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Middle School Students' Perceptions of the Gender and Ethnic Gap in Achievement

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**Middle School Students' Perceptions of the
Gender and Ethnic Gap in Achievement**

**Middle School Students' Perceptions of the
Gender and Ethnic Gap in Achievement**

**A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Curriculum and Instruction**

By

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Abstract

This study used a mix-method approach to determine achievement gap in gender and ethnicity. Quantitative data was collected from the 2008-2009 Arkansas state Benchmark exam to investigate the extent of the gap in the school. Qualitative data was gathered through semi-structured interviews with 13 students. The students were asked to explain their perceptions of the gender and ethnicity gap in the school. The use of two methods for this study enabled the researcher to better understand the actual achievement gap that appeared at the school and compare this information to the information provided by the participants. The Quantitative data gathered in this study were analyzed with an analysis of variance (ANOVA), T-test, and Tukey's multiple comparisons. Data gained in the interviews were analyzed using inductive analysis based on researcher created frames and domains.

The quantitative data suggests that in this school when gender is considered females are still ahead in literacy and closing the gap in math. When considering ethnicity, Caucasians are scoring better in both math and literacy than Hispanics or Marshallese. The qualitative data hold that old stereotypes still persist in with these participants. The girls were believed to be better at reading and boys better at math. When participants were asked about ethnicity, the data revealed that these participants' believed Caucasian students did the best in school, while Hispanic students do not do well or caused problems in school, and that participants' choices of friends did not fall along racial lines but who might be the most useful to them.

This Dissertation is approved for
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Dissertation Duplication Release

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Dedication

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Table of Contents

I.	Chapter One: Introduction.....	1
	A. Statement of the Problem.....	5
	B. Definitions of Terms.....	7
	C. Purpose of the Study.....	11
	D. Research Questions.....	12
	E. Limitations and Delimitations.....	12
	F. Assumptions.....	13
	G. Trustworthiness.....	13
	H. Significance of the Study.....	15
	I. Theoretical Orientation.....	15
	J. Research Design.....	16
II.	Chapter Two: Review of the Literature.....	18
	A. No Child Left Behind.....	18
	B. The Gender Gap.....	20
	i. Girls and the Gender Gap.....	22
	ii. Boys and the Gender Gap.....	25
	C. The Ethnicity Gap.....	27
	i. Brain Research.....	32
III.	Chapter Three: Research Design and Methodology.....	34
	A. The Role of the Researcher.....	35
	B. Participants.....	36
	C. Instruments.....	43
	i. Quantitative.....	43
	ii. Qualitative.....	43
	D. Procedure.....	45
	i. Quantitative.....	45
	ii. Qualitative.....	46
	E. Summary.....	50

- IV. Chapter Four: Findings.....51
 - A. Analysis.....52
 - B. Quantitative Analysis.....52
 - C. Qualitative Analysis.....61
 - i. Research Question One.....61
 - ii. Research Question Two.....66
 - D. Summary.....77
- V. Chapter Five: Discussion.....78
 - A. Research Question One.....79
 - B. Research Question Two.....82
 - C. Research Question Three.....87
 - D. Summary.....89
 - E. Implications.....90
 - i. Implication One.....90
 - ii. Implication Two.....90
 - iii. Implication Three.....91
 - iv. Implication Four.....91
 - v. Implication Five.....92
 - vi. Implication Six.....92
 - F. Directions for Further Research.....92
 - G. Conclusions.....93
- VI. References.....96
- VII. Appendix.....100
 - A. Appendix A.....100
 - B. Appendix B.....102
 - C. Appendix C.....104
 - D. Appendix D.....107

List of Tables

Table 1 College degree attainment based on gender.....	27
Table 2 Gender and Ethnicity of the school student population.....	37
Table 3 Participants chosen for this study.....	40
Table 4 Demographics of the participants interviewed.....	41
Table 5 Student ESL level and services.....	42
Table 6 Benchmark Scoring.....	52
Table 7 Means and standard deviations for the school Benchmark test.....	53
Table 8 Means and standard deviations for gender Benchmark test.....	54
Table 9 T-test scores for Math and Literacy.....	54
Table 10 Ethnic groups' scores on the Benchmark test.....	55
Table 11 Ethnicity ANOVA for Math.....	56
Table 12 Ethnicity ANOVA for Literacy.....	57
Table 13 Relationship between gender and ethnicity using Math scores.....	58
Table 14 Descriptive statistics by gender and ethnicity for Literature.....	59
Table 15 Relationship between gender and ethnicity using Literacy scores.....	60
Table 16 Descriptive statistics by gender and ethnicity for Math.....	60
Table 17 Students' views on gender and Reading.....	63
Table 18 Students' views on gender and Math.....	66
Table 19 Participants' answers to question one.....	71
Table 20 Participants' choices in answer to question four.....	74

