Chapter 1

Introduction

<u>Background for the Project</u>

On January 8, 2002, the No Child Left Behind Act was signed into law (No Child Left Behind, 2002). This law called for higher standards in reading and math and state assessments to measure student progress. One researcher had stated that these standardized achievement tests were "crucial to No Child Left Behind's school reform because the legislation requires state to use these test to measure whether students meet state standards" (Toch, 2006, p. 53).

The state of Washington implemented the Washington Assessment of Student Learning (WASL), a statewide test, as a means to measure student achievement in reading, writing, math, and science, which was created in response to the state's Education Reform Law of 1993 (Education Reform Act, 1993). The Education Reform Act required the state to create an assessment system which would test all Washington public school students in selected grades to measure their performance based on the state's learning standards for those grades (Stecher, Barron, Chun, & Ross, 1999). Beginning in 2008, all 10th grade students in Washington had to meet and/or exceed standards on the reading, writing, and math sections of the WASL in order to graduate from high school (Education Reform Act, 1993). In 2010, the state changed the test to the High

School Proficiency Exam (HSPE), which also measured the proficiency of high school students and, according to Washington's Office of the Superintendent of Public Instruction (OSPI), served as the state's exit exam for graduation from high school (State Testing, n.d.). Both the WASL and the HSPE were given in the spring which allowed teachers to prepare their students for the high stakes test; however, the state tests did not show the progress students made over the course of the school year. Many schools began using the Measure of Academic Progress (MAP) tests to track student progress. The Northwest Evaluation Association (NWEA), which developed the MAP test, stated that its tests were aligned with published states standards and reflected the current academic requirements in every state where the test was available (Northwest Education Association, n.d.a).

Concerned with the lack of progress with its low achieving students and in an effort to help low achieving students achieve grade level expectations in reading and writing, Darlington High School added 10th grade Support Language Arts classes to their already established 9th grade support classes in 2003. These classes were developed in an effort to concentrate on reading and writing strategies that would help students succeed in school and on the required state assessments. Students were placed in these support classes by their scores on the MAP Reading test at the ends of their 8th and 9th grade years, their WASL reading scores from their 7th grade year, and also by teacher recommendations. If a

student entering the 10th grade scored below a 224 on the MAP Reading test, he or she would be placed in the Support Language Arts class. The students who were placed in 10th Support Language Arts were administered the MAP Reading test in September of their 10th grade year to validate the accuracy of the students' placement in 10th Support Language Arts. In addition, administrators, counselors, and the 9th and 10th language arts teachers also considered the students' scores on their 7th and 8th grade WASL exams as indicators of the students' likelihood of meeting and/or exceeding standards on the 10th grade WASL. Some students were recommended to the class by their 9th grade teachers because the students had not been successful in their language arts classes or had not shown improvement in their reading and writing skills over the course of the students' freshman year.

Darlington High School had added lower level language arts classes whose curriculum concentrated on reading strategies to improve student reading scores, and some improvement had been noted. For example, the school's writing level on the WASL and HSPE were showing improvement every year. However, according to the office of the Superintendent of Public Education, Darlington High School's WASL reading score and percentage of students meeting and/or exceeding standards on the 2009-2010 HSPE Reading section of the test actually dropped to 81.5% from the 89.5% passing level on 2008-2009 WASL (Report Card, 2010). This drop in the percentage of students meeting and/or exceeding

standards on the state test had led many administrators and teachers to analyze the reasons behind the drop in percentage and search for methods of improving student learning in reading. In addition, the group of 10th grade students taking the HSPE changed each year, which may have indicated that the drop in percentage of students meeting and/or exceeding standards on the test directly reflected the abilities of the new group of 10th graders and not the school as a whole.

