FACULTY APPROVAL

Do Math and Reading Scores Correlate According To STAR Assessment

A Master's Special Project

by

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ABSTRACT

Do Math and Reading Scores Correlate According To STAR Assessment

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The purpose of this study was to find out whether students that read at a higher proficiency than their peers could also obtain higher math scores. This research allowed the researcher to determine if advanced readers had advanced math skills. The correlation of the Standardized Test for the Assessment of Reading (STAR Reading) and Standardized Test for the Assessment of Math (STAR Math) scores were used to determine whether there was significance in those students that scored high or low on one test scoring high or low in the other. These findings were also used to determine if the STAR assessment was a valuable tool in assessing students' abilities. The data shows statistical significance between individual's abilities in math and reading. With a coefficient of 0.57 the research shows a moderate relationship between the STAR Reading Assessment and the STAR Math Assessment. The study showed significantly that students achieve in math and reading at similar rates.

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CHAPTER 1

Introduction

Background for the Project

America continued to spend more money on education, while falling further behind globally when assessed on standardized test. American children had continued to score poorly and had made advances in terms of overall basic knowledge while falling further behind the expectations set by standardized tests. The expectation of student achievement had continued to rise as students and schools were being held accountable for the outcomes of student achievement. These outcomes were reflected by standardized tests. American school districts looked for a standard measurement tool that would help identify students appropriately and allowed them to assist underachieving students before they fell too far behind. Districts continued to look for one specific teaching method that helped students achieve their greatest potential. The superintendent for the Office of the Superintend of Public Instruction (OSPI) Terry Bergeson said that all students can learn (Bergeson 2002). It was also known that the State of Washington needed to have a success rate100% on the Washington Assessment of Students Learning (WASL) to achieve Adequate Yearly Progress (AYP) and

receive a passing grade as a school by the state. The issue with a failing to meet AYP or having students not meeting the standard on the WASL meant that schools would be hurt where it counts, in their budget. Schools would also loose favor within their communities as students would not meet graduation requirements from their respected schools. Often these were the only school students had attended in their entire educational careers. If the school had failed their students by not educating all of its pupils to their greatest potential than who could be held accountable for students failures? This meant that schools looked for answers to measure students achievement at younger ages to assist students in achieving their maximum potential. Naselle Grays River Valley School District (NGRVSD) began to use the AR test to attempt to access student knowledge and label students accordingly. NGRVSD performed similarly to 65,000 other schools throughout the country that have used Accelerated Reader (AR) to determine students' achievement levels. Showing that students that had been tested one month on a given book would show increased scored the next time they were tested. Questions related to the validity of the Standardized Test for the Assessment of Reading (STAR) had continued to raise concerns as to how students were placed into assistance programs based on one's ability.

School Districts common goal of passing the WASL had driven teaching methods and practitioners to higher levels of competence in most teaching areas. Teachers were required to be highly qualified in order to teach all subject areas. Over 60 percent of students did not pass all levels of the WASL 2006. By the year 2010 Washington State had mandated that 100% of all students pass the WASL. Scores in 2006 showed that there needed to be a change in instruction so all students could pass. Politicians, local officials and NGRV school board members believed that if students could read they could achieve at a similar rate in math. Naselle made reading the district focus and developed reading curriculum that measured students' current goals. The District gave help in both math and reading with Title I pullouts but still needed assistance getting students to meet the minimum standards on tests like the WASL. Students were assessed by using Standardized Test for the Assessment of Reading (STAR Reading) as well as the Standardized Test for the Assessment of Math (STAR Math). Issues with validity and the absence of apparent control groups have led to questions regarding why schools would use the STAR assessment in schools.

Statement of the Problem

Naselle Elementary continued to make gains on the WASL test across all grade levels. The question of what Naselle had done to assure that every student

improves was a looming issue. Naselle continued to have lower grades on the math section of the WASL than the reading section, which left the question of what could be done to help all students pass. If students continued to not pass the WASL exam they faced the prospect of not graduating in 2010 and beyond. This led Naselle to use assessment tools like AR, STAR and Dible Reading to assess student achievement coupled with the WASL assessment which was only administered once a year. Naselle had the assumption that all kids can learn and that those that could read could do math. Implemented properly the programs would have had all students meeting their full potentials to pass the WASL.