List of Figures

Figure 1 School Percentages for Ethnicity.....	36
Figure 2 Steps in Inductive Analysis.....	47
Figure 3 Domain: Students interest in the subject.....	48
Figure 4 Example of the Coding Procedure.....	49
Figure 5 Students' suggestions for the Classroom.....	89

Chapter One: Introduction

Today's schools are complicated places. They are not one room school houses where all the children are taught together. Instead schools today are large and diverse places. Walking down the hallway of many schools you will hear discussions in other languages and see children of different ethnicities talking together. There will be girls and boys working in groups on advanced math classes, or discussing books for a book talk. Schools have changed and so have the expectations of students, teachers, and administrators inside those schools. It is no longer okay for boys to be good only at math and girls to be good only at reading. Today, it is not enough for education to be just equal to all students; educators must develop plans to aid the individual students in their success.

The history of the Gender Gap. The way the genders were educated has changed over the years in the United States. In early colonial America, before the introduction of widespread public education, boys and girls were taught different subjects in different ways. There was a distinct role separation in the tasks and ways boys and girls were taught. Boys were apprenticed to trades and girls were taught to manage the home affairs. When schools were established that allowed both boys and girls to attend they were segregated in the classroom. They were not taught the same information nor the same skills (Torsten & Postlethwaite, 1994).

In the late 1800s when public education became prevalent in the United States, students went to the same school, sat in the same classes, and were taught by the same methods. Along with this new education came worries of equality for women. As early as 1870 articles appeared in the New York Times about the quality and equality of women's

roles including education. Though more opportunities for education opened up whole new worlds for women in the work force, their education, job types, and salary were not equal to those of men (Hunt, 1991).

Women, due to traditional stereotypes, did not participate in the same types of work as men, nor enroll in upper level math and science classes. Most women did not go far in school; many deciding that it was not useful when staying home and caring for the home fires (James, 1981). When women did go to school the gender roles were separated. Men were good at math and science, and women better at literature and humanities. Still, it wouldn't be until the 1940s with the fighting of World War II that women left home and went to work in large numbers (Baker and Browning, 2003, Berry, 2007). Many times these women were doing the jobs of men. However, in education girls were being educated to stay home with the children and men educated to go to the workforce or college. From the mid 1800s to 1950 the number of women attending college had steadily increased in the US, but jumped in number after World War II (Hunt, 1991). Women did not return home after the war, but slowly began to fight for job equality and education. Though this did not claim the publicity of earlier fights for equality such as voting, it was an important strike for equal treatment (Baker and Browning, 2003, Berry, 2007).

Great strides in equality of the sexes wouldn't be made until the 1960s and continued to through the 1980s. During the 1980s the gender gap gained press with worries that girls were falling behind. There was a huge push in the Women's Movement to get girls more interested in math and science (Sadker and Sadker, 1994). In the 1990s a counter movement began with worry over boys falling reading scores (Sadker, 2002). Today the debate continues, with both sides claiming that one group or the other is

further behind in the education race. There is no one winner in this race, and all sides are trying hard to gain an equitable education for all students.

The History of the Ethnicity Gap. Much of the same type of history is found in education when different ethnicities are examined. In the early years of American History, especially in the southern states, few African Americans were educated while Caucasian students who could afford school learned to read and write (Baker and Browning, 2003). It wasn't until after the Civil War, that African American students were sent to schools segregated from Caucasian students. At this same time a movement to set up common schools that taught one curriculum to all students, focusing on the dominate "American" began. These schools did not allow for cultural differences, but looked to create one culture. This deculturalization in schools would continue until the early 1900s. In 1928 the Merriman Report came out calling for an end to decultralization and changing the way educators looked at social upbringing (Appelbaum, 2002).

