

12-2001

The effects of multi-sensory teaching practices on the reading fluency and comprehension of bilingual 2nd grade students

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**THE EFFECTS OF MULTI-SENSORY
TEACHING PRACTICES ON THE READING FLUENCY
AND COMPREHENSION OF BILINGUAL 2ND GRADE STUDENTS**

A Thesis

By

Gloria Gonzalez

**Submitted to the College of Education
University of Texas Pan American in partial fulfillment
Of the requirements for the degree of
MASTER OF EDUCATION**

December, 2001

Major Subject: Bilingual Education

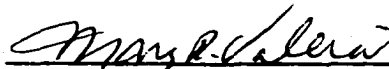
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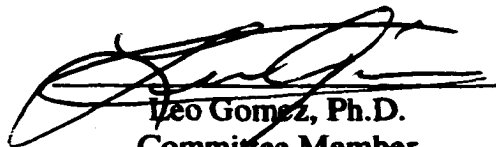
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December, 2001

ABSTRACT

Gonzalez, Gloria, The Effects of Multi-sensory Teaching Practices on the Reading Fluency and Comprehension of Bilingual Second Grade Students. Master of Arts (MA), December, 2001, 34 pp., 21 references.

Language, the heart of the educational process, is the vehicle through which students are primarily being educated and prepared throughout their schooling (Lam, 1996). Language acquisition is described as having four processes: socio-cultural, linguistic, and academic and cognitive. Teaching, learning, and curriculum content must; therefore, be culturally meaningful, interactive, and collaborative. Since a student's learning style is a major contributing factor in teaching and not all students learn in the same manner, educators must know and understand the bilingual and bicultural child's identities and emphasize interdisciplinary, cooperative, and multi-sensory lessons in their classrooms (Chamot, 1994). Educators must incorporate the wealth of knowledge and skills that students bring and develop these further through appropriate instruction. This study examined the effects of multi-sensory teaching practices on the reading fluency and comprehension of bilingual second grade students.

DEDICATION

TO

God for giving me a very supportive and understanding husband (Arturo) and sons (Arturo Jr. and Eduardo) who encouraged me to further my educational goals.

ACKNOWLEDGEMENTS

My sincere appreciation to the members of my thesis committee, Dr. Mary Valerio, chair, Dr. Leo Gomez, and Dr. Dalinda Solis, committee members. Their guidance and assistance facilitated the process to write this paper. Without their advice and support this endeavor would not have materialized.

I would also like to thank my principal, Mr. Ricardo Saenz, colleagues and students for their cooperation enabling me to undertake this project. Their encouragement made this study possible.

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CHAPTER 1

INTRODUCTION

Reading is essential to succeed in our society. The ability to read is valued and important for social and economic advancement. In a technological society, demands for higher literacy have increased tremendously.

Statement of The Problem

Increasing school failure among language minority students, as shown by high dropout rates and underachievement, support the need for teachers who teach minority students to decide what needs to be provided in the classroom. According to research-based programs for reading instruction, students' reading behavior problems and assessments (formal tests to performance tasks), it is critical that schools not only provide students with quality teachers whose language and cultural backgrounds are similar to enhance their academic achievement but also the appropriate use of reading materials to best serve their needs.

This study will attempt to address the following research question:

What are the effects of multi-sensory teaching practices on the reading fluency and comprehension of bilingual second grade students?

Research Question

Research states that limited English proficient students (LEP) who are literate in their native language will find it easier to transfer into the second language (Cummins, 1981). These students have developed a primary language proficiency in linguistics

(knowledge of the rules and systems of a language) as well as communicative competencies (knowledge of the social rules of language use). Research (Short, 1998) shows also that those with limited formal schooling or those who are not literate in their native language, experience significant gaps in their educational backgrounds; lack knowledge in specific subject areas, and need time to become accustomed to school routines and expectations.

A student's learning style is important for all teachers to consider, including teachers with diverse populations. Students may either be audio, visual, tactile, or kinesthetic; therefore, the best approach would be to involve as many of these multi-sensory teaching practices as possible. Interactive teaching entails many factors: social, linguistic, maturational/biological, and cognitive elements that are dependent upon interaction with and modifying one another (Vygotsky, 1978). These elements change the teacher's controlled environment to one that lowers anxiety and frustration levels.

This allows for teacher and pupil progress in the study of reading achievement for both fluency and comprehension. Fluency is defined as the ability to read words in connected text with accuracy and appropriate rate. It is also demonstrated by appropriate intonation. It reflects students' comprehension of words/understanding of text structure. Fluent readers possess automatic word identification skills and are aware of grammatical features of sentence construction. They also have the flexibility to adjust their rate to both the difficult level and the purpose of reading. Comprehension depends on the ability to identify familiar words quickly and automatically. It also depends upon the understanding of word meanings, on the development of meaningful ideas from groups of words (phrases, clauses, and sentences) and the drawings of inferences. Comprehension

also depends upon the demands of the text (concepts and density), and the knowledge the reader brings to the text.

In an attempt to examine the issue of multi-sensory instruction and its impact on the reading achievement of LEP students, the study will address the following research question:

What are the effects of multi-sensory teaching practices on the reading fluency and comprehension of bilingual second grade students.