Purpose of the Study

The purpose of this study was to find out whether students that read at a higher proficiency than their peers could also obtain higher math scores. This research allowed the researcher to determine if advanced readers had advanced math skills.

Delimitations

This project was delimited to 25 third grade students from Naselle Grays River Valley School District. There were 11 girls and 15 boys that make up the 3rd grade class that all resided in the local region. The tests administered were the STAR Math and STAR Reading test. Each student was given as much time as

they needed to finish the test. The test was administered for all of the students in the elementary computer lab from 2:10 to 3:00 on October 2, 2007.

Assumptions

For the following project the following assumption were made:

1. All students tried to complete the tests to the best of their abilities
2. All students derived from similar socioeconomic backgrounds.
3. Students worked independently while taking the test.
4. All Naselle third grade students participated in STAR Math and STAR Reading tests.
5. Naselle High School implemented curriculum formed through data from the AR testing program to the best of their abilities

Hypothesis

There will be a significant correlation between students that scored high on the STAR Math assessment and students that scored well on the Star Reading assessment. The use of STAR assessment scores will be beneficial in Title I placement.

Null Hypothesis

There will be no significant correlation between students that scored high on the STAR Math assessment and students that scored well on the STAR Reading assessment.

Significance of the Project

The project was significant because it tested the scoring rubric that identified students for Title I services in the Naselle Grays River School District. If a correlation between math and reading were found the researcher would continue to use the same rubric as the study had found a significance correlation between the two tests. This meant that by serving students in reading, one may have a positive impact on math performance as well. The researcher had not looked cause and effect, but rather a correlation that resulted in a positive outcome for students. This improved the validity of the scoring rubric that identified students who needed assistance through Title I to achieve greater success in the classroom.

Procedure

For the purpose of this project, the following procedures were implemented:

A .Permission was given by the district to assess the STAR assessments ability to show a significant correlation between students that were high achieving in math and those that were high achieving in reading.

B. Participants of the study were 25 third grade students between the ages of seven and nine years of age.

C. Students were given The STAR Math and STAR Reading assessments to determine class rank and stanine.

D. The researcher proctored the tests.

E. Students took tests independently without the help of the researcher or other students.

F. Before the test was administered, students were given explanation of the test, asked if they needed help or had any questions about using their computer,

G. The STAR assessments were administered and students were all given the test within a similar time frame depending on student availabilities due to absenteeism.

Definition of Terms

For the purpose of this study, the following words are defined:

Highly Qualified. Term used to define teachers that meet standards set by the NCLB act and the U.S. government.

No Child Left Behind Act. Federal education act that was set to help with educational reform

Acronym

AYP Adequate yearly progress

LAP Learning Assistance Programs

NCCSR National Clearinghouse on Comprehensive Reform

NCLB No Child Left Behind Act

NGRVSD Naselle Grays River Valley School District

OSPI The Office of the Superintend of Public Instruction

STAR Math Standardized Test for the Assessment of Math

STAR Reading Standardized Test for the Assessment of Reading

WASL Washington Assessment of Student Learning

CHAPTER 2

Review of Selected Literature

Introduction

This chapter had been organized around the following: If you can read you can do math, current math and reading curriculum and students learning styles, why the School Renaissance Program was developed and implemented throughout so many schools, a how high stakes tests were affecting school curriculums and graduation rates. The researcher will then summarize their research to determine the implications that this research had on student learning.

Can our highest achieving readers perform equally well on math assessments?

Realizing that students were not reaching their full potential local, state and national governments have looked for the "golden egg" to help all kids reach their potential. Students need to be able to read to become proficient in math. (Bush 2002) In looking at previous scores from the Washington Assessment of Student Learning (WASL) test, some assumed that if a student can read then they would be successful at math as well. The statement from President Bush cannot or had not been stated in reverse. Students that can process math can read; but, why not? The logical answer may be that the first statement was not true. Students achieved higher math scores than reading scores on the National

Assessment of Educational Progress in 2005 (Dillon 2007). President Bush claimed that this was proof that the No Child Left Behind Act had worked (Dillon 2007)

High stakes tests and merit-base salaries for teachers have added new wrinkles and higher expectations for schools. Issues with these ideals added stress to teaching contracts as well as teaching environments. The question of whether or not students that can read can achieve high or similar scores in math had been left unanswered and unfounded for a multitude of reasons.

