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ABSTRACT

A program was developed for improving primary level student intelligences in order to improve reading comprehension, prediction skills, and the ability to apply targeted reading strategies. The targeted population consisted of first and second grade students in a middle class community located in the far southern Chicago metropolitan area. The problem of reading comprehension was documented through standardized testing of comprehension, teacher observation, and portfolio accumulation of multiple intelligence activity growth. Analysis of probable cause data revealed students were not motivated to read and failed to make the connection between reading and understanding. A review of suggested solutions by educational experts, combined with an analysis of the problem setting, resulted in the selection of an intervention process which consisted of the development and implementation of a Multiple Based Language Arts Curriculum. Reading comprehension was addressed through child-centered activities designed to include the multiple intelligences, and extensive reading strategies were included. Post-intervention data indicated growth in reading test scores and an increase in the number of students reading at home. Students used reading strategies on a consistent basis to improve comprehension. Children were able to identify the intelligences being targeted in the reading centers. Their portfolios exhibited personalized products of the individual student's growth. (Contains 12 tables of data and 24 references; various sample forms, including a multiple intelligence planning grid, a teacher survey, a reading strategies/comprehension checklist, and a story web, are appended.) (Author/CR)

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THE EFFECTS OF INTEGRATING A MULTIPLE INTELLIGENCE BASED LANGUAGE ARTS CURRICULUM ON READING COMPREHENSION OF FIRST AND SECOND GRADE STUDENTS

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ABSTRACT

This report will describe a program for improving primary school level student intelligences in order to improve reading comprehension, prediction skills, and the ability to apply targeted reading strategies. The targeted population consists of first and second grade students in a growing middle class community, located in the far southern Chicago metropolitan area. The problem of reading comprehension will be documented through standardized testing of comprehension, teacher observation, and portfolio accumulation of multiple intelligence activity growth.

Analysis of probable cause data reveals that students are not motivated to read and fail to make the connection between reading and understanding. Educators report that students' inabilities to understand what they read hinders their application of comprehension across the curriculum, poor motivation and the lack of knowledge of how to apply reading strategies contribute to poor reading comprehension and reading scores. Minimal teacher training and failure to address multiple learning styles may also be contributing causes.

A review of suggested solutions by educational experts, combined with an analysis of the problem setting has resulted in the selection of an intervention process. This process consists of the development and implementation of a Multiple Intelligence Based Language Arts Curriculum. Reading comprehension will be addressed through child-centered activities designed to include the multiple intelligences, and extensive reading strategies will be included by the researchers.

Post intervention data indicated growth in reading test scores and an increase in the number of students reading at home. Students used reading strategies on a consistent basis to improve their comprehension. Children were able to identify the intelligences being targeted in the reading centers. Their portfolios exhibited personalized products of the individual student's growth. Most importantly, it gave classroom activity meaning and authenticity; Furthermore, children expressed a love for learning.

CHAPTER 1

PROBLEM STATEMENT AND CONTEXT

General Statement of the Problem

The students of the targeted first and second grade classes exhibit poor reading comprehension skills which includes lack of prediction, story analysis, and application of reading strategies. Evidence of the problem exists through low achievement test scores, anecdotal records, journal writing, and an increasing number of students in the Chapter One reading program.

The achievement test scores exhibit below average reading comprehension scores, teacher anecdotal records show poor prediction and non-application of reading strategies, and the journal writing shows a lack of story analysis.

LOCAL SETTING

The unit district in our study includes an elementary school, grades PreK-4, a middle school, grades 5-8, and a high school, grades 9-12. The targeted elementary school being studied houses 734 students. There are six self-contained classrooms for grades kindergarten to four. The average primary classroom size is 22.1 students. Reading aides are employed on a part-time basis for first through third grade. Chapter One reading is provided by three additional reading specialists through a referral by the classroom teacher. Speech and language services are provided for those students deficient in that area. The school is not a fully included setting and has special education classes in the building. Social services are provided through the county cooperative.

The building is an air conditioned, one-level structure which has been added onto and remodeled several times. The entire school consists of 34 classrooms, one computer lab, a media center, an art room, a music room, one gymnasium, and one cafeteria, all of which are shared by the entire school population.

This elementary building is 97.8% white, 2.0% Hispanic, and 0.2% black. The school has 10.5% low income families receiving public aid. Limited-English-proficient students comprise 1.3% of the population. The attendance rate is 96.2% compared to 95.8% district wide. Student mobility, which is based on the number of times students enroll or leave a school during the course of the school year, is 10.9%. This is higher than the district rate of 7.8%. Students who are absent from school without a valid cause for 10% or more of the last 180 days comprise 0.5% of the school's population, and 1.6% district wide (School Report Card, 1996). Average years of teaching experience is 14.9 years, with 33.3% of the faculty having a Master's degree or more.

The general reading programs vary throughout the building. First, third, and fourth grades are currently using the Houghton-Mifflin reading series while kindergarten and second grade use the MacMillian-McGraw reading program. All grades integrate trade books throughout the curriculum. Trade books are individual copies of complete stories written by a published author. Individual teachers use these books in varying degrees. Some teachers center their reading curriculum around the trade books while others use them for supplemental material such as literature circles, independent reading, and at home reading. Each grade level has the opportunity to choose various themes that incorporate their curriculum goals. Kindergarten, first, and second grades include student learning centers in the Language Arts program. Learning centers consist of child-centered activities designed for teaching, enrichment, and review of current learning, and for

reinforcement of skills taught. A learning center which coordinates with the curriculum enhances those objectives being targeted.

COMMUNITY SETTING

The targeted school is located in a rural setting southwest of a large urban area. The school district also serves the students from two adjoining small communities. The community was incorporated as a village in 1881. Coal Mining began in the area in the later half of the nineteenth century and continued until around 1970. At the present time the employment opportunities in the community consist of farming, light manufacturing, electrical utilities, and small businesses. The majority of the workers commute to employment outside the community. According to a current census report, the community presently has a growing population of approximately 6,000.

The 1990 U. S. Census shows that the population has a racial make-up of 98.5% White and 1.5% Hispanic and black. The median family income for the community is $41,553 with 6.6% of the persons below the poverty level. Two or more persons are working in 44.1% of all households in the community. Seventy percent of the population lives in a house which the residents own and the average cost of a house is $80,482. The median age of the population is 33.3 years (U.S.,1990). Seven Protestant churches and one Catholic church are in the community. The population of the area includes 8.68% having an elementary school education, 12.68% having completed some high school and 41.36% having a high school diploma, 19.61% having some college but no degree, 5.68% of the people having associates degrees, 8.36% having bachelors degrees, and 3.63% having graduate level degrees.

The school district has a current population of 4,273. The socioeconomic status consists of 10.5% being in the low-income bracket. There are 734 students enrolled in

the elementary school with 48 certified teachers, 45 female and 3 male. Current operating expenditures per pupil are $5,716. A very active Parent School Organization helps with the needs of the school at every level.

Urbanization is approaching the community and there are several new subdivisions being developed contributing to the problem of overcrowding in the schools. There have been several additions to the three existing buildings. The district has been evaluating the need for additional classroom space. Currently the district receives 70% of the operating costs from a local nuclear power generating facility. Litigation is currently pending in the courts concerning the taxes owed to the school by this industry. There is also a concern about the future of this plant.

NATIONAL CONTEXT

Professional confusion exists around which literacy programs are most appropriate for the classroom. There is research available stating that a student's inability to apply reading comprehension strategies as necessary, and a lack of background knowledge prior to school entrance may contribute to poor reading comprehension in the primary grades. At both the state and national level, concern over these areas has been expressed.

Distinguished educator, Dorothy Strickland, reports teachers and administrators experience frustrations, even with all the professional materials and workshops available. The progress being made in reading programs today is accompanied by uncertainty and confusion. "Teachers feel they're on the right track, yet they read articles that contradict a lot of what they're doing. Even the experts don't agree" (Strickland, 1995, p.294).

"Monitoring reading comprehension and employing various reading strategies to deal with comprehension breakdowns require the student's ability to both evaluate

his or her ongoing comprehension processes while reading through a text and take some sort of remedial action when these processes bog down. Children who are able to reflect on whether or not comprehension is occurring and employ, as necessary, strategies such as self-questioning, predicting and verifying, retelling, rereading, or withholding judgment and reading on to clarify meaning are likely to understand, interact with and retain information contained in written texts" (Baumann, 1993, p.185).

LaForge (1993) states kids learn through a variety of techniques. The challenge to turn a child on to the joys of life-long reading ultimately depend not on the schools, but on parents. Reading to your child is still the most effective way to help them learn to read. Much of the research shows that it is essential for children to learn to construct meaning based on background knowledge as well as information in the text (Anderson, et. al, 1985).

Achievement test scores and teacher anecdotal records indicate declining reading comprehension. Research reveals non-application of reading strategies, lack of consistent literacy programs, and an inadequate reading foundation result in weakened student reading achievement. Reading is one of the basic building blocks for academic achievement and success in life.

CHAPTER 2

PROBLEM DOCUMENTATION

Problem Evidence

In order to document the targeted first and second grade students' comprehension skills, the researchers administered the Gates-MacGinitie Reading test Level 1 Form K, and Level 2 Form L. This test, which was developed by Walter H. MacGinitie, past president of the International Reading Association, and co-authored by Ruth K. MacGinitie has been revised and improved with new tests and new concepts in testing by Arthur Gates and then Walter MacGinitie. The tests consists of 45 multiple-choice vocabulary words and 46 multiple-choice comprehension questions. The test was administered by the teachers with group instructions and examples were done together. Students were then allowed to complete the first section on their own. The students were given a break, then the comprehension part was explained and examples done together. The students completed the second part of the test on their own. This was the suggested method of administering the test. The purpose of administering this test, according to the authors, is to plan instructional emphases, make decisions about grouping students, deciding which levels of instructional materials to use with students, and reporting to parents.

According to the Gates-MacGinitie Norming Group the average first or second student should be in the 50% range. Anything under 50% is considered below average. Above 50% the student test scores gradually increased and were considered above average. This test is used to evaluate students in our classrooms, their strengths and weaknesses in vocabulary and comprehension.

Table 1

Comparison of Targeted Student Population with Normed Population on the Gates-MacGinitie Reading Test

	Above Average	Average	Below Average
First Grade	0	15	4
Second Grade	15	11	35

As Table 1 shows the targeted first and second grade compared considerably below the normed population in the Gates-MacGinitie Reading Test. While the original reason for administering the test was to establish a base line for the targeted population in the area of reading comprehension, the comparison between the targeted and normed population is useful in pointing out that reading problems are present as early as first grade.