In 1954 a dramatic change occurred in education in the United States. A Supreme Court decision, *Brown v. Board of Education*, outlawed segregation in schools. This case declared that there was an educational gap between the white schools and the black schools, that separate was not equal (Applebaum, 2002, Baker and Browning, 2003, Berry, 2007). This decision had ramifications all over the United States coming to a head in Little Rock, Arkansas at Central High School; where nine black students tried to enter an all white school (Baker and Browning, 2003, Berry, 2007). These nine students brought faces and names to the forefront of American minds, and bringing the struggle for equality to the front of every news paper; these students showed their strength and conviction for their beliefs.

During the 1960s and 1970s there were many different groups that worked to claim their place and rights in the United States. The integration of the schools caused an influx of African American students into the public school system. In more recent years the entrance of the Hispanic population into classrooms has increased. A 1974 Supreme Court decision, *Lau v. Nichols*, required schools to teach non-English speaking students English, and create a curriculum that they can learn from but is still equal to what other students in the school are receiving (Appelbaum, 2002). The issues brought forth by these groups as well as other minorities in American schools have raised many questions of not only equality but the quality of education in American schools.

Students' self and group image. In a world where student populations are diverse, not only in culture and race but in language and religion too, it can be difficult to find a group with which to identify (Nieto, 1999). Many students choose their group by ethnicity. This ethnic identity or group image can determine how a student behaves in the classroom and outside of school (Phinney, 1990). Though there is still a preference by minority students for the dominant culture, which in the United States is Caucasian middle class. The failure to be part of the dominant or majority culture can cause negative reactions to the majority culture or actions that separate them from that culture (Phinney, 1990). This internal struggle can affect students' academic performance causing them to excel or fail in school. Students need help in understanding that they as individuals can learn.

To create an environment where children can learn to the best of their abilities is difficult. The idea that students can all be taught using one method is a problem for many students who learn in different ways. Though there is a push to differentiate classroom

instruction, it is difficult to do this in a classroom on a daily basis while teaching all students according to their own needs (Wormeli 2007). To make differentiated teaching even more difficult most teachers are female and teach the way that they were taught in school (Laster, 2004). This can make a difference in the performance of boys and girls in the classroom because they may learn differently from the way the teacher chooses to teach (Tyre, 2005). To that same end, many teachers are teaching from the female white middle class view of the world causing issues in reaching minority students.

Statement of the Problem

The gap between gender and ethnic groups in achievement is an old problem that is being given new life in the press. When President George W. Bush introduced No Child Left Behind (NCLB) as a way to make sure all children are learning, it forced schools to look closely at the average yearly progress (AYP) of its students as a whole and by categories. As part of NCLB school districts are required to report the results of the state standardized test to the parents and the public. These have been published by the news media, which point out all the positive improvements made by schools, but more often highlights the failing items schools have yet to tackle. The data that are collected by the test are reported not only for one large group, but the individual sub populations, to account for their growth and progress. Because of this, both gender and ethnicity are getting closer scrutiny. The closer examination of ethnic groups is troublesome for many schools with high populations of English Language Learners (ELL) because these schools are expected to test these students without them being ready to take the test in English.

The gap between the genders varies with the grade level (Helpern, 2002), and this has caused concern for many schools and districts because test scores are being published and sensationalized in the press (Helpern, 2002). Most recently, the lack of achievement by boys in reading and girls in science has made the press. Another group that is concerning many school districts is minorities; with the rise of concern over minorities meeting average yearly progress, the gap between ethnic groups has become the newest problem needing immediate action. School districts are under pressure to have all students perform at grade level while still meeting the needs of each individual student in the classroom.

The need to balance individual needs of students and the demands by states to bring all students up to grade level performance has many schools and teachers scrambling to find suitable answers and allay soaring costs. Under NCLB districts must describe what research based methods they are going to use to close the achievement gap and bring all students up to grade level. States such as California with high minority populations have begun to seriously look for answers and ways to get information to teachers. An initiative in California called Taking Center Stage using the motto “Ensuring Success and Closing the Achievement Gap for All of California's Middle Grades Students” is an ongoing work that helps teachers or parents who are looking for answers (Taking Center Stage, 2006).

Most works published in the area of ethnicity and gender gap focuses on test scores or adult views of the problem. Uyeno and Zhang (2006) gathered data from the Hawaii state test to discuss the ethnicity gap and Connolly (2004) looked at the Stanford Achievement Test from across the United States to explain the gender gap.

However, there is much less work being done with the students' views of the problem. The students' perceptions of the gender and ethnic gap can provide insight into the problems that exist in the school, lead to new directions for study, and provide methods to help students be more productive in the classroom. What the students' believe is happening in the classroom is their reality no matter how much teachers and administrators wish to believe otherwise (Pitsenberger 2008). The students' views of the world around them dictate in part how they interact and perform in the classroom. This study will look at students' perceptions of the achievement gap by both gender and ethnicity in the classroom.