Educators can't prove that students that can read can achieve in math because students that have high achieving math scores many times had similar math scores. Many believed that a student that excelled in reading excelled in all areas of learning because he or she had acquired motivation to learn all subject matter to the best of their abilities. It was not because reading makes you a better math student it was the fact that learners were more likely to drop out if they couldn't read. Up to 40% of students that were unable to read at a high school level will eventually drop out of high school (Stevenson, 2002). The greater issue lies in the fact that if a learner was unable to read then he or she would be unable to achieve in math. In 1998 President Clinton's program America Reads Challenge used 2.75 billion dollars to help implement literacy programs

(Stevenson, 2002). It seemed likely that without reading and literacy skills learners would have been unable to understand story problems, read directions to problems for mathematical problems or taught through complicated sets of issues related to stories mathematically or otherwise.

As a result, schools tried to help students learn through specialized or modified rubric scales that allowed schools to assess student's abilities within a given subjects. One such assessment is the STAR test as it had been used by many schools across the United State to identify students for specific government and school wide programs that were often funded by state or federal dollars. The STAR Reading and STAR Math assessments were important to many schools outcomes as they identify students for services that they need to keep up with their peers.

Can curriculum choices change student achievement?

Educators continued to look for ways that developed student's abilities to their fullest potential. Districts continued to research curricular options that taught all students how read, write, and compute math equations. Consistently school districts changed the instruments used to develop successful learners. Teaching methods were chosen because of solid data driven research. Curricular decisions that were said to be the most successful with learners in most cases were

the teaching curriculums used that provided greatest gains, for a given subject, across as given population of a school. Educators had tried to figure out how students could reach full potential in math for years as American children continued o fall behind competing industrialized nation for years. The gap between American learners and America's competitors continued to drive test such as the WASL to measure our young learners grow and knowledge. How teachers taught math was also a focus in how schools developed young learners. In California, the term "Math Wars" had been used to describe how math should be taught as compared to how it is presently being taught in our school systems (Borsuk 2003). The "Math War" was a battle of two types of thinking; did learners learn holistically or was learning the process of build one skill upon another to master a given medium. Teaching delivery had been the debate for teaching language. Many camps based their curriculum on the thought that students learn best when given language curriculum that would develop there skills using the "whole language" approach. Recognizing the words as units was similar to the ideals that many math teachers used in developing math curriculum. Math taught as a unit that spirals allowed some components to build upon themselves. This taught a learner the math concepts a little of at a time while building his or her math knowledge holistically. Another method used to

facilitate learning was the term “math war”. This ideal had been used in language arts classes during 60’s, 70’s and 80’s but was called phonics instead of kill-n-drill or “math war”. Many educators had gone away from phonics as the ideas about teaching site recognition overwhelmed previous ideas about learned language trough the use of phonics. Many school wide curricular changes that occurred submerged learners in whole language programs. While building administrators recognized positive change in many learners there was still a large number of students that showed negative growth in language arts while studying holistically (Barsuk). Learners have been successful using both phonics and whole language but the underlying issue was which style of teaching was the best for the most learners? No informed reading specialist will ever say that one particular method of reading instruction is all a child will ever need to become a proficient reader, reading is far to complex an idea for that (Stephenson 2002). Ultimately student achievement didn’t rely on one particular way of teaching. It was said emphatically that the problem of weak performance in math had at least as much to do with weak teaching as with the materials being used (Borsuk 2003). The so called debate was irrelevant when it came to student achievement. Students that were challenged, their performances monitored and helped through quality instruction to grasp concepts and skills, were the most successful. Simply

put, if one was unable to teach math or reading his or her students would be less capable in math or reading than those taught by quality instructors. The idea that most intrigued schools administration was the fact that there was not a set criterion to teaching teachers in the university settings. There was a direct correlation between students' achievement and quality instruction, showing that student achievement had more to do with how students were taught than what they were taught. Often curriculum had been called on to fix the problems that often should have been fixed with quality instruction. Whether it was phonics or whole language that school districts chose, the greatest benefit for students to reach their full potential was in quality instruction (Borsuk 2003).