Statement of the Problem

The percentage of students still not reading at grade level and, therefore, not meeting state reading standards on the HSPE was of concern to many who were involved in the educational process at the high school level. At Darlington High School, the students who did not meet standards on the reading portion of the test were then placed in a Support Language Arts class in 11th grade which continued to concentrate on reading and writing skills with these students with the goal of their meeting or exceeding standards on the state assessment the following year. If they continued to fall below the state standards of proficiency on the state test, these students worked with qualified teachers to prepare a collection of evidence in order to prove they could and were able to perform at grade level. This process took time inside and outside the classroom for both the students and the teachers, and it usurped limited instructional resources and further exacerbated the problems of the limited number of classrooms and teachers available to use

for these remedial classes. Also, many of the regular education classes were overloaded because the support classes were limited as to the number of students who were allowed in a class, therefore forcing the school to put more students who had met state standards in a regular classroom to compensate for the lack of space and manpower.

Purpose of the Project

The purpose of this project was to determine whether focusing the reading curriculum on the area of reading comprehension with emphasis on inference and author's purpose was a successful method to improve the 10th grade students' spring MAP Reading scores.

Delimitations

Darlington High School was located in the southeast corner of Washington. In October 2009, the student count was 1,450 with 51.7% being male and 48.3% being female (Report Card, 2010). The race/ethnicity of the student body was 81.2% white, 7.9% Hispanic, 5.9% Asian/Pacific Islander, 5.7% Asian, 2.6% black, 1.2% American Indian/Alaskan Native, and 0.2% Pacific Islander (Report Card, 2010). In May 2010, 7.1% of these students were served by Special Education, and 18.5% qualified for free or reduced-price meals (Report Card, 2010).

MAP was given every fall and again in the spring to the students who were placed in Support Language Arts classes at Darlington High School. The

MAP was a computerized standardized reading assessment which was aligned with the state of Washington's Essential Academic Learning Requirements and Grade Level Expectations (Northwest Evaluation Association, n.d.c).   Each test adapted to an individual student's responses as he or she took the test.

After the students were finished testing, the teacher received a report which not only showed their scores on the test but also showed the areas in which the students could benefit from additional curriculum support in the classroom. The teacher then was able to make informed instructional decisions to adjust the class curriculum to best suit the needs of the students and could also give individualized instruction to the students who needed more help in certain areas of instruction. Teachers could use this reading data to improve and sharpen the established curriculum where students were struggling, and the students' test scores could show improvement when their fall MAP scores were compared to their MAP scores for the following spring. Consequently, the additional focus on the students' areas of concern in reading could also indirectly affect their meeting reading standards on the HSPE.

Assumptions

Improving MAP reading scores and passing the reading HSPE were important goals of the students as well as parents and teachers. These students were placed in the 10th Support Language Arts class because of their previous lower level performance in reading. They were given the opportunity to be

successful by receiving more intense instruction in reading comprehension and critical thinking skills. The students were placed in the class in order to concentrate on their reading skills in an environment made specifically for them and their particular needs. The teacher followed the Washington State guidelines by focusing on reading comprehension with an emphasis on inference and author's purpose with the instructional goal of improving the students' overall reading ability and improving their MAP Reading scores as well as their performance in language arts class and other content area classes.

Hypothesis

Students who received instruction in the 10th Support Language Arts class demonstrated significant improvement in reading comprehension as measured by the spring MAP Reading test.

Null Hypothesis

Students who received instruction in the 10th Support Language Arts class did not demonstrate significant improvement in reading comprehension as measured by the spring MAP Reading test.

Significance of the Project

This project was significant because the Support Language Arts classes at Darlington High School were going to be cut due to budget concerns in the school district. The class was more costly to the district because Support Language Arts classes were limited to fewer students to allow the teacher more personalized

instruction time with each student. If the project showed that the instruction in the Support Language Arts class improved student learning and student performance on tests, the district would continue to fund the support program.

Procedure

Twenty-one 10th grade students with low reading levels, as shown on the Measure of Academic Progress Reading Test given at the end of their 9th grade year and at the beginning of their 10th grade year, were placed into the 10th Support Language Arts class at Darlington High School. Students were given instruction in reading comprehension with emphasis in inference and author's purpose on a continuing basis. Both guided and individual practice were given to improve student recognition and performance in these areas of reading comprehension. At the end of the school year, the MAP test was administered to these same students with the exception of two students who were placed into other levels of instruction**.**

Definition of Terms

Measure of Academic Progress Reading Test. The Measure of Academic Progress Reading test was a computer adaptive reading test administered to students at the beginning and ending of their 10th grade year that helped identify students' reading levels.