Chapter II

REVIEW OF THE LITERATURE

Introduction

In reviewing the literature, much information was evident and relevant to the methods, techniques, or approaches that could be utilized in the classroom. The value of all these possible resources can make for a successful classroom environment conducive to learning. During the past several decades, research on meaningful teaching practices reveal an understanding of the abilities that lead students to succeed with reading.

Research-based programs for reading instruction provide comprehensive, well-organized instructional plans and practice opportunities to allow children to make sense of reading. Specific reading behaviors exhibited by students provide helpful insights for understanding the students' reading patterns and instructional needs. Observations of these behaviors can contribute to judgments for the student's level of fluency. A teacher's job will be to find out what students do understand, what they need to learn, and what needs to be provided in the classroom. Assessments ranging from formal tests to performance tasks administered throughout the school year will serve to understand their needs.

The question; therefore, what are the effects of multi-sensory teaching practices on the reading fluency and comprehension of bilingual second grade students?

Definitions

Acquisition of a second language (L2): for the majority of limited English proficient (LEP) students, the second language is English.

Americanizing: the need for national unity.

Approach/philosophy: set of correlative assumptions dealing with the nature of language and language learning.

Criterion-referenced test: measure a student's performance according to a particular standard or criterion that has been agreed upon.

Goal: generated statements of the intended outcomes of a language program based on information revealed in the needs analysis.

Late Exit Bilingual Program: developmental/maintenance bilingual education of five to seven years of academic instruction, half-a-day through each language.

Methodology: activities, tasks, and learning experiences selected by the teacher in order to achieve learning, and how these are used within the teaching learning process.

Multi-sensory: inter-sensory functioning, a neurological organization of automatic linkage of auditory-visual-kinesthetic impressions within the human brain.

Needs assessment: procedures used to identify and validate the needs of students.

Proficiency scales: instruments used to assess proficiency for diagnostic or placement purposes.

Raw score: the number of questions answered correctly.

Tejas Lee: state mandated instrument used to assess a student's reading fluency and comprehension.

The History of Bilingual Education

The United States has not always been a country with English as the only language of its schools. Bilingual Education has existed for thousands of years. It has moved

through four periods. The permissive period came before World War I and during the turn of the century; many came during the expansion of the United States to work the railroads, raising crops, mining, etc. Linguistic diversity was the way of life and language variety was the norm. Language was not an issue. The restrictive period saw a number of immigrants grow significantly, this made Americans feel threatened and there was a push for English movement. The period of opportunist saw a tolerant attitude toward languages during the Civil War movement and up until the 70's. The Bilingual Act of 1968 saw federal funding for meeting the linguistic needs of limited English proficient students. Submersion was evident, until *Lau vs. Nichols*, that allowed for some forms of Bilingual Education programs such as English as a Second Language. The Dismissive period began in the late 70's and into the 80's. Amendments to the 1968 Bilingual Education Acts permitted native language instruction to have success; however, aim was English. Under President Reagan's administration, Bilingual Education was seen as un-American and wrong to preserve native language. All this depended on politicians, administrators, educationalists, and school practices that dictated ideas, preferences, and practices in the classroom (Baker, 1996).

During the eighteenth and nineteenth centuries, different groups with various national and language backgrounds settled across the country causing public and private schools to offer non-English courses as content area instruction (Richards, 1990). Soon after that, schools were charged with the task of "Americanizing" all immigrants causing state laws to pass for English-only instruction (Baker, 1996). The Bilingual Acts of 1968 and 1974, also known as Title VII, provided supplemental funding for school districts interested in establishing programs to meet the "special educational needs" of large number of children on limited English speaking ability in the United States. The underlying aim was a transition from instruction in a minority language to English

language instruction (Baker, 1996). The acts did not originally require “bilingual” instruction. However, since the Bilingual Act of 1968, multiple program variations came into existence for implementation bringing different social and political implications that affected students’ performances in school. Therefore, identification of the needs of each community was necessary to choose a model appropriate for that community.

Transitional bilingual or early exit (1 to 2 years) programs dictated instruction half-a-day through each language, with gradual transition to the majority language. English-as-a-second language (ESL) or English to Speakers of Other Languages (ESOL) contained no instruction through the minority language. In elementary education, ESL or ESOL content was taught in a self-contained class (also called Sheltered Instruction or Structured Immersion) that varied from half-day to whole-day instruction. The ESL or ESOL pullout varied from 30 minutes per to half-day. In secondary education, ESL or ESOL taught through academic content (also called Sheltered Instruction) varied from half-day to all-day. It was also taught as a subject varying from 1-2 periods per day.

The requirement for providing native language instruction was mandated by Congress in 1974 in the Equal Educational Opportunity Act. The landmark United States Supreme Court decision, *Lau vs. Nichols* (January, 1974) had by far the most significant impact on these social and political implications. The Supreme Court’s decision was the means to give every child the right to an equal educational opportunity no matter his or her race, color, or national origin. It set precedence for all time and for as long as there were children from diverse ethnic backgrounds, “Bilingual Education” was born in California and other states followed.