Based on the researchers' observations, students entering first grade do not understand the concept of print. For instance, many students are not familiar with the format of a book, which includes front to back, left to right, and top to bottom.

Many of the second grade students have difficulty understanding new vocabulary and therefore cannot comprehend the full meaning of a sentence. Reading strategies taught in first grade are not being transferred to second grade. Some examples of strategies that incoming second graders are not using include picture clues, phonetic awareness, and rereading for meaning.

Probable Causes (site-based)

An analysis of the site based problem evidence suggests several probable causes. These causes are inconsistent reading programs, lack of prior knowledge, students' inability to reflect on material read and respond appropriately to questions pertaining to comprehension expectations. Parent involvement and a healthy home environment are also important aspects of a child's development and are lacking for some of the students. A final concern is the differing maturation levels of the students and the material may not be developmentally appropriate.

The elementary school does not have a reading specialist/coordinator for the district. The grade levels and teachers within the grade levels have the option to choose the series, trade books, and support materials as they see fit. This results in a very inconsistent reading curriculum throughout the elementary building. Trade books and most of the support materials foster limited strategies used by teachers to strengthen student achievement.

Another possible cause, lack of prior knowledge, may play a big role in the child's poor reading ability. A large percentage of the population have two or more persons working outside the home. A majority of the workers commute to employment outside the community. This may contribute to the decreasing amount of time families spend together. Families working together and traveling together build trust, security, values, and share experiences that contribute to the foundations of learning. Sharing family experiences creates a foundation for language development which carries over into reading and understanding.

Approximately 35% of the total population in the targeted community have education beyond high school, and a large portion of the employed work in light manufacturing and electrical utilities (Census, 1990). This may influence the attitudes

instilled in their children in regards to the importance of education and their responsibility as parents. The researchers have concluded, through a survey of parents, that children spend more leisure hours on directed activities outside the school, such as soccer, baseball, dance, and scouting, than they do on school centered activities.

Table 2

Comparison of Weekly out of School Reading to Extra Curricular Activities

Hours	Reading	Hours	Extra Curricular Activities
1-2	31	1-3	31
3-4	30	4-5	18
5-6	6	6-7	2
7-8	2	8-10	0
9+	0	11+	1

As indicated by Table 2, 88% of all the students surveyed participated in after school activities. Out of the 88% of the children, 94% spend between 1-5 hours per week in their after school activities, 0.5% spend 6 or more hours in after school activities per week. Every returned survey shows that all students were reading beyond the school day. It is reported by many parents that reading is limited to the school year. The collection reveals that 69 out of 80 surveys were returned by the parents.

"Schools continue to find that a large number of entering students are developmentally too young to learn and succeed in kindergarten. This may be due to a child's innate but normal rate of development, or environmental factors which have

left a child unprepared to work well in a kindergarten class" (Grant, 1994 p.33). A child that is not ready to learn will not like school. Teachers are concerned that lack of positive attitudes toward learning, plays an important part in the children's prior experiences. Parental support has been found to increase students success in school. In small communities where the steady presence of adults and peers provide support, positive values exist, and a significant increase in test scores are shown (Shapiro & Daniel, 1995).

Registration cards indicate there are a great number of single parent and blended families. Parents' legal problems, such as arrests for drugs and battery, custody conflicts, alcoholism, financial difficulties, in addition to other home problems, can also affect some students' well-being. These children are so overwhelmed by problems at home that academic achievement seems unimportant. Aside from this, many children are growing up in non-reading homes. Today's classrooms must meet student's individual needs not met at home. To do this, education must create classrooms that are mind centered. Curriculum, that is hands on, requires students to work in centers that target specific intelligences. Centers also provide students with the opportunity to learn through all their intelligences (Chapman & Freeman, 1996).

Currently, students perform at a below average capacity on our yearly achievement tests in the reading comprehension section. Although most students possess the ability to read the words in context, they are unable to transfer the information presented within the story. Students also do not exhibit the application of reading comprehension strategies that are being taught in the classroom. These could be possible causes for the decline in reading comprehension achievement scores. Many tests have traditionally been based on limited strengths exhibited by children, their written, verbal, and mathematical skills.

Another cause for concern is the curriculum changes and administrative pressures. These may force teachers to use reading materials that are appropriate for the grade level, yet may not be suitable for the developmental stage of each individual student. This causes frustration, inadequacies in the skills needed, and a resistance to reading. Immature students do not posses the proper skills and strategies and may not experience the joys and successes of reading felt by their average peers. Allowing students to engage in a variety of learning activities based on different styles could develop their strengths.

Probable Causes (literature-based)

Teachers are unsure of which side to support when it comes to how children learn to read and comprehend. The traditional phonics approach, learning letter sounds and syllables before attempting words or stories, has been losing support. Today, the Whole Language approach is being encouraged. The underlying idea of this approach to reading is to build confidence in the students and spark an interest in reading itself before the direct and detailed instruction of phonics and grammar begins (LaForge, 1993). Using the Whole Language approach, it is assumed that "as reading skills grow, kids learn to figure out unfamiliar words not by sounding out letters but by searching for clues in the story or illustrations" (LaForge, 1993, p.161).

"Many teachers lack experience with extensive use of literature in the curriculum. They are limited both in their knowledge of available trade books and in the ways to use them. As a result they frequently turn to district or commercially prepared guides that may be little better than the old basals they were ment to replace" (Strickland, 1995, p.295). Educators, as well as parents, still debate which approach

to reading is better. Supporters of the phonics approach, as well as the Whole Language program, claim literacy rates are higher under their approach (LaForge, 1993). Thus, teachers are left very confused on which method to implement in their classrooms.

Traditionally schools base their curriculum on the 3 R's: Reading, Writing, and Arithmetic, and for many children this has been their fundamental education. Teachers and parents have known for years that children have strengths other than in reading, writing and arithmetic. Howard Gardner, in his book Frames of Mind published in 1983, outlines his theory of multiple intelligences (MI). "Gardner's theory of the seven intelligences provides a basis for change in education" (Checkley, 1997, p.8).

The researchers believe that all children can improve their ability to comprehend the written word by strengthening their various intelligences. Observing the traditional classrooms reaffirms our belief that children need a more interactive curriculum, one they can explore and centers around formal training.

Gardner identifies seven areas of intelligence that characterizes human beings. He believes that there may be more. His "theory proved that people are not born with all of the intelligences they will ever have" (Wilkens,1996, p.4). He believes intelligence can be learned, and we need to learn how to develop all of our intelligences to use them to their full potential.

His seven intelligences include verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, musical-rhythmic, interpersonal, and intrapersonal. The verbal-linguistic intelligence involves the production of language including reading, writing, and speaking. The logical-mathematical intelligence includes both mathematical and scientific abilities. These include problem solving, inductive and

deductive thinking, and working with symbols and patterns. The visual-spatial intelligence involves both the visual art (painting and sculpture) and assembly (how things work, come apart and are put together). The bodily-kinesthetic learner has the ability to use the body to their advantage as in, dancers, athletes and those who are adept with using manipulative. The musical-rhythmic intelligence involves the sensitivity to tones, vocal, instrumental, and environmental sounds. The interpersonal intelligence is the ability to interact with other people whether it be at work or at play. The intrapersonal intelligence revolves around knowing, controlling, and being responsible for oneself. Metacognition and self reflection are important attributes of the intelligence. "The theory of multiple intelligences will not solve our curriculum problems but linking MI with a curriculum focused on understanding each child is an extremely powerful intellectual understanding" (Checkley, 1997, p.11).

It is evidenced by a survey taken in our school that 50% of our teachers currently feel they have limited or no knowledge of Howard Gardner's MI theory, and currently do not implement these seven intelligences regularly into their lesson plans. The researchers feel strengthening all children's various intelligences will help them increase their love of school, and as a result, they will be better problem solvers.

The intelligences are developmental and include four stages 1) first exposure, 2) explore and strengthen, 3) formal training, and 4) mastery. Gardner also feels each person is born with all intelligences that are strengthened and forever changing through lives' journeys, influences, experiences, and schooling.

Students at the targeted school exhibit much lower percentages in reading comprehension than that of the "norming group." The researchers feel the Gates-MacGinitie tests reflect the students reading comprehension, but express concerns that the multiple choice format is unfamiliar to most children.

Another factor contributing to reading comprehension difficulties stems from the parents and home environment. LaForge says that "Kids at all levels need a pressure-free, reading-rich environment at home. Most of all, they need someone to read to them regularly" (1993, p.162). Karen Donaldson, a kindergarten teacher in Durham, North Carolina, says that, "They (parents) want new ideas. They want teachers to work magic. But the fact remains: Reading to your child is till the most effective way of helping her learn to read--and learn to love reading" (LaForge, 1993 p.163). Unfortunately, only 52% of parents with kids under 9 years old read to their children (LaForge, 1993). What are the children doing instead? Organized sports, video games, and most often, watching television takes precedency over reading time at home. (LaForge, 1993).

CHAPTER 3

THE SOLUTION STRATEGY

Literature Review

The ability to read and get meaning from the printed or written word is a basic life skill. Reading provides the key to a wide range of information. People read road signs, maps, recipes, labels on medicine bottles, directions for making, fixing, and using things. We are asked to fill out a variety of forms in every day life which include job applications, income tax statements, and credit card applications. People read books, magazines, newspapers for enjoyment and relaxation. Reading plays an essential role in the daily lives of most people.

The reading ability of the general public across the nation varies greatly. Statistics have shown that the reading ability of our students is decreasing along with their comprehension skills. Comprehension involves reading the material and understanding the main points. Researchers have also found this to be a concern and through the literature currently written there are many ideas being discussed.

One cause of poor reading comprehension stems from a district driven curriculum. Following these guidelines, teachers tend to derive their classroom curriculum from standardized test criteria. Students usually find this type of curriculum uninteresting and dull. A lack of student motivation tends to follow a non-stimulating reading curriculum. As a result, student literacy suffers. The Carnegie Task Force on Learning refers to years three to ten of a child's life as the years of promise. "All children are born ready and willing to learn" (1996, p.4). As students progress through the primary grades, this will to learn diminishes, thus decreasing literacy in students even further.

"As a group, American students do not read well. Students are not really reading much of anything" (Carbo, 1990, p.27). Children are not taking an interest in

reading, and the teachers are not providing reading material which interests the students. Even our top readers are settling for less. They avoid reading as much as possible, resulting in a limited amount of information gained by the student (Carbo, 1990).

The reading curriculum also assumes students have a sufficient amount of prior knowledge upon entering a school reading program. Students should thrive on their background experiences. Teachers are now realizing that a literary work can have several different meanings. Life experiences the students bring with them influence their interpretation with the reading text (Thousdale & Harris, 1993). No longer are these teachers expecting students to arrive at one correct analysis or interpretation. Using this theory as an underlying goal, students should feel successful in reading as they relate their experiences to the story.