Why Schools have developed school wide programs such as Reading Renaissance

Educators looked for programs that were beneficial as well as educational. One such program was Reading Renaissance (RR) as it allowed school district to develop curriculum that aligned laterally and horizontally across school grade levels. Schools that had made a strong investment in the Reading Renaissance program and philosophy had shown that parents appear to be knowledgeable about the program, and they interact with their children about reading and RR (Sadusky & Brem, 2002). According to company promotional materials over

50,000 schools world wide had implemented some facet of the RR program into their schools (Pavonetti, Brimmer, & Cipielewski 2002). The importance of creating a program that was both informative and navigational for school and parents led to such as RR. Research showed that students who read more, especially recreationally, do better in measures of reading comprehension and vocabulary (Pavonitti, Brimmer,. & Cipielewski 2002). The RR programs had often been called Accelerated Reader (AR). The RR program called AR and its ancillary materials include computerized reading diagnostic tests with over 50,000 primarily literal level quizzes, computer based record keeping for both teachers and students, and STAR Reading programs. The STAR Reading programs had computerized, multiple choice, literacy skills objective skills testing that scored students according to their ability to answer questions on a given level. For example a student may have answered several questions that had been deemed 5th grade level words but this student had the inability to answer questions at the 6th grade level. He or she would have then been scored above a 5th grade reading level but not at a 6th grade level. Teachers benefited from this test as they had scores that afforded them the ability to separate students according to their abilities. Issues arose with the test. For example the test had few peer reviewed assessments of its validity to increasing student's abilities. This meant that the

test had not been tested against other assessments to prove or disprove its validity. Ultimately AR had been used in so many school that it had used its number of clients as proof of its validity. With having had so many schools use the program it must have been successful.

High Stakes Testing

Students had found themselves in schools that had developed teaching strategies influenced on what the learner had learned rather than how they showed creativity and originality. The No Child Left Behind Act (NCLB) had caused every state to adopt a testing system that looked to assess students basic knowledge in Math, Reading, Writing, and Science in 4^{th} 7^{th} and 10^{th} grades. In accordance to the NCLB all graduation seniors must have passed their state standard or equivalency test by 2014 to be in accordance with the NCLB stipulation. This was all focused on the idea of making sure that students and teacher were being held accountable or both teaching and learning. Teacher felt the stress of the test, as administrations made it clear that they needed to stay above the set line of Adequate Yearly Progress "AYP" of improvement. The AYP line was given by the state legislatures to allow schools to determine whether they were on target of reaching 100% pass rate in 2014. It was not clear about the many questions raised about the legitimacy of NCLB and its influence

on student learning. What there was not a question about was that students, the teachers and the administrators who serve them felt the pressures of NCLB. Since its conceptions it had been students and those serving them had been bearing the brunt of NCLB regulations and showed the greatest affect by the laws placed on them (Cochran-Smith, Lytle). As a result of these regulation teacher's taught to standards based assessments that were mandated by the state to improve student learning. These Essential Academic Learning Requirements (EALRS) had been taught by some teachers while others had merely brushed upon the curriculum mandates stated in the EALRS. The issue that had been addressed by NCLB was that American schools had so many types of learning ideals within schools, that a model of productive data driven ideals had not been followed. Students were the ones paying the ultimate price in terms of their education. This was evidence in the rising dropout rates that had soured since the beginning of 2000 when the test gained more steam with the push from President Bush (Cochran-Smith, Lytle). Spokespeople for the Bush Administration now claim victory for the policy, pointing to rising test scores and a narrowing achievement gap (Cochran-Smith, Lytle).

With the added pressures put on students through testing and the assessment that was factored into student's ability to graduate, schools and parents

alike have looked to see if students were being negatively affected as a result of high stakes testing. Proponents of the test claim that the test is finally holding schools accountable for the instruction that they were providing to students and that the NCLB act and state assessments are doing great things for education. On the other hand many felt those students were being negatively affected by the state. Unrealistic and ill-conceived teacher quality standards, and punitive accountability standards that penalize schools serving the most diverse student populations, are requiring teachers to do more with less and ignoring important measures of student achievement (John McNally 2006). Students feel the pressure put on by this test as they navigate through the process of personal achievement during there school years. Seeing this is a "one size fits all" (Raftery 2008) concept in testing the question arose on every level regarding its validity and whether the test was best for students. The other issue was that subject areas that were assessed on states standardized test were not assessed regularly except for one state (Penderson 2007). This had been the question that many educators struggled with. How could have schools introduced cutting edge ideas that met state objective while producing standards based results in every subject? Was literacy and understand of mathematical concepts more important than music, art, and humanities? The standards that are taught to in many districts are content that