Bilingual Immersion Education (also called Dual Language Education) delivered academic instruction through both languages. The 90-10 Model in Canada taught academic instruction 90% of the time through the minority language in grades K-6th, in

grades 7th-12th, 60% of academic instruction was through the majority language and 40% through the minority language. The 50-50 Model also in Canada delivered their academic instruction half-of-the day through each language. In these two-way bilingual education classes, language majority and language minority students are together in the same bilingual class, pairing and working together at all times. Developmental Bilingual Education (Maintenance/Late-Exit Bilingual Education) Models deliver academic instruction half-a-day through each language, with gradual transition to all-majority language instruction.

Recently, Bilingual Education has come under fire with Ron Unz' Passage of Proposition 227 in California schools virtually banning bilingual education under certain special conditions and establishing a one-year "sheltered immersion" program for all limited English proficient students (Wiley, 2000). Research is underway to measure the impact of this initiative in the state of California.

Research on Second Language Learning

Effective bilingual education programs must provide background knowledge through first language via subject matter teaching in first language literacy in both languages and comprehensible input (Krashen, 1993). Because diversity exists in language acquisition, we should not hope to find one mode of teaching to explain the whole process. The learners need multiple opportunities to examine the world and construct knowledge in various ways. Children are going to acquire language much the same way they will acquire anything, when they are developmentally ready (Vygotsky, 1962). If changing teaching practices is needed to meet the needs of the students in order for them to succeed, educators must be ready to accept change, believe in its worth, and have an intense desire to make it happen. The first language forms the foundation upon which second language is to be learned and developed (Cummins, 1979). Therefore, the

business of acquiring language is extremely important. Teachers have to look for innovative means of teaching. The “lecture” has been phased out through such techniques as cooperative learning, whole language instruction or thematic teaching. Since first language is developed naturally and in risk-free surroundings, it should not be taught but facilitated, promoted and used in a language rich classroom setting (Krahsen, 1955). The social interactionists believes that the structure of language may have come about due to he social-communicative functions language plays in human relations (Gleason, 1993). For example, small group participations play an integral part of exchanging ideas and brainstorming towards a desired outcome. Each one in their own way have something to contribute.

Because second language acquisition is so intricate, no two learners will learn in exactly the same way. However, in spite of the differences, the processes can be described as having some common ground in acquiring a new language and a new culture. By understanding these processes that second language learners share, we are better able to develop our own language teaching principles and plan classroom experiences that are conducive to second language acquisition.

One of the most well known theories about the relationship between language proficiency and reading comprehension in a second language is the threshold theory (Cummins, 1979). Threshold in educational terms is a turning point at which a change will occur. Each threshold is a level of language competence that has positive or negative consequences for a child. Therefore, minority language children who have mastered reading, writing, and speaking in their first language can perform more successfully in a second language. To meet the cognitive and academic demands of the classroom (Cummins, 1984) also theorized that a child’s cognitive academic language proficiency

(CALP) could only be achieved if basic interpersonal communicative skills (BICS) had already been achieved in the first language.

Alongside Cummin's theories, Ellis (1985) suggested that there was a sequence in second language learning. There are five inter-related factors that govern second language acquisition. Situational factors have to do with who is talking to whom, the environment of the situation, and the topic of the conversation. Linguistic input is the type of second language received when listening or reading in the second language. Individual learner differences deals with age, aptitude, cognitive style, motivation, attitude, previous knowledge, learning style, learning strategies and personality. Learner processes is how the second language acquisition is sifted, processed and organized. Second language output is the ability to use language to determine the acquisition of a second language.

Native language literacy benefits second language learners and native language literacy should be promoted. Research states that learners who feel confident being literate in their primary language transfer into the second language, using and applying their primary language knowledge and abilities for reading in the second language (Edelsky, 1982, 1986). A more confident and literate student proficient in his native language can transition into the second language as a result of their social and academic experiences (Faltis & Hudelson, 1998).

Current research on second language acquisition provides guidelines and practical teaching strategies relevant to the education of linguistic minority students. Bilingual and ESL instruction are the most effective socio-cultural, linguistic, academic, and cognitive processes for successful implementation in the classroom.

Effective Reading Interventions

Current research tells us that psychosocial, linguistic, and academic benefits of long-term primary language instruction make it an excellent educational opportunity for language minority students (Cummins, 1981). Learners are viewed as mentally active participants, given the opportunities to practice skills and processes, promoting higher level thinking while manipulating materials and interacting with others (Chamot, 1974).

Effective reading instruction is built on a foundation that recognized that reading ability is determined by multiple factors: age, parental influences, general intelligences, language aptitude, the development of the student's native language, the type of education received in the school system, the student's psychological and social outlook.

The United States Department of Education and the United States Department of Health and Human Services asked the National Academy of Sciences to formulate a committee to examine the prevention of reading difficulties. According to their Executive Summary report, at second grade certain prerequisites should already be in place: use of reading for meaning from print, familiar with the alphabetic writing system, and understanding the structure of spoken words they should also have an understanding of how sounds are represented alphabetically, practice in reading fluency, background knowledge and vocabulary for meaning and experience interest and motivation to read for a variety of purposes. The Executive Summary also reported that the teacher can provide motivation by having students make predictions about what they are going to read and by asking questions that relate about what they are reading to their own lives and to prior knowledge and experience. These experiences provide concepts involved in the reading selections.