Students, however, are lacking in background knowledge. The school system alone cannot be responsible for fully educating a child. The home environment in which that child grows is just as important. "Literacy learning is perceived as multidimensional and tied to the child's natural surroundings, so it is studied in both home and school environments" (Strickland, 1990, p.19). It has been shown that children that grow up in an environment full of print are constantly observing and learning about language in words (Strickland, 1990). Learning by observation is natural; thus, a rich print environment enhances a child's learning.

Nevertheless, some children continue to struggle with reading because of individual maturation delays. Educators must realize that some delayed students are just not developmentally ready to learn and they are incapable of understanding complex reading strategies. It has been shown that a child does need to reach a certain maturity level to comprehend. "Although learning to speak is accepted as a

natural part of the maturation process that doesn't require formal instruction, the mastery of reading and writing has been considered an arduous learning task, requiring a period of intense readiness" (Strickland, 1990, p.20).

Yet another factor contributing to developmental delays is poor preschool preparation. Several preschool programs are not effectively educating today's youngsters. Preschoolers are not prepared to enter the academic-based school system (Carnegie Task Force, 1996).

Teachers tend to have overall lower expectations for struggling readers. However, the opposite is quite true. Teachers need to reach each student and help them succeed. It is crucial because children who fall behind early only escalate in falling further and further behind their peers (Strickland, 1990).

Another factor playing a primary role in reading comprehension difficulties is that students have little or no choice in what they read. Students say they are "bored by the steady stream of mindless worksheets and insulted by the low-level, uninteresting books" (Carbo, 1990, p.27). Teachers are so driven to teach by standardized test guidelines that they forget to look at what the students see as important.

In recent years, the value of the achievement tests has been highly debated. The achievement or standardized tests have been used in this country for years to measure a student's progress. Our society relies heavily on test results for college admissions, eligibility for scholarships, and even military job assignments. The tests were designed to measure how much an individual had learned about a particular subject. Education needed a method "to measure the learning outcomes of the school curriculum" (Psychological Corporation Harcourt Brace Jovanovich, Inc., 1989, p.5). They could then evaluate the overall progress of their school from year to year. Results of the test would inform the district if the instruction within the classroom

needed to be reevaluated or altered. Instead the test data was used to rank the school, and children were grouped instead of educated.

"In the history of education and educational testing, only two of the intelligences - the verbal/linguistic and the logical/mathematical- have been emphasized" (Chapman, Freeman, 1996, p.IX). "It was thought that an individual's scores on various kinds of tests usually correlates positively with one another, no matter what the subject matter is" (Glazer, 1993, p. 3). So if a student scored above average on one section, it was presumed that he would score approximately the same on the other section. The same concept was believed to be true for the other end of the spectrum. If you scored below average in Math, you probably would be below average in Language too.

There are advantages of standardized testing. Scores are easily compared between students and schools. They can be administered easily and they take a short time away from everyday instruction.

The disadvantages are very important. The tests use a multiple choice format which children are unfamiliar with. To do well on these tests students have to be taught test taking skills. Since these skills are used so rarely, they need to be occasionally reviewed. Because of the manner in which the tests are constructed and graded, it is difficult or almost impossible to gain useful information about the student and of his thinking processes. Archibald and Newmann, argue that "the tendency of items in all standardized tests, even these specific subject areas neglect the assessment of depth of understanding, integration of knowledge, and production of discourse" (1988, p.17). Lastly, but most important, students are not being assessed in the same manner as they are being taught.

With our quest for continual improvement of teaching, educators have moved into several directions. Students in the primary grades no longer sit in straight rows

but in groups or pods. They are constantly interacting with each other during the day instead of primarily with the teacher when she is asking for feedback. Students often work in cooperative groups where they may have assigned jobs and the group produces one product instead of each individual producing one. Students are being taught needed social skills, such as how to get along and work with one another toward a common goal. Students are no longer sitting in desks for hours at a time listening to a teacher lecture or doing tiresome seat work. Now students are moving within groups to centers or stations for reinforcement activities, exploration, and thinking and processing skills. Choices are being provided for the students through centers in a more child-centered learning environment.

Teachers are also compiling portfolios on students where the artifacts of the student's work is judged on the thinking process and creativity producing it, instead of posting number or letter grades in the grade book. So most importantly, students are not being assessed in the same manner as they are being taught. The validity and merit of the standardized or achievement test is being questioned and rightly so.

Along with the debate of the importance of standardized tests, we need to question the method in which students are taught to read. "There are many inconsistencies on exactly how to teach students to read. Reading is a very personal experience--each person's expectations, satisfaction, and responses not only differ from those of others but vary from experience to experience. Reading is a reflection and a refinement of one's understanding about life, both as it is perceived and lived" (Mooney, 1990, p.2). Each person takes their own views from what has been read and draws meaning from their own experiences.

"Reading is the sharing of meaning, and it takes place through verbal and non-verbal modes of language, which includes listening and speaking, reading and

writing, moving and watching, shaping and viewing" (Mooney, 1990, p.2). Reading is not confined to a specific class, but is used throughout the day as an exchange of ideas. Students should have the opportunity to read and respond to what they have read to help increase that meaning.

Children learn to read in four different ways: (1) by seeing and hearing others read, (2) by listening to others read to them, (3) reading with others, and (4) reading by themselves and to others (Strickland, 1995). Through these experiences, they learn that many of the events and ideas they hear or read are similar to experiences they have had and can reflect on them in a personal way. As children hear and read more they will be spurred on by a continued interest of print, especially if this interest in reading is encouraged and supported in school and at home.

As children enter school, they arrive in the classroom at different levels of ability. These abilities provides many challenges for teachers. Some teachers feel there should be individualized instruction and others believe in ability grouping. "Many educators are aware of the extensive research that points to the harmful effects of ability and achievement grouping" (Manning, 1995, p.90). There is a belief that students placed in the low group as they begin school usually stay within that group during their schooling. Students who are not grouped but are brought together heterogeneously respect and value other class members, and take responsibility for helping each other learn. This grouping process is especially apparent within reading programs. The low group may not have the opportunity to be exposed to different types of literature, and the high group may be challenged, but not given the opportunity to share ideas with the whole class.

There are many different strategies being used to increase reading achievement. According to Comcowich and Quinn from "Schools in the Middle:

Theory into Practice", there are eleven different ways to increase reading ability (1996, p.29). The first idea is to hire the best; those teachers who have experience at the college level in the area of teaching reading. Second, encourage support and office staff not to interrupt classrooms during the reading period. Third, assign teachers based on needs. The most experienced teachers should be working with the children who are at or below their grade level in reading. Fourth, observe teachers during reading instruction. The room should have a print-rich environment, a variety of literature available, daily silent reading, opportunities for oral language development such as choral reading, speeches, drama, debates, with a variety of questions being asked. The fifth element is to design a staff development program around reading. The staff development should include improving goals, increasing expectations, selecting appropriate materials and technology, examining test data to help the reading programs, and develop a reading plan. Administrators could be used as supervisors to do formal and informal observations, tour the school to watch the teachers, meet with teachers, review student work and tests, work with the reading coordinator, and support the efforts of all teachers. The seventh way is to use research. It is important to be familiar with the current research and share findings with the teachers. The school should have subscriptions to several educational journals and the information from these articles should be passed along to the teachers. The eighth idea is to involve students and parents. Parents who read to their child twenty minutes a night can become members of a reading club. This membership allows the child and parent to attend special events in the community and school. The hallways could also display examples of work done by the students. These activities help reinforce the goal of a positive reading environment. The ninth idea is to make parents partners. Parents can help by encouraging their children to read. Books should have

an important place in the home and be given as gifts. The tenth idea is the use of time management skills. Jobs should be given to other school personnel so that there is enough time in a school day to focus on teaching children to read. The last and final element is collaboration. Parents and teachers have to work together to make decisions and share ideas. By working together parents become part of the decision making process.

Many teachers are trying to make changes in their reading programs, but are still not sure what to do about phonics, spelling, and grammar. The trend is toward integrating trade books within the curriculum, but many teachers are unsure how to present the material. Famous educator Dorothy Strickland states,"My teachers love all the new trade books, but they say they're not sure what to do with them" (1995, p.294). Teachers feel they are on the right track, but after reading new articles they find contradictions and realize even the experts do not agree on what approach to take.

Teachers are facing many challenges today as they attempt to move from using their basal programs and content area textbooks to greater use of authentic literature. They feel the need to take advantage of the new research as it relates to issues about grouping, direct and indirect instruction, and how to assess students learning.

Today, textbooks are not the main resource used for reading or learning in the content area. In classrooms children are exposed to authentic literature in all areas of the curriculum. "Response to literature takes many forms including group discussions, writing, art, and drama. Fiction and nonfiction trade books, poems, textbooks, and other materials are discussed in terms of their content and literacy qualities. Teachers are also reading aloud to their students everyday and giving them the time to read books of their own choice" (Strickland, 1995, p. 298).

Teachers are uncertain exactly how to use trade books in their classrooms and

often return to their reading series. Often there can be problems if the material marked for a certain grade is not age appropriate, especially if an outside coordinator assigns a certain trade book book to a particular grade level. Another concern facing reading programs is the lack of non-fiction books being used. At times a set of trade books may be purchased only because of the price, and not for its value to the curriculum.

Some other concerns facing teachers is the availability of the books being used at certain grade levels, which can cause conflicts at other levels when certain books may be needed to teach a theme. According to Strickland, "Teachers should focus on certain genres and writing forms, this contributes to a sense of order in the curriculum and offers some assurance that the key strategies are being taught" (1992, p. 300). Teachers could also be more creative with their current basal by treating them as an anthology and using a particular story in a student run discussion group. "School book clubs, such as Scholastic and Trumpet also provide an excellent means of acquiring multiple copies of current and classic selections of fiction and nonfiction" (Strickland, et al.,1992, p. 301).

"Many teachers participate in Teachers as Readers groups that meet regularly to discuss fiction and non fiction literature and their uses in the classroom" (Stickland 1992, p. 301). "Some find help in the professional literature on constructing their own literature guides" (Hepler: Routman, 1991, p. 296). These guides help the teachers evaluate the material that is made by the companies and can decide if it is worth buying.

There are some advantages to using a literature based curriculum. It can increase the amount of different material being used and increases the demand for having quality literature for children. Publishers are meeting this challenge by

providing books in a variety of levels that feature characters, setting, and the various cultural backgrounds of the authors. There are a variety of ways to use these trade books within the curriculum. One way could be a whole group read aloud led by the teacher, another is small groups working together and discussing what they read, and a third could be to use the books as resources for a report assigned in class.