Computer Adaptive Test. The computer adaptive test was a test in which the test items were selected by the computer to individually match the abilities of

each student based on their correct or incorrect responses.

Support Language Arts Class. The Support Language Arts Class was a class designed to give additional instruction in reading to students who performed below grade level in language arts.

Rasch Unit. The Rasch Unit was a measurement scale developed to simplify interpretation of test scores that directly related to the curriculum scale in each subject area.

Acronyms

EALRs. Essential Academic Learning Requirments

ESEA. Elementary and Secondary Education Act of 1965

GLE. Grade Level Expectations

HSPE. High School Proficiency Exam

IASA. Improving America's Schools Act

MAP. Measure of Academic Progress

NCLB. No Child Left Behind Act

NWEA. Northwest Education Association

OSPI. Office of Superintendent of Public Instruction

RIT. Rasch Unit

WASL. Washington Assessment of Student Learning

CHAPTER 2

Review of Selected Literature

<u>Introduction</u>

The improvement of public education had been a major concern of the

United States government. In the mid-1960s, President Lyndon Johnson believed

that the time was right to reform the American school system due to the aftermath

of the Civil Rights Movement and the obvious separation of schools' make-up of

racially and economically diverse students. He proposed passage of the

Elementary and Secondary Education Act of 1965 (ESEA) which was an effort to

improve the educational opportunities for children in all income brackets in the

nation's public schools (Elementary and Secondary Education Act, 1965). The

ESEA created the Title I Program which gave grants to schools to improve the

teaching of reading and other subjects to students who needed remedial help and

other title programs to improve education for historically underserved children in

the nation's public schools (Elementary and Secondary Education Act of 1965,

2001). The State of Washington Office of the Superintendent of Public

Instruction website had stated that the ESEA was an attempt to equalize access to

education for all children of all income brackets and to establish high standards of

accountability for educational programs (Elementary and Secondary Education

Act (ESEA), n.d.).

Almost two decades later, Secretary of Education T. H. Bell created the National Commission on Excellence in Education in 1981 to review and synthesize the data and scholarly literature on the quality of learning and teaching in the nation's schools, colleges, and universities, both public and private, with special concern for the educational experience of teen-age youth (Nation at Risk, 1983a). The subsequent report warned of a rise in mediocrity in the nation's schools that threatened our very future as a nation (Nation at Risk, 1983b).

The 1983 report included several indicators of risk in education which included the finding that about 13 percent of 17-year-olds in the United States could be considered functionally illiterate. Functional illiteracy among minority youth may have run as high as 40 percent (as cited in Jorgensen & Hoffman, 2003). In addition the report stated that nearly 40 percent of 17-year-olds could not draw inferences from written material; only one-fifth could write a persuasive essay (as cited in Jorgensen & Hoffman, 2003). Subsequently, one of the recommendations included in the Nation at Risk Report was that the teaching of English in high school should equip graduates to comprehend, interpret, evaluate, and use what they read (A Nation at Risk, 1983c). According to Jorgensen and Hoffman, A Nation at Risk, with its findings and subsequent recommendation, was the beginning of an evolution in achievement testing and standards based education reform (2003).

In September 1989, President George H. Bush held the first National

Education Summit for the nation's fifty governors, which established educational

goals for the nation (National Education Goals Panel, n. d.). The National

Education Goals were announced by the President and the Governors in February

of 1990 and these goals were to be reached by the year 2000 and included that all

children would start school ready to learn; the high school graduation rate would

increase at least 90%; all students would become competent in challenging

subject matter; and teachers would have the knowledge and skills that they needed

(National Education Goals Panel, n. d.).

The Improving America's Schools Act (IASA) of 1994, a reauthorization

of the ESEA of 1965, was a major part of the Clinton administration's efforts to

reform education. The IASA included provisions or reforms for Title I programs,

charter schools, bilingual and immigrant education funding, education technology

and other programs (Improving America's Schools Act, 1994).