In their later elementary grades and beyond, the teacher can aid understanding by

helping the students map ideas as they understand them. Questions can also be asked requiring reflection and inferences.

Small-group discussions of reading can allow the students to share ideas with their own classroom community. With other readers' values, prior knowledge, etc. this activity is an excellent means of the interactive reading process.

Materials must be of interest and comprehensible. Students should also be encouraged to select their own materials for independent reading and for small-group participation (Richard-Amato, 1996). The more students value reading, the more they come to value themselves as readers. When students are exposed to a wide variety of texts, they recognize the many different purposes that reading and writing can serve. Most importantly, effective teachers teach students how to make good choices (Freeman & Freeman, 2000, 1998, 1997).

However, when one of these developments has not taken place, intensive efforts at interventions will provide the effective reading instruction. Teachers must also be willing to apply any or all of the different types of strategies to a diverse curriculum applicable to the needs of the students. The natural language framework (whole language approach) along with many others has been instrumental in developing this perspective (Goodman, 1986). Acquiring literacy begins at the most abstract level: sound and letter correspondence, syllable word and phrases. Students then move to more concrete and meaningful experiences. What is taught and when may be difficult for each reader (Edelsky, 1993) depending upon the task, the situation, and individual needs. Whole language's most critical attribute is that developing readers be involved in authentic reading and writing activities that are meaningful.

Within this natural language framework, integrating (listening, speaking, reading, and writing) will not cause an undue overload on the student's mental capabilities. Story

experiences allow students to participate in a rich language environment. Speech development may be accelerated into higher levels of communication. Highly motivating reading materials, students' own experiences and through the vocabulary and structure with which they are familiar could enhance their reading skills (Goodman, 1986).

Experience with real books, story experiences and charts, pictures, maps, graphs, and survival words all form important preliminary steps leading into literacy at any age. Reading as an interactive process is active, functional, creative, and is a shared experience of communicative ideas. In speaking, listening, and responding to ideas, one expresses their own but learns from those of others. This learning style, along with others increases the chances that students will comprehend concepts being taught (Rivera, 1984). In an interactive reading process, meaning is created by the reader through interactions with the actual text, others in class, and in the total school, community, and home environment. His/her values, relationships, experiences, prior knowledge, culture, and expectations are integral parts of interaction. The individual through this interaction progresses from actual to potential developmental levels. Between the two levels is "Zone of Proximal Development," which is the distance between what a child can accomplish through independent problem solving and the level of potential through problem solving under adult supervision (Vygotsky, 1978).

There is not format that states children learn at the same rate, but giving them the opportunity to experience and bring their own knowledge to the classroom/subject matter allows them to be more of a richer person. Interactive activities among small and large groups motivates the students to listen to one another and through the use of some turn-taking rules, enable them to contribute to topics discussed. In turn, these activities stimulate their imagination and challenge them to think, listen, and speak (Rivera, 1987).

Activities that involve the whole class would provide a constant and varied interaction. Motivating learners through authentic materials (poems, newspapers, or songs) introduces the students to the real world.

Teachers need strategies that are culturally compatible with their students' learning styles. Students could "relate" their own lives, activities, interests, and concerns to what is being read. In this way, this classroom environment provides students the means to feel free to express their own ideas in a non-corrective atmosphere. With today's focus on communicative competence, an interactive language teaching style could be a viable answer (Rivera, 1987). Cooperative learning indicates a great potential for some aspects of the method to produce academic success, especially in classes of mixed ethnicity. They strive for the achievement of group or individual objectives (Slavin, 1983). Kagan, (1986) also describes five distinct types of cooperative learning: peer tutoring, expert groups, cooperative projects, cooperative/individualized, and cooperative interaction. Students help each other in an effort to reach their goals. There is also a sense of interdependence striving for group or individual achievement. Students develop more fully their own individual identities while respecting those of others. Versions of cooperative learning can also serve as effective classroom management tools.

According to (Clark, 1997), family literacy has power because parents can actively participate in the learning process of their children. They can influence and create desired changes appropriate to the success of their children academically at school. Empowered, they can teach and impact their children's socio-cultural knowledge based on their own experiences. They convey values, beliefs about their positions in their community and a sense of self-worth.

Parent-school interaction present workshops on literacy in order to help their children with homework and in order to read with them at home. Since the parent population of

the participants in this study come from low socioeconomic backgrounds, these parent sessions proved most helpful because they indicated the need for school to reach out to parents in a way that is meaningful to them. These means of parents and school to work together enabled the parents to find ways to help their children both at home and at school (Clark, 1997).

However, for all the higher-level concepts, thinking processes, and significant instructional decisions, an "effective" teacher depends on how he/she understands his/her role and conducts their teaching approach to the educational and psychological needs of language minority children, what strategies of the subject matter were employed, and what learning tasks and activities were made use of.