students need to be fluent in to be success in the world today. The issue that was underlying amongst all educators is that are the skills that the NCLB act is trying to assess important for students success in the real world. The added stress on a student to achieve at a more rigorous level and for teachers to be expected to hold students accountable for what they had taught played a pivotal role in the development of High Stakes Test. The key component of high stakes test was in developing skills in students that they feel were relevant within their own learning. The teaching to the test caused students to lose sight of what was important in their own learning and had developed criticism as students and parents complain about how this test can prepare a student that is not college bound for the real world (Venzant, 2007). Ultimately, it had been the lose of some vocational education and fine arts credits that had taken the majority of cuts. As a result of standardized tests, students were being assessed more frequently to track academic growth to fill supplemental areas of weakness which allow for students to be more successful. The argument of whether student's skills were increased as a result of NCLB was similar to all data in that it depended on who had done the data analysis. The information on high stakes test was clear in that it is holding teachers and students accountable, it raises levels of anxiety for districts and

students, and it tested skills that should have developed with or without a formal assessment (Raftery, 2008).

Summary

The focus of this chapter was to address the available evidence to the how many influential people within our country had been making statements and implementing programs based on opinion, math and reading learning styles, how and why the School Renaissance Program was developed and whether its programs were valid and what impact high stakes tests play in our youths lives. It was provided to give the reader a better idea of how data had been used to try to assess students levels and how this data can be manipulated to show relevance when it lacked more than just opinion. The researcher was surprised to find that the AR assessment tools had little independent research and independent data collection that would assess their validity. This was so surprising because of the AR curriculums wide use throughout schools in the United Stated and the State of Washington at the time of the study. The methodology and treatment of the research data that was used to help support the researcher's assessment of students within their own school are reported in Chapter 3.

CHAPTER 3

Methodology and Treatment of the Data

Introduction

This study was done to find if significance in the relationship between reading and math scores assessed by the Standardized Test for the Assessment of Reading (STAR) test existed. The 25 third graders attending the Naselle Grays River Valley School District were tested. These tests were administered at the beginning of the school year to allow student placement in classes receiving supplemental support through the Title and Special Education programs.

Methodology

Correlation analysis was used to determine the significance between students scoring high in math on the STAR Math assessment and those scoring high in reading as determined by the STAR Reading assessment. Students were then ranked in order of their stanine scores for both the Math and Reading STAR assessments.

Participants

Participants of the study were 25 third grade students between the ages of seven and nine years of age. There were 15 girls and 10 boys all residing within Pacific or Wahkiakum County. There were 3 special education students while

the others were served through a single teacher within the third grade classroom. All students receive the majority of their math and reading instruction from the same third grade teacher within the Naselle Grays River School District.

Instruments

A Spearman Rho test was administered to determine the correlation between the tow ranking of the students within their class to show whether there was significance between student's scores on the math and reading assessment. This significance was used to determine whether correlations were found between math and reading. It was then plotted to show the relationship between the two sets of scores. The relationship showed a moderate relationship between the two given variables.

Design

The design of this study was to test students using a STAR Math and STAR Reading determining whether or not there was significance between scores in reading and math. This would allow the researcher to develop an area of focus to produce results in both math and reading if the correlation proved positive.

Procedure

A . Permission was given by the district to assess the STAR assessments ability to show a significant correlation between students that were high achieving in math and those that were high achieving in reading.

B. Participants of the study were 25 third grade students between the ages of seven and nine years of age. There were 15 girls and 10 boys all residing within Pacific or Wahkiakum County. There were 3 special education students while the others were served through a single teacher within the third grade classroom.