In 2002, the federal government reauthorized ESEA and renamed it the No

Child Left Behind Act. One focus of NCLB was to close the achievement gaps

and provide all students the opportunities they needed to obtain high quality

education (No Child Left Behind, 2002). According to Haycock, NCLB had

shone a spotlight on the academic performance of poor and minority students,

English language learners, and students with disabilities—students whose lagging

achievement had previously been hidden. Schools had begun tracking individual

student data to monitor student performance and offer extra tutoring to struggling

students to ensure that they reached proficiency targets (Haycock, 2006). For

NCLB every state had to ascertain what skills its students needed to achieve in

order to perform at grade level.

In the state of Washington, educational reform was begun formally in

1993 by the passing of House Bill 1209 (HB 1209) which was also known as the

Washington State Education Reform Act (Education Reform Act, 1993). The

overall aim of HB 1209 was to improve schools and increase student learning by

establishing what one study called a performance-based educational system with

specific learning standards, encouraged decentralized decision-making and

teacher empowerment, and attempted deregulation to allow individual school

flexibility (Fouts, 1999).

<u>Grade Level Expectations</u>

The Office of the Superintendent of Public Instruction (OSPI) of

Washington had stated that the Grade Level Expectations (GLEs) provide specific

learning standards for students in grades K-10, clarifying the skills and strategies

all students need to demonstrate proficiency in each content area (Reading K-10,

2004). Included in the GLEs were the Essential Academic Learning Requirements

(EALRs) which were provided to educators, parents, and all concerned

community members in order to help all students achieve success (2004). The

OSPI believed that these EALRs helped teachers create curriculum and

assessments that helped students meet these grade level requirements (2004).

Reading Grade Level Expectations

The state of Washington's GLEs grew out of the state's four common learning goals that were designed to "create high quality academic standards and raise student achievement" (Reading K-10, 2004, p. 2). One of the four common learning goals was that students were to "read with comprehension, write with skill, and communicate effectively and responsibly in a variety of ways and settings" (2004, p. 2).

The GLEs were created in an effort to bring more specific targets for learning at each grade level and to clarify the expectations for each teacher. The GLEs in reading were created from this effort and included four EALRs for reading which articulated the state's expectations and learning standards for kindergarten through tenth grade. These GLEs had been used to develop assessments in reading and other core subjects as required by NCLB (Reading K-10, 2004).

Standardized Testing

The focus of NCLB, according to Public Policy Communications Specialist Christy Guilfoyle, had been on holding schools accountable for student achievement on standardized assessments with unprecedented focus on reading and math (Guilfoyle, 2006). Many standardized tests were used across the United States to assess student performance and improve student learning. Thomas

Toch, cofounder and co-director of Education Sector, stated that standardized achievement tests were crucial to No Child Left Behind's school reform because the legislation required states to use these tests to measure whether students met state standards (2006). These tests were one method that could be used to help teachers improve student learning in the classroom by pointing out weak areas in the student's performance on the test. However, testing expert Popham stated that most of these tests were unable to detect even striking instructional improvements when such improvements occurred (Guilfoyle, 2006).

In their article, Fisher and Frey (2009) proposed that teachers need to feed up by establishing a purpose for the learning, feed back by responding to student work done in the classroom, and feed forward by using assessment data to plan future instruction to help students progress in their learning. This last step had often been left out because it took more time and more flexibility in planning and implementing lessons. Additionally, many educators had been overwhelmed by the data from these assessments without being given adequate information or instruction on how to process it and use it effectively (Fisher & Frey, 2009).

Computerized Adaptive Testing

Computerized adaptive testing (CAT) had emerged as one method of standardized assessment that had been used effectively by teachers to ascertain each individual student's proficiencies and deficiencies in a specific area of instructions. According to Kingsbury and Hauser (2004) in their paper presented

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at the Annual Meeting of the American Educational Research Association in San Diego, California, the computerized adaptive testing matched the difficulty of the questions administered to the performance of each student as the student took the test. In other words, the test items were selected by the computer to individually match the abilities of each student. Way, in his report for Pearson Education Measurement, explained that with CAT the computer began the test with an initial item, usually one at an intermediate level of difficulty, to administer to the student. The subsequent test questions were determined by the student's answering the questions correctly, leading to more difficult questions, or incorrectly, leading to easier test questions (Way, 2006).