Definitions of Terms

- Ethnicity Gap: The inequality of test scores between the majority group and the minority group (Gollnick and Chinn, 2004).
- Gender Gap: The inequality of test scores between males and females (Gollnick and Chinn, 2004).
- English Language Learners (ELL): A term that refers to students whose first language is not English, and encompasses both students who are just beginning to learn English and students with developing skills in English (United States Department of Education).
- Culturally and Linguistically Diverse (CLD): These are students who function in a language or a culture other than the dominant language of the country (Herrera and Murry 2005 pg. xiii). Students who function in more than one language or culture present educators with complex needs that can be understood through the lenses of students' cultures and their sense of self (Brisk 2007 Pg 21).

- Gender: Sex, Male or Female (*New Webster's Dictionary* 1997).
- Ethnicity: Pertaining to people's physical characteristics and social customs in a racial group (*New Webster's Dictionary* 1997).
- Benchmark: This is a term used to describe the standard for judging a performance. Teachers and students can use benchmarks to determine the quality of a student's work. Benchmarks can be used to tell what students should know by a particular stage of their schooling; for example, "by the end of the sixth grade, a student should be able to locate major cities and other geographical features on each of the continents." (Arkansas Department of Education)
- Benchmark Exams: This term refers to the six criterion-referenced tests that are administered to students in Grades 3-8 (Arkansas Department of Education).
- Achievement Gap: The achievement gap refers to the observed disparity of educational measures between the performance of groups of students, especially groups defined by language fluency, race/ethnicity, and socioeconomic status (Taking Center Stage Act II California Department of Education).
- Adequate Yearly Progress (AYP) refers to a nationwide accountability system mandated by the No Child Left Behind Act of 2001. Under No Child Left Behind, adequate yearly progress (AYP) refers to the annual progress each school and each subgroup within the school must make toward grade-level proficiency. Student proficiency in English-language arts and mathematics must increase each year, reaching 100 percent proficiency in the 2013-14 school year (Taking Center Stage Act II California Department of Education).

- **Achievement Test:** Achievement tests are the most common type of educational assessment. They measure what a person knows or can do, usually after some instructional activity. Millions of achievement tests are given in the United States every year, ranging from a classroom quiz or final exam, to a test of driving skills to get a driver's license or a skills assessment to get a job. In schools, achievement tests are used to determine what students know and don't know in various academic subjects — reading, math, science, language arts or history, for example — and to help teachers respond accordingly. Achievement tests can be classroom tests designed and administered by a teacher; state proficiency tests or standardized tests administered across the country (Educational Testing Services).
- **Pod** – is a term used to describe a group of four core teachers (Language Arts, Science, History, and Math) that teach the same group of students throughout the day.
- **Limited English Proficient (LEP):** A term used by federal/state government to refer to a student with restricted understanding or use of written and spoken English, and whose first language is not English (United States Department of Education).
- **Fluent English Proficient (FEP):** A term that refers to students whose primary language is other than English and who have met the district criteria for determining proficiency in English (United States Department of Education).
- **Special Education Students:** In general, the term ‘child with a disability’ means a child with mental retardation, hearing impairments (including deafness), speech or language impairments, visual impairments (including blindness), serious emotional disturbance (emotional disturbance), orthopedic impairments, autism, traumatic brain injury, other health impairments, or specific learning disabilities; and who, by reason

- thereof, needs special education and related service (United States Department of Education, Institute of Educational Statistics).
- 504 Students: Section 504 of the Rehabilitation Act of 1973 protects people with disabilities from discrimination based on their disability. A person is disabled within the meaning of Section 504 if he or she: has a mental or physical impairment that substantially limits one or more of such person's major life activities; has a record of such impairment; or, is regarded as having such an impairment. Physical or mental impairments that fall within include: (1) any physiological disorder or condition, cosmetic disfigurement, or anatomical loss affecting one or more of the following body systems: neurological, musculoskeletal, special sense organs, respiratory including speech organs, cardiovascular, reproductive, genito-urinary, hemic and lymphatic, skin, and endocrine; or (2) any mental or psychological disorder such as mental retardation, organic brain syndrome, emotional or mental illness, and specific learning disabilities. The term "physical or mental impairment" includes but is not limited to such diseases and conditions as orthopedic, visual, speech and hearing impairments, cerebral palsy, epilepsy, muscular dystrophy, multiple sclerosis, AIDS, cancer, hearing disease, diabetes, mental retardation, emotional illness, and drug addiction and alcoholism (United States Department of Education, 2004).
 - Target Goal: The goal that a school is working toward reaching to achieve the quality of education that is acceptable by the state (United States Department of Education, 2004).
 - Scaled Score: Scale scores are transformed raw scores. When multiple forms of a test are used, or when results are compared from year to year, scale scores are needed to