C. Students were given The STAR Math and STAR Reading assessments to determine class rank and stanine.

D. The researcher proctored the tests. Both tests were taken from 1:12 PM to 2:08 PM after recess and lunch.

E. Students took tests independently without the help of the researcher or other students.

F. Before the test was administered, students were given explanation of the test, asked if they needed help or had any questions about using their computer,

G. Students were given The STAR Math was administered on either 9/26/07 or 10/3/07 depending on availability and attendance. The STAR

Reading test was administered on 9/20/07 or 9/21/07 as attendance and computer time allowed

Treatment of Data

Using the data, the students were ranked and filed students in order of stanine scores as computed by the STAR program. This data was used in computing a T test that allowed the researcher to see significance between students math and reading scores.

Summary

This chapter was designed to review the methodology and treatment of data related to the STAR Reading and STAR Math assessment of the Naselle Grays River Valley School Districts third grade students. The analysis of data and findings from this study are reported in Chapter 4.

CHAPTER 4

Analysis of the Data

Introduction

Chapter 4 has been organized around the following topics: (a) environment description, (b) hypothesis, (c) results of the study, (d) findings, and (e) summary.

Environment Description

Participants of the study were 25 third grade students between the ages of 7 and 9 years of age. There were 15 girls and 10 boys residing within Pacific or Wahkiakum County. Three special education students were in the classroom. The remaining students were served through a single teacher within the third grade class. All students received the majority of their math and reading instruction from the one third grade teacher within the Naselle Grays River School District. The test was administered in the Naselle Grays River Schools elementary computer lab. Students were all given the STAR Math on either 9/26/07 or 10/3/07 depending on availability and attendance from 1:12 PM to 2:08 PM after recess and lunch. The Star Reading test was administered on 9/20/07 or 9/21/07 as attendance and computer time allowed from 1:12 PM to 2:08 PM after recess and lunch. The researcher proctored the tests. Students took test individually, without the help of the researcher or other students. Prior to the test an

explanation of the test was given, students were asked if they needed assistance understanding the computer, the test, or questions.

Hypothesis

There will be a significant correlation between students that scored high on the STAR Math assessment and students that scored well on the Star Reading assessment. The use of STAR assessment scores will be beneficial in Title I placement.

Null Hypothesis

There will be no significant correlation between students scoring higher on the STAR Math assessment and students scoring well on the STAR Reading assessment.

Results of the Study

The data shows statistical significance between individual's abilities in math and reading. With a coefficient of 0.57 the research shows a moderate relationship between the STAR Reading Assessment and the STAR Math Assessment.

Star Assessment Data: Stanine Ranking of Students Researched

This table shows student's scores as compared to other students in the third grade class in the Naselle Grays River Elementary School. This graph also ranks their individual stanine scores of STAR Math and STAR Reading showing where students ranked as a result of the Star assessment.

Student	Star Math Stanine Score	Rank Math	Star Reading Stanine Score	Rank reading
1	691	1	546	1
2	688	2	486	7
3	371	3	369	15
4	641	4	520	5
5	633	5	177	23
6	631	6	456	11
7	616	7	403	13
8	614	8	481	8
9	596	9	460	10
10	550	10	504	6
11	546	11	521	4
12	541	12	522	3
13	537	13	466	9
14	536	14	356	17
15	532	15	305	18
16	522	16	545	2
17	515	17	364	16
18	514	18	383	14
19	508	19	250	20
20	499	20	132	24
21	487	21	212	21
22	457	22	180	23
23	454	23	440	12
24	443	24	98	25
25	415	25	266	19

Table 1

Spearman Rho to Show Significance

Table 2 shows a significant correlation between the Reading and Math STAR test at shown by a r of .057. This number is significant at .10, .05, and .01 according to the Spearman Rho coefficient. The Number of samples was 25 with a df of 23.

Spearman Rho

N = 25			
df = 23			0.57
Rho = 0.57		0.57	0.5368
	0.57	0.4227	
	0.3598		

Table 2

Data Analysis of Relationship between Variable

The study showed a coefficient of 0.57 which represents a moderate relationship between the STAR Math and Star Reading assessment. This table shows how the relationship between the STAR Math assessments and STAR Reading assessment tells us that students that do well in math will do well perform similarly well as compared to there peers in reading.

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	Math

Table 3

Findings

Given the Spearman Rho was 0.57, the data shows that the hypothesis is supported in that there is a .01 probably that this study would be supported if given again. The relationship was moderate and positive in nature giving evidence to support the hypothesis. The Null-hypothesis was rejected as the findings supported accepting the hypothesis.