The advantages of this adaptive testing included increased testing efficiency and less frustration for each student (Kingsbury & Hauser, 2004). Way (2006) also emphasized the advantages of immediate report scoring, decreased administrative burdens on school district personnel, increased security of testing materials, and more flexible test scheduling. Way also suggested that CAT led to some controversy when it was related to the context of NCLB because it stated that assessment items must use questions to measure each state's grade-level standards in the areas being tested (2006).

Measure of Academic Progress

The Northwest Evaluation Association (NWEA) was formed in 1974 and was one of the first developers of a computerized adaptive assessment. The

NWEA began when members of the Portland, Oregon, and Seattle, Washington, school districts joined forces to develop grade level appropriate assessments to advance student learning. The Measure of Academic Progress (MAP) was the name given to the computerized test in 1997, and the first MAP test was given in 2000 to 17,000 students, and the numbers have grown since then (Northwest Evaluation Association History, n.d.).

The MAP was a computerized adaptive test to measure growth in student achievement and was used by more than 2,200 districts nationwide (Olson, 2007). The test had a bank of grade level appropriate questions on which to draw and the questions' difficulty went up or down as determined by the test taker's performance. The NWEA performed linking studies with states' own standardized tests which measured student achievement to determine if the MAP test covered the same standards for each state (Northwest Evaluation Association, n.d.a). Since the state standards varied from state to state, the NWEA needed to conduct a linking study for each individual state.

The NWEA aligned the state standards with the MAP test. After a student completed the MAP, the teacher electronically received a diagnostic analysis that tracked the amount of growth the student had attained during the previous quarter. The teacher could not only find out what specific skills the student had mastered but also what concepts and skills the student needed to work on next (Postlewait, 2007).

The Regional Educational Laboratory at Penn State studied the validity of the most frequently used standardized tests which included the MAP test. The study found that the MAP did not have a clear statement showing the exact skills that were covered on the test, nor did it have predictive validity, the ability to predict how the students would perform in a job or a similar test in the future. The study showed that the MAP assessment scores were considered precise and could be used as a basis for decisions concerning individual students for improved instruction and greater progress (Brown & Coughlin, 2007). Used correctly, MAP data helped teachers give their students the instruction they needed to reach state standards and be better readers in life.

The Northwest Evaluation Association also developed a learning continuum resource called DesCartes, which was aligned to state standards and enabled teachers to translate the raw data from their students' assessments into actionable plans for instruction, grouping, and more. The DesCartes ordered skills in reading, language usage, math, and science by levels, allowing instructors to ascertain gaps in student learning and curriculum presented to the students. Teachers could use the Descartes information to develop goals and design instruction for each individual class and each individual student when more intense instruction was needed (Northwest Evaluation Association, n.d.b).

Summary

The school reform laws that the nation had passed over the years had all

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emphasized the importance for all student to receive quality education at all levels of ability. With the passing of the No Child Left Behind Act in 2002, educators had to ensure that all students learned and were given the opportunity to succeed in school. If the students' abilities were not proficient, interventions were put in place to close the achievement gap.

Grade Level Standards were developed to give students and teachers the goals for each grade level in order for students to reach proficiency. Tests were developed to measure the proficiency of the students to reach the grade level standards. The Measure of Academic Progress (MAP) test was one such test used to measure student proficiency. If the students' RIT score on the reading section of the test was lower than grade level, interventions were put in place to aid in the students' ability to perform at grade level. This response to intervention was one method to help close the achievement gap and enable students to succeed.

CHAPTER 3

Methodology and Treatment of Data

<u>Introduction</u>

In the state of Washington, beginning in the year 2008, all students needed

to have passed the Washington Assessment of Student Learning (WASL) in their

10th grade year to be eligible to graduate. In response to the state mandate and to

the No Child Left Behind Act, in 2002 a reading/language arts block was

developed for 10th graders with low reading levels. The students who qualified

for the class had RIT scores of 224 or lower on the MAP Reading test. RIT

referred to a Rasch Unit, which was a unit of measure that used individual item

difficulty values to estimate student achievement (Northwest Evaluation

Association, n. d.b). Darlington High School had historically used a RIT score

of 224 to indicate proficiency in reading. Because the RIT score related directly

with a curriculum scale in each subject area, the lower RIT scores indicated that

it would be unlikely that these students would be able to pass the WASL Reading

test given in the spring of their sophomore year without extra and more targeted

reading instruction.