adjust for possible differences in test form, length, or difficulty. They are used in numerous national testing programs, including the ACT and SAT examinations, and are routinely used in many other statewide testing programs, providing the basis for long-term, meaningful comparisons of student results across different test administrations (ACTAAP Report Interpretation Guide, 2008).

- Concrete Operational – This developmental period begins at age 7 or 8 and continues until age 11 or 12, it is the first forms of logical thought (Gredler 2005).
- Formal Operational – Mature hypothetical reasoning begins at 11 or 12 and is continued through adulthood (Gredler 2005).

Purpose of the Study

The purpose of this study is to gain an understanding of students' views of the gender and ethnicity gap. The beliefs of the students shape some of what is done in the classroom and can influence students' success in the classroom and on high stakes tests. Students can provide a lot of information about what is or is not working for them in the classroom. The students might be able to provide ideas of how to change the problems that they perceive in the school, and enlighten teachers and administrators to the ways students' perceive the school, the way they are being taught, themselves, their gender, and their ethnic group. Using the knowledge gained from this study, teachers and administrators may be better equipped to create a positive learning environment for all students who meet the needs of the individual student while teaching the required curriculum.

Research Questions

Research questions for this study are:

1. What are students' perceptions of the gender gap?
 - a. Do the students think that there is a gender gap?
 - b. Why or why not?
2. What are the students' perceptions of a gap between the ethnic groups?
 - a. Do the students think that there is a gap between ethnic groups?
 - b. Why or why not?
3. What actions do the students think might help solve or eliminate these problems in the classroom?

Limitations and Delimitations

Limitations

This study was conducted in a middle school in Arkansas in a school with high minority populations. In the 2007-2008 school year it was named a National School to Watch. A school to watch is a “truly high-performing middle-level school that embodies the intersection of academic excellence, developmental responsiveness, social equity, and organizational structure” (Schools to Watch, 2002). Together these four criteria form the basis for evaluation of middle schools that apply to the Schools to Watch program.

The students who chose to participate in the study are either in the 6th or 7th grade. They were chosen from two teams within the school, one 6th grade and the other 7th grade. Students who participated came from culturally diverse backgrounds and may have other languages besides English as their first language. Because participation was

not limited, students who were considered either special education or LEP could choose to participate.

Delimitations

When looking at this study the results can only be generalized to schools with similar populations, programs, and environments. The majority population in the school is Spanish-speaking while the majority of teachers are English-speaking females. There have been many programs that have been put into place to help students, and create an environment where every student is expected to learn. The students and teachers are arranged in pods with four core teachers who teach the same 120 students a day. The teachers in the team are given a common planning time every day to help with team planning and interdisciplinary instruction. Students attend their non-core classes “off” team, which is outside of the pod classes and in another part of the building.

Assumptions

This study assumed that the English language learners who chose to participate are able to understand the interviewer and are able to interact with the interviewer by exhibiting adequate English language skills to reply in English. The researcher also assumed that the students were willing to participate in the study and answered the questions honestly and to the best of their abilities.

Trustworthiness

Ethnicity is a sensitive subject at the school because the growing majority is other than Caucasian. This change occurred in the last eight to ten years. When interviewing children it is important that they feel they are in a safe, trusting environment. The students interviewed knew their interviewer and were asked if they were willing to

participate. Parents were sent a consent form that explained the study and required their signature and their child's signature for the students to participate. This letter explained to them the purpose of the study and listed the rights of the student during the interview process (Appendix A and B) (Hubbard and Power, 1993). Parents were at any point able to remove their child from the study. Secondly, the students' names did not appear anywhere in the study. Each child was assigned a number to keep their identity hidden. A master list of students' names and the corresponding numbers are being kept by the researcher until the study is completed, then it will be destroyed to protect the students' identities. This allowed the students more freedom to answer questions freely without fear of being identified. This freedom was important for the students' comfort in the interview and the accuracy of the information that the student provides. The population at the school has changed rapidly over recent years with gains in a minority population that makes up over half the school enrollment.