Summary

This chapter was designed to analyze the data and identify the findings. From the data, the hypothesis was supported and the Null Hypothesis was rejected. The study does not show that being able to read will result in being able to achieve in math, but rather those scoring well in math significantly show they will score higher than their peers in reading. The area of most significance in the Table 1 is the range between the highest achieving students and the lowest. Table 2 shows a significant correlation between the STAR Reading and Math test as shown by an r of .057. This number is significant at 0.10, 0.05, and 0.01 according to the Spearman Rho coefficient. Support for the hypothesis was greater than 0.99 percent. The strong correlations led the researcher to believe that this was significant and the findings of the hypothesis would be supported given a

larger numbers of participants. The findings in Figure 2 resulted in the Null Hypothesis being rejected.

CHAPTER 5

Summary, Conclusions and Recommendations

Introduction

The research was used to determine whether students would benefit in math through an organized effort to improve reading with little emphasis on math beyond regular daily instruction. In finding that students that read well scored well in math, the researcher concluded that there was a correlation between reading and math. The issue was that the study gave little insight into why these findings were discovered. Continued research as to specific skills, knowledge, personal abilities and desires would give the researcher greater understanding of what can be done to improve student's scores over a given period of time.

Summary

The idea that students that read are better at math was proven but the background of why this had happened is not. The researcher was not surprised to see that students who scoring the highest on the math assessment scored the highest on the reading assessment. The significance was moderate and showed a correlation. Ultimately the researcher found students within this study scoring at a expected rate. Within most academic areas, students scoring the highest in a given range usually scored at or above the levels of the majority of their peers. This is

why Terry Bergeson was correct in saying that students that can read, can achieve in math. Washington had continued to implement the WASL and NCLB acts only leading to greater data collection and a search for a method making students the most successful on assessment tests.

The researcher cannot argue with the data supporting the hypothesis in that students in Naselle's third grade class scoring well on math assessments will score high on reading assessments. It was surprising to see that the number of students scoring near the mean on the math assessment, scored in the top five of their study group in the reading. This occurred with students in math as they showed significantly higher rankings in math than in reading. In looking at the data, the researcher would have guessed these results were random and would show little significance. It was positive to see a correlation to research for future use in developing students so that there may not only be a significance between ones own personal level but to a classes overall achievement.

Conclusions

In conclusion, the researcher is no closer to determining the actual outcome of why students achieve at a higher rate than other students but is aware of the correlation between student's scores in math and reading on the STAR assessment. The Title I implications as a result of this study were to continue to

focus on reading within the Title I and Learning Assistance Programs (LAP) program while developing students supplemental needs in math. The researcher felt that with a moderate relationship between the two STAR assessments the data was not conclusive in determining that a specific action should or should not be taken within the Title or LAP programs. With a moderate relationship, the researcher needed to implement further analysis of the subjects to determine the best option for decrease the ranges within the assessments to ensure every students success. Conclusions were drawn from a synthesis of the findings. If the researcher was to correlate data from other classes within the Naselle Grays River School District they believed they would have had similar outcomes to this study in that, students doing well in math usually do well in reading. Due to this study the researcher and Naselle Grays River School District looked to find an assessment tool that assessed math and reading in greater detail. In determining which type of assessment tool was needed, the researcher's school looked for assessment tools that were supported by data and showed greater significance when determining the outcomes of students than STAR.

Realizing that NCLB will continue to push curriculum and delivery changes within the classroom, the researcher will continue to assess student growth and look for significance in their own research that will have the greatest

impact of narrowing the achievement gap. In developing and implementing programs, schools need to base their decisions on relationships between variables that go beyond the moderate levels. With greater numbers between coefficients, relationships will be found that improve student learning to enable each student to succeed at their highest levels.

Recommendations

From the research, the researcher recommended that the Naselle Grays River School District look to other forms of assessment to determine the factors of a student's achievement beyond academics. This research allows districts to look at study habits, parental involvement, IQ, socioeconomic factors and any other issues that support student achievement. Without knowing which factors gave students the ability to achieve at his or her highest level with a given range, the researcher did not see the full picture that resulted in the results and outcomes of this study.

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