The students were given the MAP Reading test at the end of their 9th

grade year and were retested at the beginning of their 10th grade year in order to

verify if the students' placement in the support class was warranted. The teacher

also checked the students' grades in their 9th grade language arts classes. The students' 9th grade teachers and school counselors were also consulted in order for the 10th grade teacher to ascertain the correct placement of the students.

The teacher used the MAP Reading test results from the fall test to redesign the course curriculum to focus on two areas of reading comprehension where the students showed deficiency. The teacher chose reading comprehension in the areas of inference and author's purpose as the two main areas to be reinforced during the school year. These two areas of concern were indicated by the Descartes using the students' RIT scores in reading. These two areas of concern were also addressed in the EALRs for reading in the state of Washington, which listed them as required learning in reading comprehension. EALR 2 Component 1 stated that students would demonstrate evidence of reading comprehension and listed inference as one method that should be demonstrated by the 10th grade. Component 2.4 under reading comprehension stated that students should be able to think critically and analyze author's use of language, style, purpose, and perspective in informational and literary text (Reading K-10, 2004).

Methodology

A participatory action research method was used to determine if focusing on the MAP testing indicators for reading comprehension in the areas of author's purpose, inference, and prediction was instrumental in improving students' spring

MAP scores and their success on the HSPE test, also given in the spring of their

10th grade year. In their book on education research, Gay, Mills, and Airasian

(2006) defined action research in education as "any systematic inquiry conducted

by teachers, principals, school counselors, or other stakeholders in the teaching-

learning environment, to gather information about the ways in which their

particular schools operate, the teachers teach, and the students learn" (p. 499).

This method was chosen by the teacher in order to make informed decisions about

the curriculum and instruction in the teacher's own classroom. Participatory

action research was the best method to have tested the hypothesis because the

teacher was a vital participant in the research since the teacher administered the

fall MAP test, analyzed the results of the test, determined the reading

comprehension areas on which to focus instruction, and changed the curriculum

based on those determinations. As stated by Catherine Brighton in her article in

Educational Leadership (2009), action research was distinct from other research

designs in that it emerged from stakeholders themselves and involved a focus on a

relevant problem in teaching and learning for a purpose of enacting meaningful

change to address that problem. The teacher was interested in improving the

students' test scores and overall reading comprehension.

Participants

Twenty-one students who were enrolled in the 10th Support Language Arts

class made up the experimental group. These students qualified for the support

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class because of their 9th grade MAP scores in reading, their academic performance in language arts their 9th grade year, and the recommendations of their 9th grade language arts teachers. These students were given the MAP Reading test in the fall of their 10th grade year, and this retest resulted in one student being moved to a lower level reading class and one student being moved to a regular language arts class because their scores indicated they were misplaced in the support class. The remaining nineteen students' RIT scores ranged from 199, which was a 4th grade reading level, to 234, which was a higher 9th grade reading level. Although significantly higher than the lowest score, the highest RIT score was still below grade level standards for 10th grade.

The 10th Support Language Arts class students consisted of nineteen students: twelve boys and seven girls. Six of the nineteen students were identified special education students. One student was a Pacific Islander, and two were Hispanic. The remainder of the students were white.

Instrument

The MAP, produced by the Northwest Evaluation Association, was used as the pre and post test. The MAP Reading test was given in September of the students' 10th grade year and again in the spring at the end of their second semester of 10th grade. For this study, the teacher proctored the tests both in the fall and again in the spring in order to ensure consistency of expectations in student behavior which included no talking while the test was being given,

separating students from other students who might prove distracting, and keeping the students focused and on task with minimal disruptions.