The majority has recently changed from Caucasian to Hispanic. The school is 46.3% Hispanic, 41.2% Caucasian, 10.1% Pacific Islander/Marshallese, and 2.4% other. Because of these changing demographics the school has spent a lot of time discussing with students tolerance of other people and cultures. Finally, during the interview students are told that they may refuse to answer a question or stop the interview at any point if they begin to feel uncomfortable. To help students feel more comfortable the interviews were with the researcher behind closed doors and in a familiar place away from other students.

Significance of the Study

This study is meant to help teachers and administrators understand the students' perspectives of the achievement gaps between both gender and ethnicity. "The students' perception of things is their reality though it may not match what is really happening" (Pitsenberger, June 2008). Students' actions in class, interactions with teachers and other students, and even success in the classroom are based on their perception of what is happening in the classroom. The insight and understanding of the perspective of students could also be useful to teachers to create better lesson plans and identify teaching strategies that "target" students' needs. For administrators, the results of this study could help guide the schools targeted goals for students and help guide decisions of what professional development is offered to the teachers and staff. The aim of this study is to understand whether student perceptions provide any insight as to why the achievement gap is present and how to rectify that gap. It is hoped that through this study all students can be helped to perform at or above grade level both in the classroom and on the state's testing program.

Theoretical Orientation

This study will be viewed through the constructivist theory. The students in the study will help me, as a researcher, construct an understanding of their perceptions of the gap in academic achievement in both gender and ethnic groups. Each student has his/her own view of gender and ethnicity gap. These differences could come from their upbringing, the friends that they have, or past experiences at school, just to name a few. As a constructivist, and as a researcher, I participate along with the students to try to understand their reality (Hatch, 2002).

The constructivist theory is useful when understanding middle school students. Constructivism is based on the work of Piaget and his work in cognitive development. In Piaget's theory of cognitive development, students at the middle school level are in transition between the concrete operational and the formal operational stages. The students' cognitive level, no matter their language level, may vary from task to task (Gredler, 2005). This may also affect the types of answers that the students give in the interview and their understanding of the gap between the racial and ethnic groups.

Research Design

This is a study of one school with a high minority population. A mixed methods design was used to determine the students' perceptions of the gender and ethnic gap. The quantitative data was collected from student test scores on the state achievement test (Benchmark) and from the data reported by the school district to parents. Qualitative data were collected by the researcher through semi-structured interviews with students. The use of this two method approach allow the researcher to compare the students' perceptions of the school to what is really happening in the school according to achievement testing data. Data from the achievement test allows the researcher to look at the achievement gap for both the genders and the different ethnic groups in the school. The Benchmark data provide a picture of the gender and ethnic achievement gaps that, according to this data, actually exist at the school.

A group of thirteen students was asked to participate in interviews. In the interviews students were asked to provide information about achievement in Math and Reading, the two major subjects that appear on the state achievement test. The students were asked about achievement by gender and ethnicity in both subjects. Data collected

from the Benchmark scores and the interviews with participants were used to compare to the schools actual achievement gap and to gain insight into students' perceptions of the achievement gap as compared to the reality of the schools testing data.

Chapter Two: Review of the Literature

When looking at the gender or ethnicity gap it is important to look at all sides of the issue. The gender gap especially has become an important issue for schools, parents, and politicians. There are those who think we are failing the girls and those who think that we are failing the boys. In this mix brain research has stepped onto the scene lending its evidence in this new area to the debate. In this quagmire of blame let us not forget that ethnicity as a renewed frontier for finger pointing. Though ethnicity is a new comer to recent debates the achievement of students has made a huge impact on schools with large minority populations. In the last eight years the most recent uproar is due to NCLB. This sweeping law has brought student achievement, school achievement, and teacher qualification to the forefront of administrators' thoughts and placed these issues in the headlines. Consequently, the literature review will concentrate on the No Child Left Behind, the gender gap, and the ethnicity gap.