Assessment is an ongoing process with the use of standardized and authentic assessment processes essential to literacy. However, the most important evaluator of this literacy process and the person who has the greatest interest in knowing what teachers can do in the classrooms are teachers themselves. Team-teaching, mentoring, video taping lessons, and other teachers' observations can provide the necessary feedback to work on one's strengths and weaknesses in order to provide the best possible teaching practices for successful learning. Best practices besides supervisor's evaluations and students' grades reflecting success is self-monitoring.

Researchers have identified psychosocial, linguistic, and academic benefits of long-term primary language instruction: supportive whole school/community, qualified teachers with high commitment, high expectations, sensitivity, and motivation to empower students, organization of instruction, interesting and comprehensible instructional materials, emphasis on functional communication between teacher/students/among fellow students, ongoing assessments, and parental involvement.

After studying the review of the literature on both first and second language acquisition, similarities such as comprehensible input, risk-free environment, silent period, multiple opportunities, social interactions and developmentally ready had to be in place in order to promote and facilitate acquiring any language.

CHAPTER III

METHODOLOGY

Introduction

In this study, pupil progress will be determined through an analysis from a pre and post test results of the Tejas Lee. The use of this early reading instrument is utilized to diagnose reading and comprehension skills. It is state mandated designed to be individually administered to the students by the classroom teacher. The question: what was the impact of multi-sensory teaching practices on the reading fluency and comprehension of bilingual second grade students?

Participants

The 9 males and 10 females in this study were enrolled in a second grade bilingual classroom. Through data provided on needs assessment surveys furnished to the district, the participants were identified as being low socioeconomic from parents of limited educational background. These 19 bilingual students had been enrolled in the school district since Pre-kindergarten, initially identified in proficiency levels ranging from 15 beginners, 3 intermediate and 1 advanced.

Students are heterogeneously grouped based on the English IPT oral and reading levels of proficiency. The Pre-kindergarten program, as presently implemented in the district, is designed to meet the educational needs of children who score below the level that indicates limited English proficiency on a state and local approved oral language test. Instruction of basic skills is done in the child's primary language (90% Spanish/10%

English) through the first grade. Grades 2-3, students receive 80%-70% of their day in Spanish and 20-30% in English. In second grade, English time is still largely spent in developing oral language proficiency for LEP students. All students begin formal English reading in third grade. Students scoring a D (developed) or above in the oral IPT, may be placed in a transitional component consisting of 90% English/10% Spanish model. Grade 4: the instructional approach for these students will be based on the level of transition the student has reached in the second language.

Community/School Profile

The town is the county seat, with a population of 14,000. The county has a historical background dating back to the early 1800's. The town is also located approximately one mile from the Mexican border. The economic life of the residents in and around the town centers around the local school district and the county courthouse with other county residents relying on farming and ranching.

At the time of the study, the campus structure housed the administrators', nurse, four secretarial offices and classrooms for students in grade 1-2. Additional portable classrooms housed kindergarten, special programs, physical education, computer labs for K-1, and the counselor's office. Enrollment was at 395 (221 females and 174 males) with 100% of the enrollment eligible for free/reduced lunch. The daily average attendance was at 383.2. The ethnic makeup of the campus was as follows: white (0.0%), black (0.0%), Hispanic (100%), Asian (0.0%), and other (0.0%). Limited English Proficient (LEP) students were 90%. There were 25 teachers with an average of 18 years of teaching experience. There were 21 certified (17 with a bachelor's, 4 with a master's) and 4 were non-certified. There were 20 paraprofessionals.

The school was located on the north side of town adjacent to the city limits. The bicultural population of 395 students in grades K-4 is provided with a variety of

comprehensive services including those with special needs: special education, bilingual gifted and talented, counseling, and oral language development. Computer assisted labs provided instruction twice a week for thirty minutes in reading and math skills. The library center supports a fixed and flexible schedule that made it possible for students to receive services and access information at the time of need. Library materials included works of literature, poetry, fiction/non-fiction, and fantasy books in both languages in the accelerated reading program.

Multi-sensory Classroom

This descriptive study was conducted in a late-exit, bilingual self-contained classroom. The 19 Hispanic, second grade students were arranged in small groups of four and the desks were arranged in a large U-shape in a manner that the teacher could present the lesson and monitor the class as a whole. Learning centers such as: reading/writing, computer and listening centers were situated around the classroom outside the whole class seating arrangement. The teacher's desk was toward the back of the class so as to monitor while the class worked independently. Graphic organizers such as charts and teaching posters relevant to the lessons (place value, parts of speech, seasons of the year, number lines, etc.) were displayed throughout the room, manipulatives (base 10 blocks, clocks, games, etc.) provided hands-on activities and reading and math computer programs were used to enhance or extend the lessons as well. The language of instruction was predominately Spanish except for 45 minutes of English-as-a-Second language instruction. The Hispanic teacher had 12 years of teaching experience in a bilingual setting with certification in elementary and bilingual education. She is also pursuing a master's degree in bilingual education with an endorsement in bilingual gifted/talented. The timeline of events of the study occurred over a period of nine months of instruction.