The MAP Reading test consisted of reading questions that adapted in level of difficulty according the students' responses to each of the questions. The questions increased in difficulty if a student responded to the previous questions correctly. However, if the student's response was incorrect, the computer adapted the test and chose a less difficult question for the next test item. The test consisted of questions that covered word recognition and vocabulary, reading comprehension-literal, reading comprehension-inferential/interpretative, reading comprehension-evaluation, and literary response and analysis. The questions decreased or increased in difficulty according to each individual student's responses. The test results were reported by giving each individual student a RIT score.

Design

To better understand possible effects of the focused instruction, a One-Group Pretest-Posttest Design was used in this research. The group was pretested in the fall of their 10th grade year using the MAP Reading test as the benchmark and to validate the spring 9th grade scores. The group was retested in the spring of 10th grade year using the MAP Reading test again. The teacher used the results of the pretest in the fall to change the class curriculum and focus on reading comprehension in the areas of inference and author's purpose.

Other variables were taken into consideration when analyzing the data. Students' physical and mental maturation were not controlled. In addition, the students' other content area courses and reading assignments were not controlled, suggesting that the learning in other classrooms could have influenced the scores. The testing and instrumentation were not controlled because students could have learned something on the pretest that helped on the post test. For example, the students were familiar with the testing process since they had taken the MAP test in the fall, and they understood the design of the computerized format. However, the design did control for selection of participants since the same students were tested in the fall and again in the spring. The design also controlled administration of the test. The classroom language arts teacher administered both the pretest and post test to the group and followed the proctoring protocols as suggested by the NWEA, and the same classroom, computers, and instructions were used when administering both the pre and post tests.

Procedure

In the fall of their 10th grade year students in the Support Language Arts class at Darlington High School were administered the MAP Reading test. When the test results were received by the school, the 10th Support Language Arts teacher looked at the RIT scores for each of the students and determined that the average RIT scores indicated that students needed help in reading comprehension. The teacher used the Descartes learning continuum resource made available by

the Northwest Evaluation Association to interpret the data from the MAP Reading test student scores. The Descartes grouped specific areas of concern for each individual student according to that student's RIT score and made suggestions for individualized instruction needs for that student. Due to the size of the class and daily time considerations, the teacher chose to concentrate on reading comprehension in the areas of inference and author's purpose as these areas were identified as areas of concern for the majority of the students.

In the fall of the year the students began an exploration of various reading genres. The Support Language Arts class had a required curriculum of books that the students were to read during the 10th grade year. The teacher supplemented the required reading with additional reading in both fiction and nonfiction. The teacher began the year by giving instruction in the area of inference and author's purpose in reading. The first instruction was concentrated and several weeks of intense instruction and application were dedicated to both areas of concern. During the remainder of the year, the teacher reinforced the learning by both oral and written questions pertaining to the literature or writing that was being taught at the time. Students were asked to use inference in reading both fiction and nonfiction. Author's purpose was reinforced in both reading assignments and in the students' own essay writing and response writing.

After almost eight months of instruction and reinforcement, students were

given the post test in reading. The MAP in reading was given by the classroom

teacher. Results were then compiled, compared, and analyzed to see if there were

statistically significant differences.

Treatment of Data

The *t* test for non-independent samples was used to determine whether or

not the differences were significant in the class's performance on the pre-and post

test on the MAP in reading (Gay et al., 2006). The *t* test was used to determine

whether there was a significant difference between the means of one sample at

two different times. The first sample, or pretest, was taken in the fall of the

students' 10th grade year. That mean was compared to the mean of the post test

given the following spring of their 10th grade year.

Summary

The students in Darlington High School's tenth grade support language

arts class were given the MAP Reading test at the beginning of their 10th grade

year. The teacher used the students' results on the test and the Descartes

indicators to adjust the reading curriculum to emphasize reading comprehension

with increased focus on inference and author's purpose. A participatory action

research method was used by the teacher to determine what changes and decisions

needed to be made in the classroom. The participants were twenty-one 10th grade

students who were placed in a Support Language Arts class. The One-Group

Pretest-Posttest Design was used in this research. The *t* test for non-independent

samples was used to determine whether or not the differences were significant in the students' performance on the pre- and post test of the MAP Reading test.