"Research suggests we must redefine what is basic to becoming literate. A literacy curriculum that emphasizes what is basic values and builds on the knowledge that students bring to school, emphasizes that construction of meaning through activities that require higher order thinking, and offers extensive opportunities for learners to apply literacy strategies and their underlying skills in the content of a meaningful tasks" (Strickland, 1995, p. 298).

"As teachers of reading, we have recently been challenged to prepare students for the literacy of thoughtfulness, a literacy that involves being able to think, know, understand and learn in ways that go beyond the mere accumulation and storage of information and that requires the ability to collaborate and support others in ways that extend beyond commonly held notions of 'teamwork'" (Strickland, 1995, p. 301).

"Today there is a shift away from teaching skills towards one that involves the use of a variety of strategies. In teaching for strategies skills are taught because the student demonstrates a need for a specific strategy, but often these strategies are not useful to the learner until they have a need to use them in their work. Changes can occur in a classroom when the climate changes from teacher dominated to student centered. It has shown that teaching a skill in isolation and practicing on worksheets has no relation to meaningful teaching. The learner must know how and when to apply the skill; that is what elevates the skill to the strategy level" (Routman, 1994, p.135). Teachers must constantly be observing their students. They may want to use

observations or checklists. This kind of evaluation can help the student understand why the strategies are being taught. Teachers must also give themselves the time to believe in their own styles. Perhaps they will not have to rely on teaching manuals and programs and have faith in what they are doing. Teachers understand their students and know best what their needs are.

Kristen Nelson, a consultant in Orange County, California, discusses the uses of incorporating the multiple intelligences into daily lesson planning. She observed a wide variety of student interests and enthusiasm seen outside the classroom which prompted her to look into alternative teaching ideas. "I've been perplexed by students who perform poorly in math and language activities and appear unmotivated,-yet thrive outside the classroom. I've seen these 'underachievers' in the streets after school, their faces lit with laughter and enthusiasm for whatever they were doing" (Nelson 1995, p.26).

Nelson used Howard Gardner's Theory of Multiple Intelligence (MI) to change her teaching strategies and to impact student achievement by focusing on the child's strengths. She integrated the MI theory into her lesson plans by adapting activities to meet various learning styles. "For example, a child who is strong in spatial intelligence and is a visual learner can strengthen her reading and writing skills by drawing a picture before writing about a book she reads" (Nelson, 1995, p.28). Students need to have an opportunity to explore all of the strengths Gardner calls the multiple intelligences. One idea Kristen Nelson used was setting up centers organized around the seven intelligences. These centers can be set up to link with the curriculum or be independent of what the students are studying. They provide materials, time, and challenging activities to strengthen the child's intelligences. MI theory helps the educator create an individualized learning environment by strengthening students'

experiences and helping them discover their strengths and feel better about themselves.

The publishers of Frames of Mind by Howard Gardner in 1983 provided a framework for educators that learning can take place at many levels. Gardner's explains intelligence is, the ability to solve problems or make something within ones values in their culture (1983). Using this definition, educators can begin to understand that children do not have the same strengths and the vast majority of children should not be treated or taught the same. Children have traditionally been taught the linguistic and logical mathematical abilities. Not all children possess strength in these areas. Teachers can help students use and strengthen their abilities by doing more group work and focusing on understanding. Understanding can then be transferred to new situations. The importance of learning is what students can use once they leave school. Teachers should help students understand themselves better and use this understanding to increase their level of skill (Checkley,1997). According to James Bellanca, putting Gardner's theory to work in today's classroom can enable all students to learn. A classroom practicing MI theory can create an environment for all children to explore and develop their specific abilities (Chapman, 1995).

Teachers are putting Gardner's theory in practice in classrooms across the United States. In this time of educational crisis, authentic assessment and student-centered learning seem to provide a fresh avenue for teachers. Traditional roles of education, written and mathematical, are not the only ones teachers should implement. Students should be offered opportunities to understand the learning process and taught the MI theory so they can effectively choose techniques by which to learn and problem solve. Teachers could design activities and projects around the

seven intelligences and allow their students to choose their learning activities based on their strengths (McGlaskey,1995).

Gardner's theory of MI is making its way into more and more schools through classroom centers and projects according to author Carolyn Chapman (1996). These provide activities for children to explore, practice, and strengthen specific intelligences. Teachers either manage an exploratory center or set specific goals in a structured center and explain the procedure for the activities.

Projects allow students an opportunity to explore in depth, content related subjects while teachers set specific criteria and expectations. Projects can be used in centers as an on going area of study. This allows students to make choices and decisions based on the teacher's criteria. There are more challenges in a mind-centered environment. "Centers and projects also provide students with the opportunity to learn through all their intelligences-to identify and enhance their strengths and develop their areas of weakness" (Chapman & Freeman, 1996, p.9).

To actively apply these learning techniques in their classroom, the researchers drew up a Multiple Intelligence grid which covered a week of lesson plans. They met on a weekly basis, brain stormed ideas, and came up with a group of ideas that was to be executed the following week. The Multiple Intelligence grid, (See Appendix A) listed all the intelligences with a space provided to write in the lessons for that week. The researchers used suggestions that could be incorporated into centers within the classroom. Lessons were planned around a central story that was to be used each week. Stories were selected that went along with the themes that the grade level teachers were using. Students were working with the intelligences weekly.

All researchers had constructed symbols to depict each of the intelligences, color coding them. Word smart was red, music smart - purple, body smart - blue,

number smart - green, picture smart - orange, people smart - brown and self smart - yellow. Children were given the explanation of the Seven Ways to Getting Smart and later became quite familiar with them realizing which of the intelligences we were targeting when working on certain activities.

Products from the centers were color coded as to which intelligences were covered and then put into the child's portfolio. Children regularly went through their portfolios selecting the two they liked best for each of the intelligences. Researchers later went over the portfolios with the child having the child discuss his/her choices and the reasons for their choices.

Project Objective and Processes

As a result of integrating a multiple intelligence Language Arts curriculum during the period of September 1997 to December 1997, the targeted classes from first and second grade will increase their reading comprehension skills, as measured by teacher designed tests, standardized tests, and review of student portfolios.

In order to accomplish the terminal objective, the following processes are necessary:

1. A Reading Strategies Checklist will be developed to assess student comprehension strengths and weaknesses.
2. A series of learning activities that address reading comprehension skills will be developed for Language Arts centers.
3. Assessments will be constructed to indicate student development in reading comprehension.
4. Guidelines will be established to evaluate the successful completion of a Language Arts multiple intelligence portfolio.

Project Action Plan

The action plan will explain and further detail the intervention listed in the previous section. The integration will implement a multiple-intelligence-based Language Arts curriculum stressing reading comprehension.

The researchers will begin in early September gathering data on first and second grade students through the Reading Strategies/ Comprehension Checklist. This will be accomplished with the assistance of a trained volunteer administering the checklist in small groups.

Mid September, each of the students will be given the Gates-MacGinite reading test for baseline data on reading skills. The students will be introduced to Howard Gardner's theory of multiple intelligences. These intelligences will be incorporated in the lesson planning throughout the testing period. The next step in the research process will last approximately one week. During this stage the students will learn how to work on projects and activities in centers.

The researchers will be utilizing a multiple intelligence planning grid for a literature-based unit on a weekly basis for twelve weeks. The following schedule will be implemented in the targeted classrooms.

Day 1: Introduction of story

Day 2, 3, 4: Implementing all multiple intelligences into center activities to reinforce reading comprehension skills

Day 5: Comprehension tests will be given weekly.

The students' artifacts generated from the weekly multiple intelligence centers will be placed in their individual portfolios. These portfolios will be an ongoing evaluation instrument of their reading comprehension strategies. At the completion of

twelve weeks, each student will be evaluated for growth through portfolio assessment and a post test (Gates-MacGinitie).

Methods of Assessment

Assessment tools implemented to assess the effect of multiple intelligence activities on reading comprehension of first and second graders are portfolios, a standardized tests, weekly comprehension tests, a teacher checklist, and story maps. The portfolios are a container made from a cereal box covered and decorated by each individual student. The researchers will develop weekly activities to improve reading comprehension through the use of multiple intelligence activities presented in learning centers. The artifacts from the learning center activities are placed in the individual portfolio representing the seven intelligences. The standardized test given will be Gates-MacGinitie Reading Test Level 1Form K and Level 2 Form L. The results of this test given in early fall will be compared to the alternate form given in early winter. Teacher selected comprehension questions are administered every Friday as an on going tool for evaluating comprehension progress. A checklist of reading strategies developed by the researchers record the child's use of these devices. The checklist will be completed by the researchers in fall and winter. Story maps recording the title, author, characters, problems, and solutions are completed weekly to assess the comprehension of the stories.

CHAPTER 4

PROJECT RESULTS

Historical Description of the Intervention

The objective of this project was to increase reading comprehension of the targeted first and second grade students by incorporating multiple intelligence activities within our reading program. The implementation of this project involved student-oriented learning centers in which the activities were based around the application of multiple intelligences.

A survey was taken home by the students for the parents to complete and return. This survey included seven questions collecting data on their child's reading and after school activities. The purpose of this was to evaluate how much time is spent on after school activities and time spent reading at home (See Appendix B). An additional survey was given to the other teachers in our building to see what knowledge they had about the multiple intelligences (See Appendix C).

Base line data was collected the fourth week of school. Each student was given the Gates-MacGinitie Reading Test which measured vocabulary and reading comprehension skills (See Appendix D and E). The targeted group was assessed by a Reading Strategies Checklist which was administered individually by the researcher (See Appendix G). This checklist was completed the fifth and twentieth week of school. This checklist consisted of thirteen strategies observed and recorded by the researcher while each student was reading. Their performance was recorded as consistently, occasionally, or not yet.

Following the administration of the Gates-MacGinitie Reading Test the researchers began planning the implementation of learning centers based on the multiple intelligence activities. The researchers created a multiple intelligence lesson

planning grid. They met weekly and planned multiple intelligence centers with an emphasis on reading comprehension. Each of the seven intelligences were integrated into activities that reinforce reading comprehension. The teachers chose reading materials from trade books, reading series and other available resources.

Throughout the twelve-week project, students were instructed in the seven intelligences. Each intelligence was symbolized by a color. Word smart was symbolized by red, number smart-green, people smart-brown, body smart-blue, picture smart-orange, self smart-yellow, and music smart-purple. Students learned about the multiples through stories and class discussion. The children learned to identify each artifact by making a crayon mark on it to identify which intelligence they practiced in their comprehension center.