Atypical day in the classroom involved the following multi-sensory strategies. Pre-reading exercises included vocabulary development from the weekly selection in the text. Students read, listened, and spelled the words, illustrated, and used them in a sentence. The teacher would then read aloud to the class as the students followed in their books. As the story was read, questions related to the text were discussed for comprehension. After the selection was read, a story web was illustrated, paying special attention to title, author, illustrator, characters, setting, plot and ending. Storybooks could be made to illustrate the elements of the selection. Students could also role-play the selection with a narrator and characters. The rest of the class could critique the play and come up with different endings. In journal writing, the student could illustrate and discuss which part of the story they liked best and why. Reading instruction typically lasted 90 minutes during the course of the day.

Instruments

Test scores such as the Tejas Lee, mandated by the state, teacher-developed assessments and teacher observations were used to assess the academic reading achievement of these students. The statistical analysis used in formulating the quantitative data results were from both the pre and post test results of the Tejas Lee. These test results measured student reading fluency and comprehension development. These materials are copyrighted by and the property of the State of Texas and the Texas Education Agency in 2001.

The test included such tasks as work recognition, dictation, and oral reading/comprehension. Common terms to describe differences among text included: the independent reading level or the highest level which a child can read easily and fluently without assistance, with few errors in word recognition, and with good comprehension; the instructional level or the highest level at which the child can do

satisfactory reading in which errors in word recognition are not frequent and comprehension is satisfactory; the frustration level or the highest level at which the child's reading skills are at risk, fluency disappears, errors in word recognition are numerous, comprehension is low and students exhibited signs of emotional tension and discomfort.

The Tejas Lee was administered by the teacher and used in this study to obtain the information needed to evaluate the effectiveness of the bilingual education teaching practices and their impact on students' reading fluency and comprehension. The individual tests such as word recognition, dictation, oral reading fluency, and comprehension were administered by the teacher to collect information for making instructional (including placement) decisions about individual students; monitor each student's progress in reading and language development throughout; identify particular strengths and weaknesses in each student's reading ability.

Data Collection Procedures/Purpose

Collecting information for making instructional decisions about individual students enabled the teacher to make placement decisions. All of the assessments were designed to help make placement decisions closely correlated with the instructional levels in the reading program. District provided training sessions on administration guidelines and procedures along with all materials needed to administer the test.

The Tejas Lee pre-test assessed students in December. This assessment instrument was used to assess students' reading strategies and reading comprehension. It helped collect information about each student at the beginning, middle, and end of the year. This instrument was designed to assess oral reading accuracy and fluency. The word recognition test targeted vocabulary. The teacher was able to test for phonemic awareness.

The Tejas Lee post-test was also administered at the end of the year on an individual basis to assess a child's oral reading fluency, comprehension, and vocabulary.

Evaluations on the individual units of the test helped make decisions for future instruction. Descriptive statistics were calculated for the pre- and post-test results on the Tejas Lee.

CHAPTER IV

FINDINGS

Introduction

This chapter will provide an overview of the statistical analysis used in formulating the quantitative data results from the pre and post test results of the Tejas Lee. This descriptive statistics of the pre and post-test scores will include for each student: raw scores and the difference; and the mean/standard deviation. Data will determine the equivalence of the participants (statistical control), the experimental variable or the type of the instructional organization (self-contained classroom) and treatment or procedures administered (instructional strategies in teaching). These instruments or multi-sensory teaching practices deliberately, manipulated and/or controlled by the teacher, enabled the researcher to meet the objectives of the research. The interpretation of the results were approached in this way:

- 1. Did the positive difference between the pre and post-test results determine whether the multi-sensory teaching practices affect the reading fluency, comprehension of second grade bilingual students?**

Research Findings

Frequency distributions were computed for the pre-and post-test results of the Tejas Lee. The mean and standard deviation were computed for the group pre and post-test results: (See Table 1). In the pre-test results for word recognition (M=16.83,

SD=6.63) or al reading fluency (M=1.28, SD=.75), comprehension (M=3.0, SD=1.45) and in dictation (M=8.78, SD=3.77).

Table 1

Tejas Lee Pre- and Post-test Mean and Standard Deviation

	Pre-Test Mean	Pre-Test SD	Post-Test Mean	Post-Test SD
Word Recognition	16.83	6.63	16.89	6.37
Dictation	8.78	3.77	10.78	4.21
Oral Reading Fluency	1.28	.75	1.11	.58
Comprehension	3.0	1.45	4.1	1.57

The post-test results for word recognition (M=16.89), SD=6.37) oral reading fluency (M=1.11, SD=.58) comprehension (M=4.1, SD=.57) and dictation (M=10.78, SD=4.21).

Pre- and post-test raw score analysis for the in word recognition, dictation, and oral reading fluency/comprehension subtest are show in Table 2. The comparison between the group responses in December and end of the year will determine a positive or negative difference. These reading scores were selected in the study to show if there was a positive gain and determine whether instruction had any effects at all.