No Child Left Behind

When discussing student achievement in the classroom or on state test, NCLB must be considered; this law changed education in America. This law caused schools to take a much closer look at their students, teaching methods, testing processes, and achievement levels for all students. According to this law closing the achievement gap is a national priority, no child should be left behind because of race or gender (United States Department of Education, 2001). To assess achievement, the law requires states to assess children once a year in grades 3-8 and again in high school. The results from these tests are to be reported to the parents in a method that is easy to read and understand. Schools that fail to meet the state standard at least two years in a row are identified as "in need of

improvement” (United States Department of Education, 2001). Because of this the school is required to offer transfers to students to other schools that are achieving, offer free tutoring to low income students, and create a plan based in research for increased achievement of students that are below grade level. The funding for these improvements is to come from the school district, not the federal government. This law not only looks at school achievement overall but the individual achievement of sub-populations within that school or district. According to the Arkansas Department of Education subpopulations are groups that consist of forty students or more and must include minority groups, special education, low socio-economic status, and highly mobile students. According to publications released to explain the need for NCLB “A growing “achievement gap” is evidence that some students were taught well while the rest – mostly poor and minority – were allowed to struggle or drop out. Language and cultural barriers, too often left unaddressed by schools, exacerbate the problem” (United States Department of Education, 2001). To address these issues the law stated schools must provide qualified teachers to teach students and teachers must meet a minimum standard. The teachers should use research based methods to teach students in the classroom and address age and grade level appropriate material. Though many hail this law as bringing sweeping change to education; there is opposition to some of those changes.

Springs stated in *Deculturalization and the Struggle for Equality* (2004) that the argument is made that NCLB while trying to close the gap between ethnicities is undercutting the preservation and usage of minority students’ home languages. “The No Child Left Behind Act mandated that minority languages would be used as a vehicle for learning English” (Springs, 2004, p. 65). Springs argues that this emphasis on high stakes

testing only represents a single school culture, a white middle class culture, and since teachers must teach to the test this forces the teachers to teach the culture embedded in the state test. This means that the test does not test all students equally, yet all students are expected to produce equally well on the test. This pressure on schools and teachers is causing teachers to ignore the minority culture in favor of the white majority culture, which is damaging to that minority culture, and could damage the students' self image or ethnic group image (Springs, 2004).

The Gender Gap

The Gender Gap has been around since educators began comparing the performance of males and females. Originally in the gender gap girls were the ones being left behind (Sadker & Sadker, 1994). But, this has been changing over the last few years. Though girls are still lagging behind in math, they have significantly closed the gap (Francis & Skelton, 2005), while boys are continuing to fall further behind in language and reading. According to the United States Census Bureau (2006), there were more boys under 18 (51.2%) than girls (48.8%). The numbers of men and women decline with age bringing the overall United States population to (50.8%) women and (49.2%) male (United States Census Bureau 2006). When high school graduation rates are compared more boys (35.8%) graduated than girls (31.8%). But, when the number of students graduating from college is compared, the reverse is true, more girls (10.9%) graduated with a Bachelor's degree than boys (7.2%). The earnings of men and women also show a disparity, which heavily favors the men over women. Women with Bachelor's degrees are earning an average of \$35,000 a year, while men earn an average of \$52,000 a year. This could be due in part to the professions that men and women are choosing to enter

and the types of degrees that are being earned, but this cannot completely account for the salary disparity between the genders (United States Census Bureau 2006).

Educational Testing Services (ETS) (2001) looked at the gender gap across the academic tests that ETS provide using mainly the National Assessment of Educational Progress (NAEP) and summarized the data for the last decade. Females across racial and ethnic groups scored higher than males in reading and writing on the NAEP. The 4th grade math scores on the NAEP showed that males scored higher than females on the test. But, when looking at math the scores of 8th and 12th grade males and females, there were no differences between the test scores.

In looking at gender and ethnicity there were some interesting differences. Testing data showed that Hispanics females in the 12th grade outscored the males on the NAEP in all subject areas. In Civics on the NAEP, Black and Hispanic females scored higher than Black and Hispanic males. But, the gap between the genders and ethnicities was most apparent on the Science portion of the NAEP with Caucasian and Hispanic males outscoring Caucasian and Hispanic females. Though Hispanic males outscored Hispanic females they did not outscore Caucasian females. Meaning the Hispanics are still scoring below Caucasians as a group.

When looking at gender across race/ethnicity, there were no differences that were attributed entirely to race/ethnicity. The test depict a wide variety of complex issues and there seems to be no one absolute pattern to the scores of males and females on the test. Gender, according to ETS (2001), needs to be treated as a crucial factor as much if not more than ethnicity.