The reading centers were planned four days per week for 15 to 20 minutes. Each center emphasized one or more intelligences. By the end of the week all of the intelligences were integrated into the reading comprehension curriculum. Artifacts from the center activities were added to the student's personal portfolio. Periodically the children assessed their portfolio selecting their best artifact representing the seven intelligences. At the conclusion of the intervention, the students were given a self evaluation of their MI portfolio.

On Friday of each week, the students were given a comprehension test and a story map to complete. The comprehension tests were unrelated to the story presented that week. The story maps were given to assess understanding of the story practiced during the week.

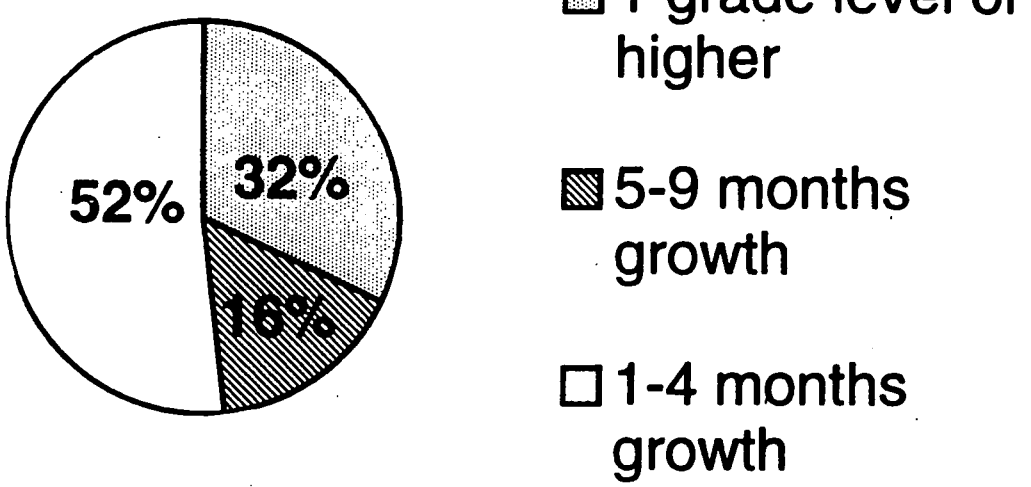
At the end of the twelve-week program, several assessments were administered. All participating students were given the Gates-MacGinitie Reading Test, Level 1 and 2, Form K.

Presentation and Analysis of Results

In order to assess the effects of the multiple intelligence on reading comprehension, the Gates-MacGinitie Reading Test Levels 1 and 2, Forms K and L were administered before and after the twelve week period. Students were given two sub tests: Vocabulary, and Comprehension. The total grade equivalent was also determined for each student. Results for the 19 first graders are reported in Figures 3,4, and 5; results for the 60 second graders are reported in Figures 6, 7, and 8.

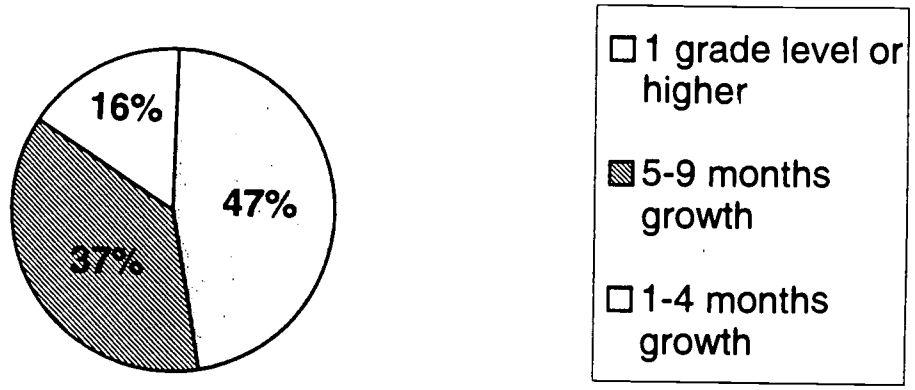
On the vocabulary sub test all targeted first graders showed an increase in vocabulary development. The growth rate ranged from .1 to 1.7 years with the average growth rate being .67 years. Six students showed a growth of over one year, 3 students were in the .5 to .9 range and 10 students' growth fell in the .1 to .4 years growth. The pie chart below illustrates the percent of children and their growth.

Table 3 First Grade Vocabulary Growth



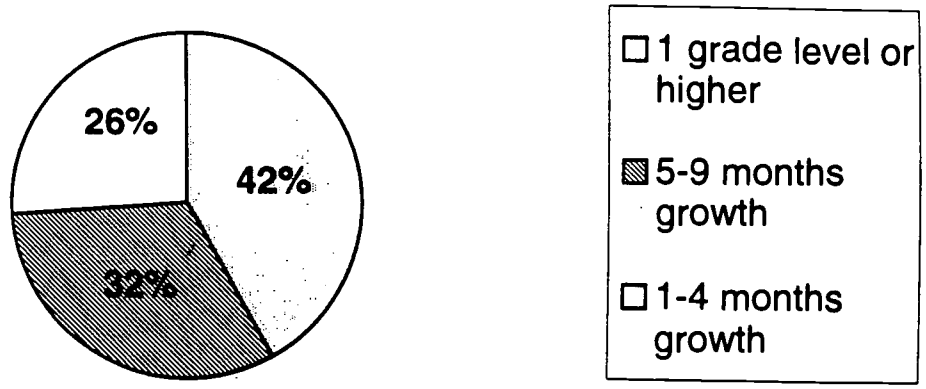
On the comprehension sub test all targeted first graders showed some growth. The growth rate ranged from .1 to 1.6 years. The average growth rate was .59 years with 3 students gaining over one years growth. Nine students made a gain of .5 to .9 years and 7 students made a growth of .1 to .4 years. The pie chart below illustrates the percentages of student growth.

Table 4 First Grade Comprehension Growth



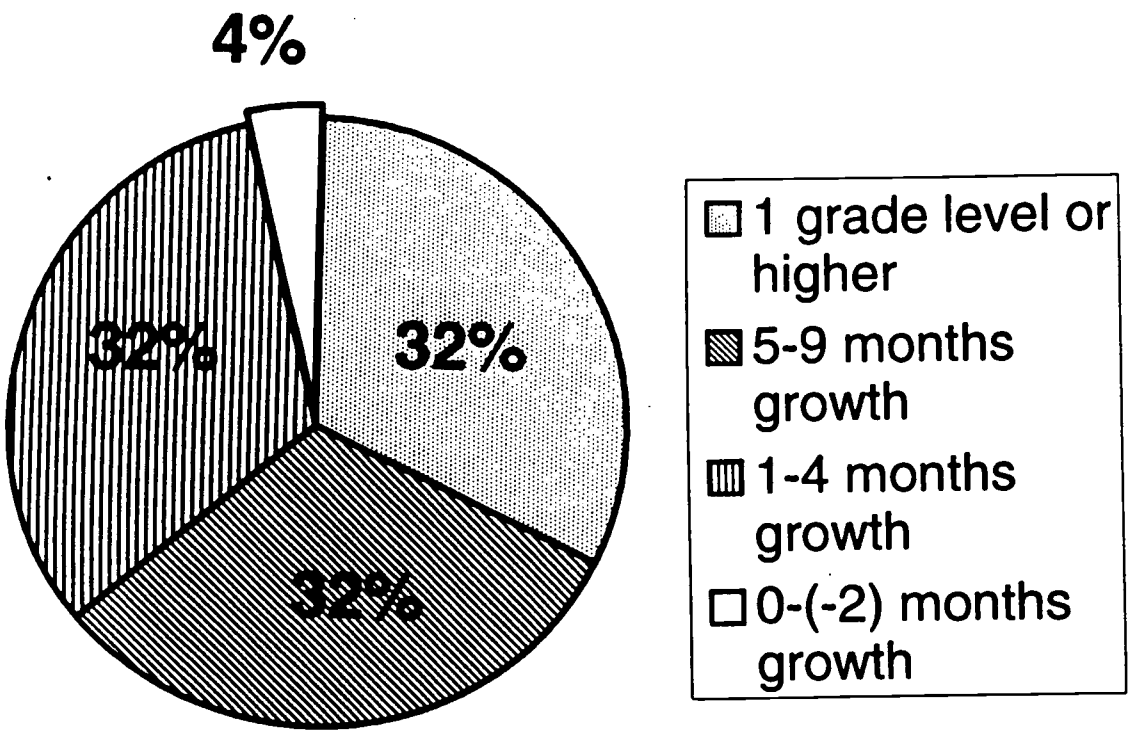
All the targeted first grade students showed growth on their total grade equivalent scores. Eight of the nineteen students made a gain of 1.0 to 1.7 years. Six of the students gained .5 to .9 years and five students gained .3 to .4 years. The pie chart below illustrates the percentages of student growth.

Table 5 First Grade Total Grade Equivalent Growth



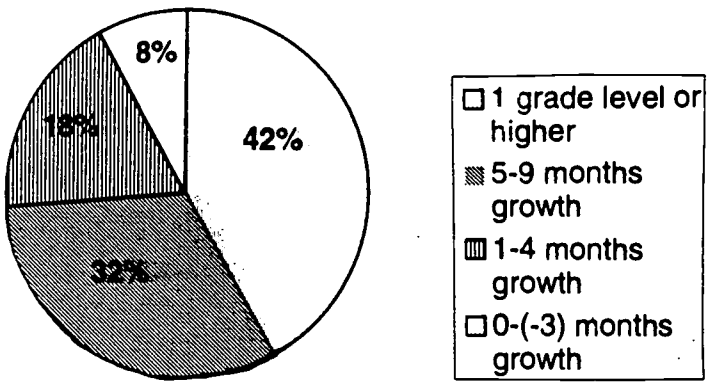
On the vocabulary sub test for the 60 targeted second graders, the average growth was .71 years. The growth rate ranged from .1 to 2.8 years for 57 students and 3 students showed no growth or a negative growth rate from 0 to -.2. Nineteen students showed a growth rate of one year or more, nineteen students showed a growth rate of .5 to .9 years, nineteen students showed a growth rate of .1 to .4 years, while 3 students had 0 to -.2 years. The pie chart below illustrates the percentages of student growth.