Of the 19 students tested in December, 14 identified words with one error or less and with 5 errors. In the dictation subtest, 4 students spelled the 15 words with 3 errors or

less, 7 with 5 errors or less and the remaining 8 had more than 5 errors. In both stories, 15 students read fluently with less than 3 errors, 4 on-grade level with less than 12 errors, 5 at the frustration-level. For comprehension questions, 10 answered 4 out of 5, 5 answered 3 out of 5 and 4 could not answer at all. Students ranged from nonreaders to those who could read comfortably at the second grade level.

The post-test results of the Tejas Lee administered at the end of the year shows the same 19 students. (See Table 2). Sixteen identified words with 1 error or less, and 3 with 5 errors. On the dictation subtest, ten spelled the 15 words with 3 errors or less, five with 5 errors or less, and the remaining four had more errors. In both stories, 18 read fluently with less than 3 errors, 5 on grade level with less than 12 errors and 1 read at frustration-level. For comprehension questions, 14 answered 4 out of 5, 2 answered 3 out of 5 and 2 had difficulty. There was a slight increase between the 11 students who read both stories fluently and 10 who answered 4 out of 5 comprehension questions correctly on pre-test as compared to the 13 students who read both stories fluently and 14 answered 4 out of 5 comprehension questions correctly on the post-test.

There was a slight increase in each subtest, even though the oral reading fluency pre-test result was higher than the post-test result. This difference shows that a slight number of more students were reading by the end-of-the year.

Chapter Summary

The tests were taken by 19 second grade Hispanic students enrolled in a bilingual program. The pre- and post-tests were administered to the students in a classroom with no distractions of interruptions with the classroom teacher administering the tests. The students were made to feel comfortable as far as seating or the temperature of the room and they were not made to feel that they had to rush through the test procedures.

Table 2

Tejas Lee Pre- and Post- Test Raw Scores with 1 or Less Errors

	Pre-Test Raw Score	Post-Test Raw Score	Difference
Word Recognition	14	16	+2
Dictation	4	10	+6
Oral Reading Fluency	15	18	+3
Comprehension	10	14	+4

After analyzing the test data collected, the pre and post test results showed an increase in the group's academic performance indicating that the students taught in a certain type of instructional organization or self-contained classroom and administered through certain procedures or instructional strategies for the grade level do gain in their scores on the subtests.

CHAPTER V
SUMMARY AND DISCUSSION

Introduction

This research study was designed to show the effects of multi-sensory teaching practices on the reading fluency and comprehension of bilingual second grade students. The sample population consisted of 19 Hispanic second grade students. They were heterogeneously grouped at an elementary school in a district from the Rio Grande Valley of South Texas.

The study used a pre and post test. The items were analyzed through the use of descriptive statistics including raw scores, mean and standard deviations. The tables were used to show if there was a growth from the beginning to the end-of-the year. Test results would address the research question: what comparison would be made to determine whether or not the multi-sensory teaching practices affected the reading fluency and comprehension of second grade bilingual students.

DISCUSSION

Limitations

The study had various unanticipated interruptions that may have affected the results of the study. On October 29th, a fire completely destroyed the main building of the school which housed the administrative, nurse, secretarial, first, second grade classrooms and book room. The teachers and students sustained total loss of personal and school

materials. The entire school then had to share books, instructional materials, and classrooms with another elementary school. Due to the sharing facilities, the study participants received a half-day of instruction for four weeks. Meals were also served in the classroom, there were no physical education, computer, or library classes available.

After a month, the entire student body was once again moved back to the old campus into portable buildings on loan from a nearby school district. Instructional materials and textbooks were ordered and delivered as quickly as possible.

Computer classes were not readily made available. Library had a limited supply of Spanish reading books because many of the books the first and second grade students had in their possession at the time of the fire were destroyed.

Assessments that had been administered at the beginning of the school year (September) were destroyed and new pre-tests had to be administered again in early December. Therefore, the data analysis collected may not indicate a valid and reliable comparison to meet the objectives of the research and its' adequacy for testing the hypothesis.

Implications

The descriptive study was conducted to determine the effectiveness of reading interventions for young children who are at risk of having problems learning to read. Good instruction is one of the most effective means of intervention for young children at risk of reading difficulties. Multi-sensory teaching practices can affect the reading fluency and comprehension of second grade bilingual students. Effective teachers, instructional materials, environment conducive to learning, and strategies are the most important tools that support early literacy development. There was a slight positive increase of 2 in the post-test results for word recognition, positive 6 for dictation, positive 3 for oral reading fluency and positive 4 in comprehension as compared to the pre-test

results of the Tejas Lee. Regardless of a child's reading ability, if too many of the words of a text are difficult, both comprehension and reading growth can cause problems.

Disruptions in a student's reading development increases the possibility that reading will be delayed. The association of poor reading outcomes with poverty and minority status reflects several of these risk factors, including lack of access to rich literacy preschool experiences. Excellent instruction is most effective when children are also motivated for literacy with the necessary linguistic, cognitive, and early literacy skills. Explicit instruction on the sound structure of oral language, connections between speech sounds and spellings assist children to grasp the alphabetic principles and to develop phonemic awareness. Comprehension skills need focus on concepts and vocabulary growth and background knowledge. Direct instruction in summarizing, predicting, and monitoring also enhances comprehension strategies.

