoding, and word analysis, and overall, while the whole language group showed greater improvement in the areas of comprehension and language.

The attitude survey revealed generally positive attitudes toward reading. Approximately two-thirds of student responses were positive indicating that there was a like for reading in general among both groups of students.

This research suggests the need for a balanced program of whole language and direct teaching of skills for reading instruction. Students who are classified as at - risk or are classified, specifically perceptually impaired, will benefit from both a holistic approach and a specific instruction of skills. To isolate the reading methodologies used with students based on their placement is to ensure the success of

some students and failure of others in several areas of reading.

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APPENDIX A

Name_____

Directions: Read each question. Circle your response -
(A)- very much,(B)- a little,(C)- not at all

1. I like to come to school.	A	B	C
2. I like it when we read at school.	A	B	C
3. Reading is my favorite subject in school	A	B	C
4. My teacher reads to me.	A	B	C
5. I like it when my teacher reads to me.	A	B	C
6. I like to read on my own at school.	A	B	C
7. I like to read on my own at home.	A	B	C
8. I think I am a good reader.	A	B	C
9. I like readng books and stories.	A	B	C
10. I would rather read than play a game.	A	B	C
11. I would rather get a book than a toy for a gift.	A	B	C
12. My classmates read to me.	A	B	C
13. I like when my classmates read to me.	A	B	C
14. I like to read silently.	A	B	C
15. I like to read out loud to others.	A	B	C
16. I like it when others read to me.	A	B	C
17. My parents or family read to me.	A	B	C
18. I like it when my family reads to me.	A	B	C
19.Story time is my favorite time of the school day.	A	B	C
20.I would rather read a book than play with a toy.	A	B	C