Table 6 Second Grade Vocabulary Growth



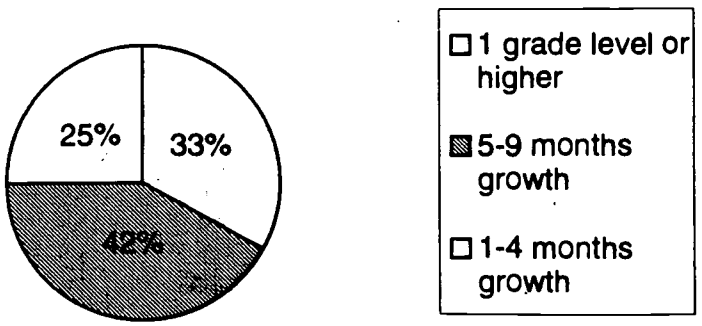
On the comprehension sub test 55 of the 60 targeted second graders showed growth in reading comprehension. The average growth for all students was .93 years. The growth rate ranged from .1 to 4.5 years for 55 students and 0 to -.3 years for 5 students. Twenty-five students showed a growth rate of one year or more, 19 students showed a growth rate of .5 to .9 years, 11 students showed a growth rate from .1 to .4 years, while 5 students' growth rate was 0 to -.3 years. The pie chart below illustrates the percentages of student growth.

Table 7 Second Grade Comprehension Growth



All targeted second grade students showed an average growth of .82 years on their total grade equivalent scores. Twenty of the 60 students showed one year or more growth, 25 students showed a growth rate of .5 to .9 years, and 15 students showed a growth rate of .1 to .4 years. The pie chart below illustrates this.

Table 8 Second Grade Total Grade Equivalent Growth

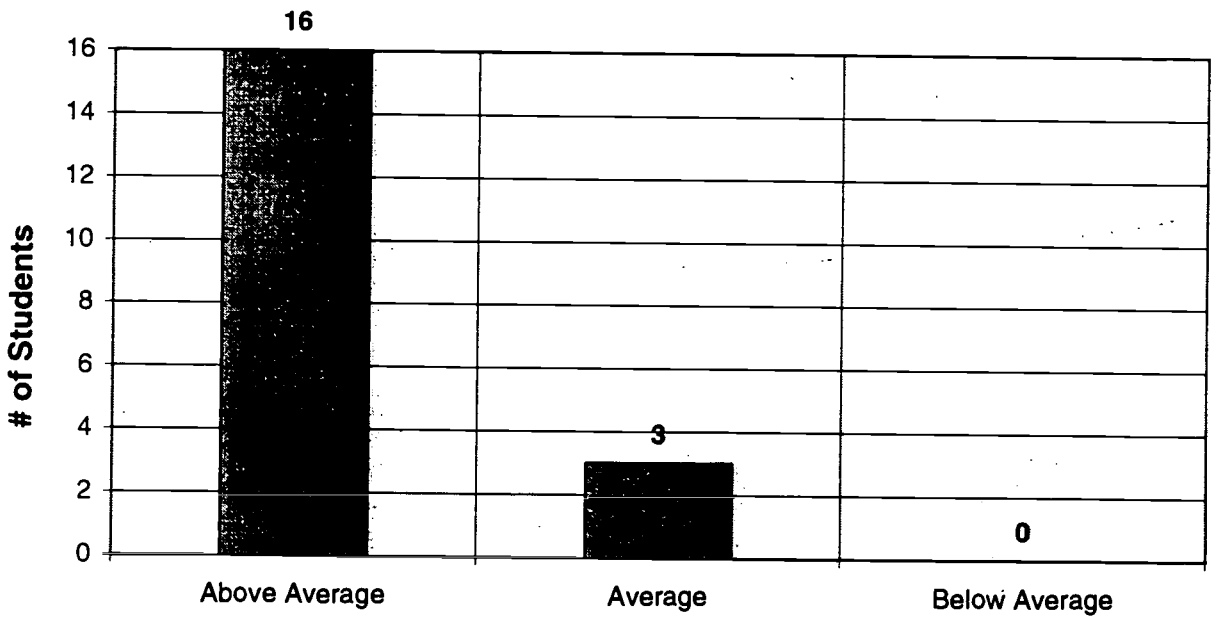


The graph below shows results of the winter Gates Mac-Ginitie Reading Test administered to the targeted first grade class. In the fall, before the intervention, there weren't any students performing above average. There were fifteen students at the average range, and four students resulted in below average scores (See Table 1).

In the winter, after the intervention, there were sixteen first grade students achieving above average scores. Three students fell in the average range, and not one student performed in the below average range.

These results show a tremendous gain in the above average group. There are now sixteen children meeting above average expectations according to this test. These are very positive results for the researchers, with no students falling in the below average group.

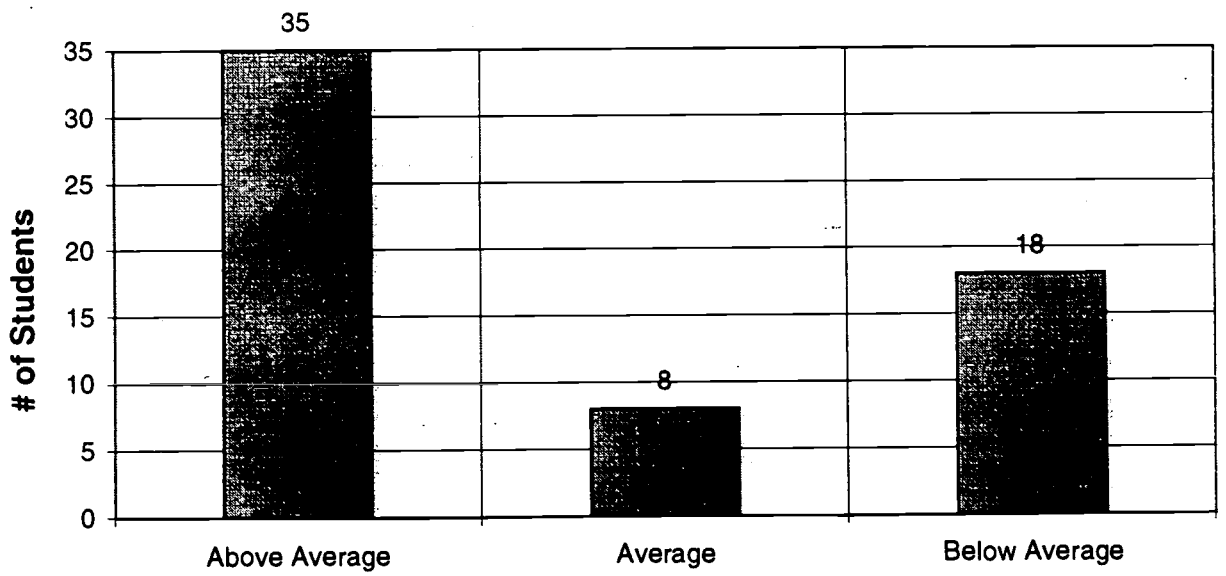
Table 9 First Grade Comparison of Targeted Student Population with Normed Population on the Gates MacGinitie Reading Test



The next graph shows second grader's performance on the Gates Mac-Ginitie Reading Test which was administered during winter after the reading intervention. In September, fifteen students scored above average and eleven students scored in the average range. Our primary concern was the number of students in the below average range. Thirty-five second graders were reading below average, according to national standards of the Gates Mac-Ginitie Reading Test (See Table 2).

After the intervention, there was an increase of twenty-four students scoring in the above average range. Eight students' scores met average expectations. Nearly half of the below average students increased their reading scores. There are now eighteen students, as compared to thirty-five, who were tested below average in the fall. The researchers were pleased with the improvements made by the second grade students after the interventions were implemented.

Table 10 Second Grade Comparison of Targeted Student Population with Normed Population on the Gates MacGinitie Reading Test



The standardized Stanford Achievement Test was administered in February to all students in the targeted group. The targeted first grade demonstrated a standard grade equivalent score of 1.8 in reading. This was given in the sixth month of first grade with the expected score of 1.6. The targeted second grade students demonstrated a standardized grade equivalent score of 3.1 in reading. This was given in the sixth month of second grade with the expected score of 2.6.

A form of non-standardized evaluation was given weekly. A story was read silently followed by four or five multiple choice and fill in the blank questions. The students were instructed on strategies to use to help them find the answers in the story. These stories were given for twelve weeks. It was found there was little improvement exhibited by the students doing this activity. These comprehension stories did not follow the multiple intelligence activities we were using as an intervention (See Appendix H).

Weekly story maps were used as a teaching tool in each of the targeted classrooms to increase the children's awareness of the parts of a story (See Appendix I. The parts included the title and author, main characters, setting, problem, and solution. The story maps done at the beginning and conclusion of the project were compared by the researchers. As the children progressed they were able to complete the story maps more independently and in greater detail.

A Reading Strategies/Comprehension Checklist was administered by the researchers to each of the the targeted first and second grade students at the beginning and end of the twelve week period. This checklist consisted of 13 items evaluating the students' use of their reading comprehension / strategies. The following table illustrate the number of students using each strategy during an observed reading time. The observer noted if the students exhibited each strategy consistently, occasionally, or not yet.

Table 11 Reading Strategies Checklist

Reading Strategies Checklist			
	Consistently	Occasionally	Not Yet
Uses picture clues	58	18	3
Uses context clues	51	24	4
Uses phonetic clues	64	14	1
Self corrects	54	24	1
Learns, understands vocabulary	51	25	3
Recalls main idea, details etc.	48	30	1
Takes risks in predicting/discussion	39	39	1
Able to find proof for answers	42	32	5
Reads orally with fluency	46	29	4
Listens and comments	53	20	6
Demonstrates interest in reading	48	25	6
Chooses to read independently	42	24	13
Reads across the curriculum	39	22	18

Another form of assessment was the student portfolio. Throughout the twelve week period, the children chose artifacts that showed self growth for each of the intelligences. The teacher conferenced with the children, helping them choose the artifact that showed the most personal growth. At the conclusion of the twelve week period the children completed a written evaluation of the contents of their portfolios (See Appendix J).

The parents were surveyed at the beginning of the research period and at the end concerning the correlation between after school activities and time spent reading. The survey showed that the number of children reading at home increased,while the time spent on extra curricular activities remained the same. The following table illustrates the findings.

Table 12 Comparison of Weekly Out of School Reading to ExtraCurricular Activities

Hours	Reading	Hours	Extra Curricular Activities
1-2	20	1-3	35
3-4	21	4-5	13
5-6	16	6-7	2
7-8	5	8-10	1
9+	1	11+	0

Conclusions and Recommendations

Based on the presentations and analysis of the data on reading skills, the students showed an increase in the areas of comprehension and vocabulary development as noted from the Gates-MacGinitie Reading Test. Although our primary focus was on improving comprehension, we were pleased to see that vocabulary also showed considerable growth during our intervention period. It was encouraging to see such tremendous gains in only four months when expected growth was .4 years.

There were several factors that we feel may have contributed to growth in comprehension. One of these factors was the use of the weekly story maps which introduced and reinforced story parts. The second factor may have been the implementation of multiple intelligence centers. There is a strong possibility that each student was able to excel in some area through the variety of activities offered. Finally being able to succeed, these children blossomed and the seed for the enjoyment of reading was planted. It is only feasible as researchers that we assume maturity had a role in development and is a third reason for reading growth.