The fact that the burning of the school, the loss of textbooks and instructional materials and the re-locating in two different occasions made it somewhat difficult to have a larger number of the students to achieve at a more solid level. In order to add to existing literature on effective instructional practices for bilingual students, research must be done. Every successful teacher seeks explicit answers to questions to help him/her to become a better teacher and to continue to grow in the understanding of the teaching and learning processes.

In translating the research findings, educators will have insights on how reading develops and how its development can be promoted. It is after formulating researchable "ideas" that teachers can construct operational definitions of "success" and "ability" to which the development of the students will have to be carefully considered. Valid instruments that measure such skills were explored. After studying test results, teachers will be able to constitute beyond the subjects and materials.

Since no study is free from uncontrolled variables, caution should be exercised in drawing conclusions. In discovering what the data revealed, practical implications will help teachers to “intervene” by using a new method, technique or procedure.

To be effective, schools serving children at risk for reading difficulties need rich resources, high-quality instructional materials in sufficient quantity and a pleasant, physical environment.

Because students do not learn, each one like the other, consistently and uniformly, classes must adhere to that uniqueness. Thus, methods provide personal relationships, means, goals, and data flow. In developing a theory and learning to apply it in our experiences, one can develop our own personal uniqueness in creative interaction with learners. Research must continue to discover more about how children learn to read and how teachers and others can help.

REFERENCES

- Adams, M.J. (1990). *Beginning to Read: Thinking and learning about print*. Cambridge, M.A.: MIT Press.
- Baker, Colin. (1996). *Foundations of Bilingual Education and Bilingualism. An Introduction to Bilingual Educations Multilingual Matters*, Clevedon, England: Multilingual Matters Ltd.
- Buerke, Shannon K. (2000). *Reading Strategies; Global Beginnings*. Handout from a workshop. Rio Grande City CISD.
- Chamot, Anna Uni. (Spring 1994). CALLA: An instructional model for linguistically diverse students. *English Quarterly*, 26/3,12-14.
- Clark, Ellen Riojas, Ph.D. and Flores, Belinda Bustos, Ph.D. (September/October, 2000) NABE News: *Report on a study of Normalistas Ethnic Identity and Teaching Efficacy*, Volume 24 (1), 20.
- Collier, Virginia P. and Ovando, Carlos J. *Bilingual and ESL classroom. Teaching in multicultural contexts*. (1985). McGraw-Hill, Inc. U.S.A.
- Comprehension Instruction 2000 Edition, Texas Reading Initiative, Texas Education Agency 1701 North Congress Avenue, Austin, Texas. Publication #GE0110501.

Cummins, J. (1981). The role of primary language development in promoting educational success for language minority children. *In schooling and language minority students: a theoretical framework*, pp. 3-49. Los Angeles: National Evaluation, Dissemination, and Assessment Center, California State University.

Edelsky, C. (1993). *With Literacy and Justice for all. Rethinking the Social in Language and Education*. London: Falmer.

Ellis, R. (1985). *Understanding Second Language Acquisition*. Oxford: Oxford University Press.

Faltis, C. & Hudelson, S. (1998). Learning English as an additional language in K-12 schools. *TESOL Quarterly* 28(1) (3), 457-468.

Fox, B., & Routh, D.K. (1975). Analyzing spoken languages into words, syllables, and phonemes: A developmental study, *Journal of Psycholinguistic Research*, 4, 331-412.

Freeman, David, Ph.D. & Freeman, Yvonne, Ph.D. (2000) NABE Volume 23, Number 7, *Reading Instruction: A checklist for effective practices*, pg. 6.

Gleason, J.B. (1993). *The Development of Language*. 3rd Edition. N.Y.: MacMillan

Goodman, K. (1986). *On reading*, Portsmouth, N.H.: Heinemann.

Krashen, S. (1981). *Second language learning and second language acquisition*. Oxford: Oxford University Press.

Lam, Diana. (1996). Bilingual Education Perspectives on Research and other issues. *The Journal of the Texas Association for Bilingual Education*. 3, 20-22.

Richards, Jack C. (1990). *The language teaching matrix*. Cambridge, MA: Cambridge University Press.

Richard-Amato, Patricia A. (1996). *Making it Happen: Interaction in the second language classroom from theory to practice*. White Plains, NY: Longman.

Rivera, C. (1998). *Language proficiency and academic achievement*. Clevedon, England: Multilingual Matters Ltd.

Vygotsky, L. (1962). *Thought and language*. Cambridge, Mass.: MIT.

Vygotsky, L. (1978). *Mind in society*. Cambridge, MA.: Harvard University

VITA

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She pursued a secretarial diploma from Durhams' Business College in Corpus Christi, Texas in 1964. She worked in business until endeavoring an educational background with an Associate's Degree from Laredo Junior College in 1987. She worked with Community Action Council of South Texas as Head Start teacher and center director. She later enrolled at the University of Texas Pan American and received a bachelor's of science in 1990. She has worked with the Rio Grande City Consolidated Independent School District for the past 12 years as a bilingual elementary school teacher. She is on the Executive Board for Rio Grande Valley Association of Bilingual Education.