It is recommended that procedures and processes employed in this intervention not only be continued, but widened and expanded. The multiple intelligence centers greatly motivated beginning readers, instilling a love for learning. Through the self-evaluations of the portfolios, each student realized their personal strengths. Emergent readers gained confidence and self-esteem in reading which transferred across the curriculum.

Ideally, the theory of Multiple Intelligences provides an opportunity to choose an activity that best demonstrates their learning. Objectives and rubrics should be in place to guide the students toward the teacher expectations. The students should be

intrinsically motivated to put forth their best effort because their learning would be shown through their dominant intelligences.

We would recommend this intervention to other elementary teachers. Teaching through the multiple intelligences should be a part of staff development in schools who are searching for a way to increase a love of reading in students.

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APPENDICES

Appendix A

Multiple Intelligence Planning Grid

Name_____

Week of_____

red	Verbal/Linguistic
green	Logical/Mathematical
orange	Visual/Spatial
blue	Bodily/Kinesthetic
purple	Musical/Rhythmic
brown	Interpersonal
yellow	Intrapersonal

Appendix B

Parent Survey

Please complete the following survey regarding your child's reading and after school activities. We will be using the cumulative results of this survey for our research project. We are currently working on our Master's Degree from St. Xavier University. Thank you for your cooperation. Pat Gens, Jane Provance Kathy VanDuyne, and Kim Zimmerman
Circle your answers!

1. Does your child participate in any after school activities?(e.g. scouts, soccer, dance)
   a) yes b) no (if no, skip to #5)

2. What activities does your child participate in? Circle all that apply.
   a) scouts b) dance c) soccer d) football

   e) baseball f) other_____

3. How many times per week does your child have an after school activity?
   a) 1 b) 2 c) 3 d) 4 e) 5 f) more

4. How many total hours per week do these activities require?
   a) 1-3 b) 4-5 c) 6-7 d) 8-10 e) 11 +

5. Why doesn't your child participate in any after school activities?
   a) too young b) no time in your schedule c) child doesn't express any interest

   d) parent chooses not to participate e) other_____

6. How many nights per week does your child read?
   a) 1 b) 2 c) 3 d) 4 e)5 f) 6 g) 7

7. How many hours per week does your child read?
   a) 1-2 b) 3-4 c) 5-6 d) 7-8 e) 9+

Thank-you for completing this survey. The results will be reported in our research paper at St. Xavier University.

Appendix C

Teacher Survey

As most of you are aware, Pat Gens, Jane Provance, Kathy VanDuyne, and Kim Zimmerman are currently working on a research paper for their master's degree from St. Xavier University. We are researching on the effects of implementing centers in the classroom that enhance the reading comprehension of students through the use of Howard Gardner's theory of multiple intelligence. PLEASE take a few minutes to answer the following questions. We will not in any way share your answers with administration. They will be compiled and reported anonymously in our paper. We cannot even use our school's name or the name of our community. If you have any questions or reservations feel free to discuss them with any one of us. THANKS!

Circle One for each question:

1. Do you have knowledge of Howard Gardner's theory of multiple intelligence?

none very little limited knowledgeable

If you answered "none," you are done with this survey! Thanks!

2. Do you implement any of Gardner's theory into your lesson plans?

none very little limited a lot

3. What do you feel most of your curriculum centers on?

Verbal/Linguistic Interpersonal musical/rhythmic

logical/mathematical intrapersonal visual/spatial bodily/kinesthetic

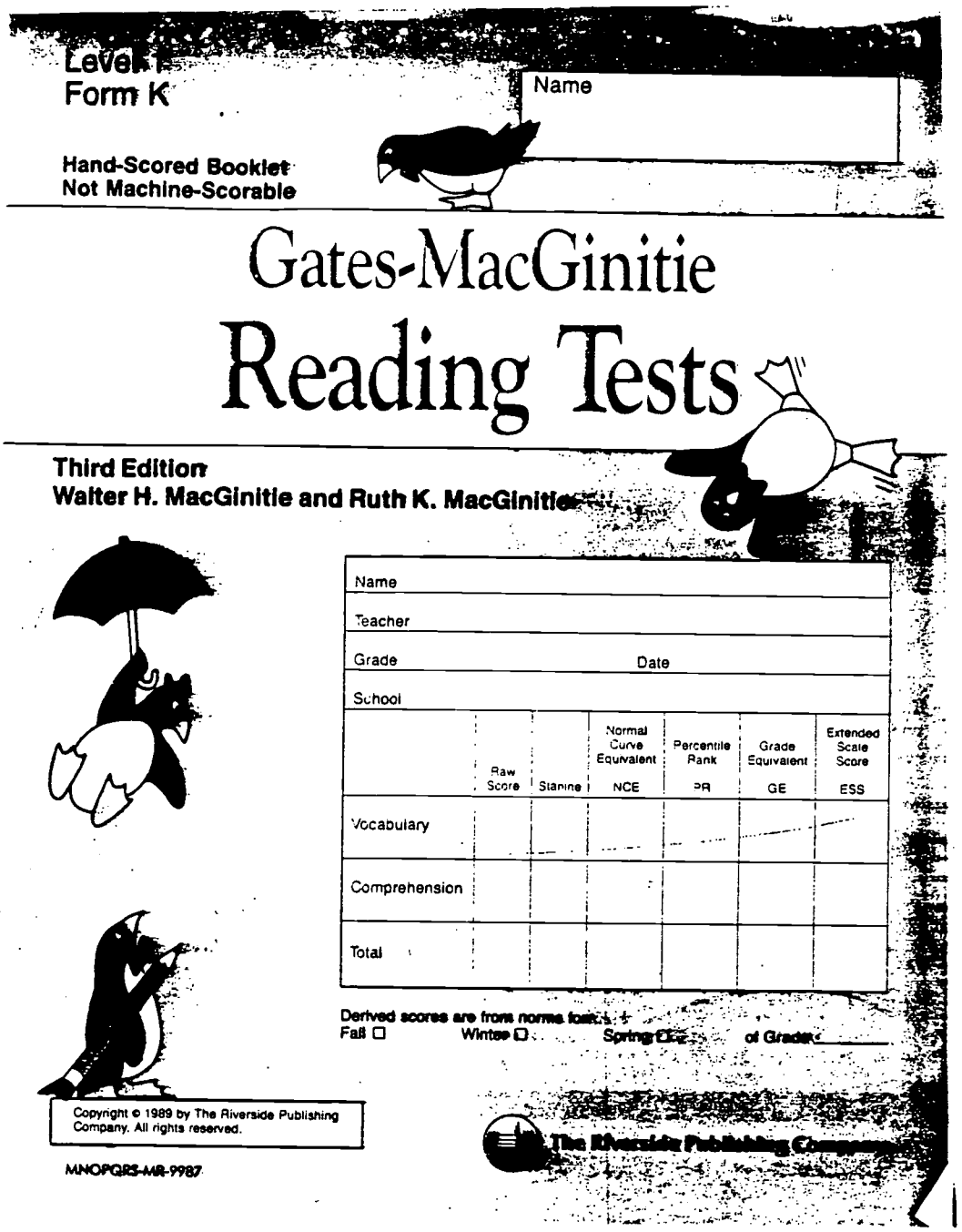
4. Would you like to know more about Howard Gardner's theory and how to implement his ideas into your curriculum?

yes no

Thanks again, and please return this A.S.A.P. to Pat, Jane, Kathy, or Kim. We need it very soon!

Appendix D

Gates Mac-Ginitie Reading Test, Level 1 Form K



Level 1
Form K

Name

Hand-Scored Booklet
Not Machine-Scorable

Gates-MacGinitie
Reading Tests

Third Edition
Walter H. MacGinitie and Ruth K. MacGinitie

Name
Teacher
Grade Date
School

	Raw Score	Stanine	Normal Curve Equivalent NCE	Percentile Rank PR	Grade Equivalent GE	Extended Scale Score ESS
Vocabulary						
Comprehension						
Total						

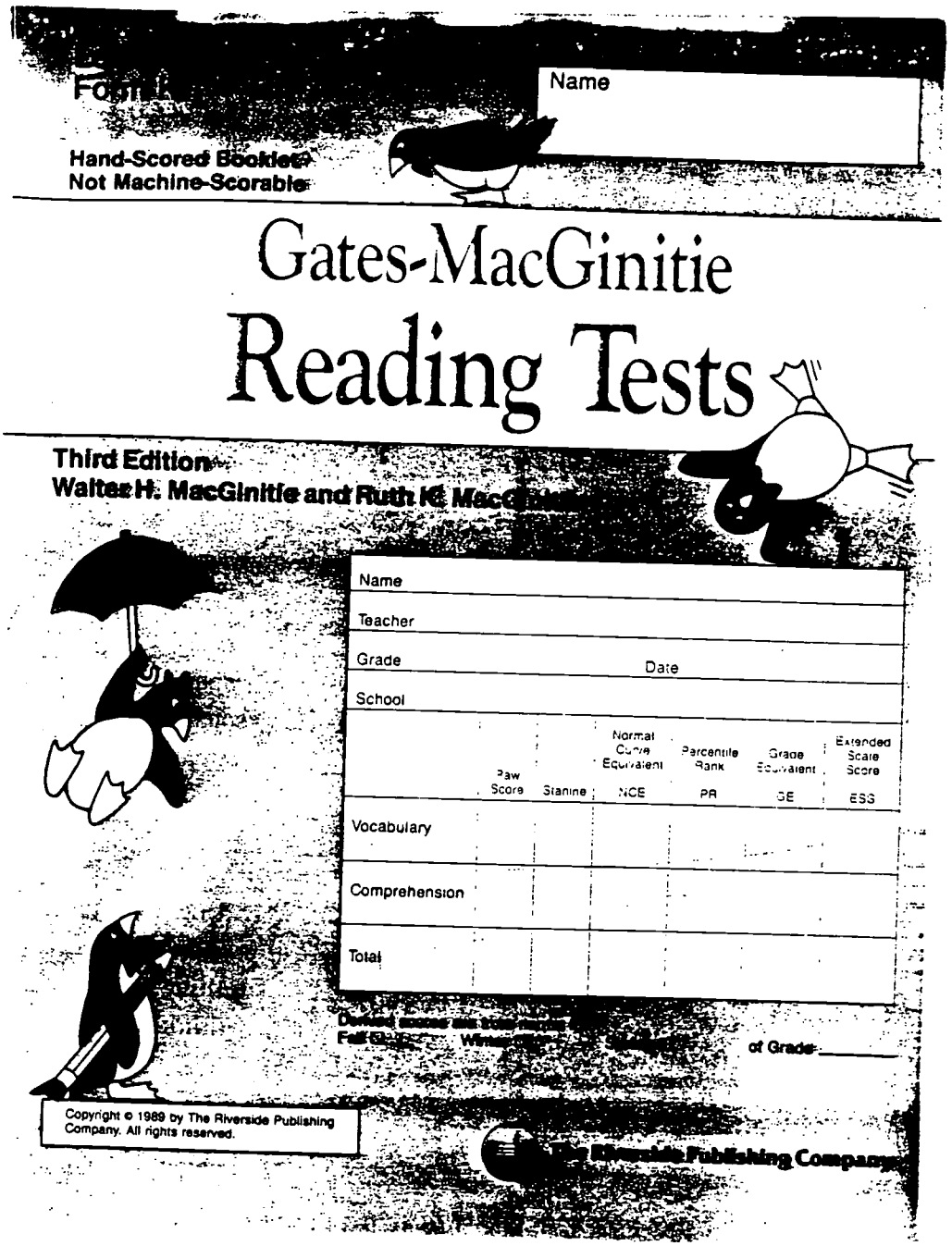
Derived scores are from norms for:
Fall ☐ Winter ☐ Spring ☐ of Grade

MNOPQRS-MR-9987

The Riverside Publishing Co.

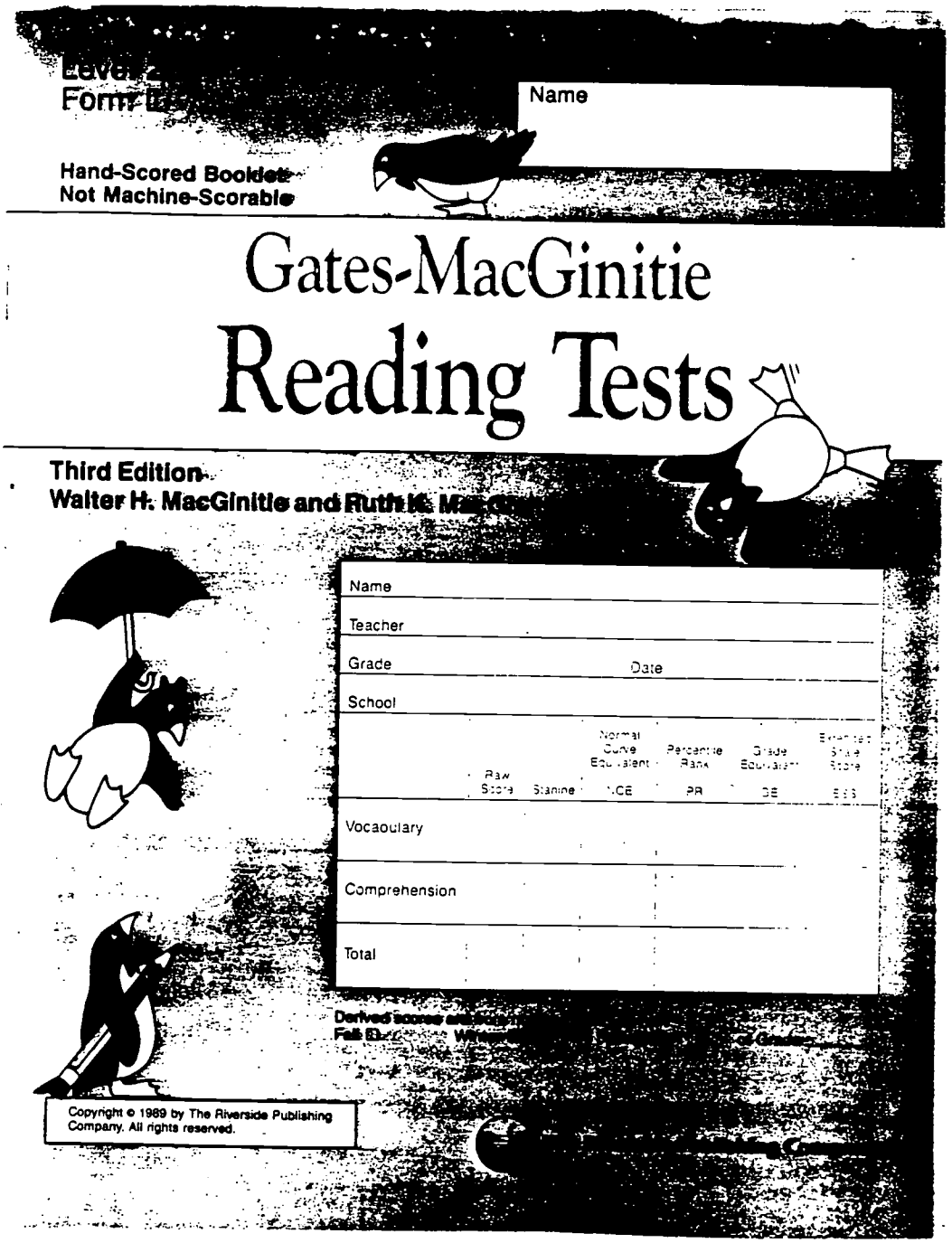
Appendix E

Gates Mac-Ginitie Reading Test, Level 2 Form K



Appendix F

Gates Mac-Ginitie Reading Test, Level 2 Form L



Reading Strategies/Comprehension Checklist

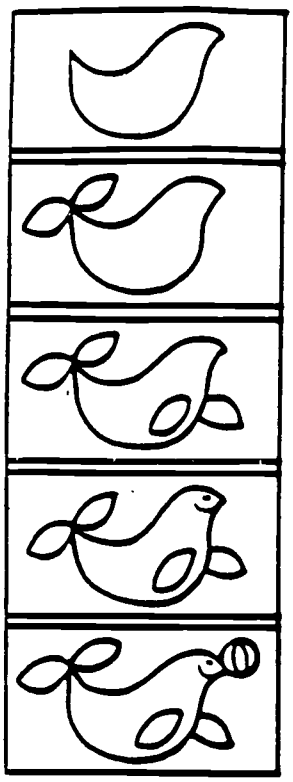
Student name_____

	Consistently	Occasionally	Not Yet
1. Uses picture clues	_____	_____	_____
2. Uses context clues	_____	_____	_____
3. Uses phonetic clues	_____	_____	_____
4. Self-corrects	_____	_____	_____
5. Learns, understands & utilizes new vocabulary	_____	_____	_____
6. Recalls main idea, details and sequence	_____	_____	_____
7. Takes risks in predicting and in discussions	_____	_____	_____
8. Is able to find proof to answer questions	_____	_____	_____
9. Reads orally with fluency	_____	_____	_____
10. Listens and comments appropriately	_____	_____	_____
11. Demonstrates an interest in reading	_____	_____	_____
12. Chooses to read independently	_____	_____	_____
13. Is capable of reading different kinds of text across the curriculum	_____	_____	_____

Appendix H

Comprehension Test

Name_____



Sara the Silly Seal

Meet silly Sara the seal.
She lives at Sealand.
Sara likes to play with a ball.
She spins it on her nose.
Silly Sara claps for herself.

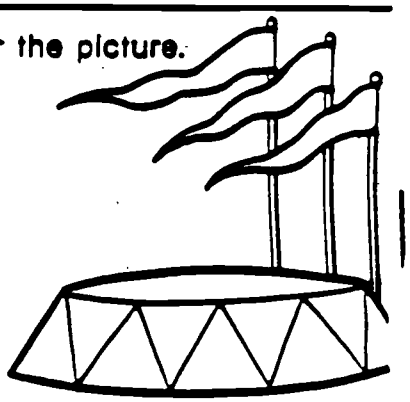
1. What is the seal's name?

2. With what does Sara like to play?

3. Who lives at Sealand?

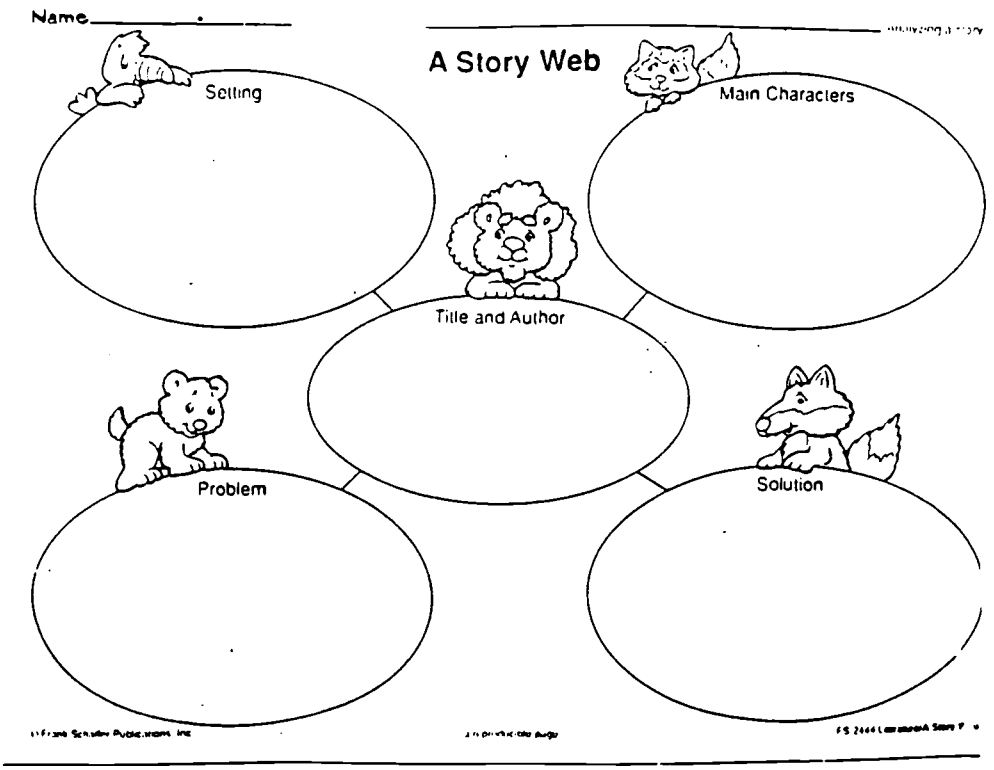
4. What does Sara do with the ball?

Draw silly Sara at Sealand. Color the picture.



Appendix I

A Story Web



Appendix J

Name_____

Self-Assessment of Portfolio

1. What is your favorite piece?_____

   _____

   Why? _____

   _____

2. Which piece needs more work?_____

   _____

   Why?_____

   _____

3. If you could share this portfolio with anyone living or dead, who would it be?

   _____

   _____

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