Girls and the gender gap. The more traditional view of the gender gap shows girls falling behind in math and science but excelling in language and reading. Helpern (2002) finds this to be the case that the gap starts in elementary school and widens as the students move up through the grades. Girls and boys start out fairly even in elementary school. By the middle grades girls begin to pull ahead in language but are still even with boys in math. During high school boys are surpassing girls in math and science while still remaining behind in language and reading.

A report by the American Association of University Women (AAUW) (1999) that summarizes and reviews 1000 research studies found that there is still a gap between the genders for math and science achievement. The report states that when looking at the number of math courses taken girls are closing the gap, but the types of math courses do not add up to an actual closing of the gap. Girls are taking more math but at lower levels than boys. Many girls do not take math above Algebra II, nor are they as likely to take Physics or high-level computer courses. This is troubling because as the United States pushes ever deeper into the world of technology girls will be left out job options because they don't possess the skills need to compete for these jobs (American Association of University Women, 1999). Though girls are enrolling in advanced classes they are in the Arts and Humanities, not in the fields of math and science. In their report the AAUW found that "Girls typically earn higher grades than boys, but score lower than boys on some standardized test and high-stakes tests, used to determine scholarship eligibility and college acceptance or rejection" (American Association of University Women, 1999 Pg 5). These high-stakes tests are the largest hurdle that girls face being "the sole arena in which girls do not perform as well as a group" (American Association of University

Women, 1999 Pg 6). For boys the report found that boys are more likely to repeat a grade and therefore drop out. The AAUW, though it is a women's organization, is not only worried about girls' lack of appearance in higher math classes, but the boys' lack of attendance in English and humanities classes.

In *Reassessing Gender and Achievement* (2005) Francis and Skelton agree that there is a gender gap, but point out that this is not actually a new phenomenon. They argue that girls have done better in school for a long time, but the subjects were not the ones that were important to the government for testing purposes and therefore went unnoticed. Researchers looking at testing data also assumed that boys' lower scores on these test will be a detriment to them once they reach the professional world, this is not happening. Men in the professional world are continuing to be better paid than women. In a survey of the testing data students who took the Stanford Achievement Test (Connolly, 2004) scored evenly on science, females scored better in language, and males scored better in math though it should be noted that the females were not as far behind in math as the males were in language. There are many different reasons that could affect the achievement of both girls and boys in school no matter which side of the gender debate you are on, and just as many explanations of why girls and boys are achieving differently. Still, no one group has been able to provide definitive answers. To add to the debate is the politics that education stirs up. Francis and Skelton (2005) note that the No Child Left Behind policy is the first time in United States history that education policy has advocated that all students can achieve. The problem in the United States is not as much on gender as on race. "The major point of concern in United States educational policy has been, and for now continues to be, differences between the achievements of ethnic

groups. Here the differences between genders are minimal compared to the differences in achievement between minority ethnic groups in relation to the white population” (Francis and Skelton, 2005, p. 42).

Failing at Fairness (Sadker & Sadker, 1994) discusses how girls are being cheated in the classroom because teachers spend a majority of time talking to, answering, and paying attention to boys. Girls remain silent observers to the boys in action in the classroom. Teachers are to blame in some ways by trying not to be sexist by working to include one group or another and in the end excluding, favoritism for one gender or the other still exists in the classroom (Sadker & Sadker, 1994). Teachers themselves are the perpetrators of the silence of the girls, not spending enough time allowing them to question and answer back, nor praising them or giving them helpful hints and information. Even with all this attention and time it is the boys who are suffering from “miseducation.” (Sadker & Sadker, 1994) Boys are more likely to fail, dropout, or take up risky behavior. These problems are so intense that many schools invest extra resources to try to curb this behavior, yet the problems persist. “Girls suffer silent losses, but boys’ problems are loud enough to be heard throughout the school” (Sadker & Sadker, 1994, p. 197). Boys are seen as both the best and the worst at school. Boys are looked at as the future leaders and the future problems for society. In school boys are more often referred for special education, making up 71% of students with learning disabilities and 80% of emotionally disturbed students. Boys are also more likely to be punished for their misbehavior at school (Sadker & Sadker, 1994).

The gender gap does not just appear with students but is modeled for them in the professional world, too. In *Multicultural Education in a Pluralistic Society*, Gollnick and

Chinn (2004) discuss gender differences. In the classroom it is the job of the teacher to provide students with a place that they can learn and feel encouraged to participate. Girls need to be encouraged to join in activities and boys need encouragement to read or write. In the working world things are different. Males tend to work in jobs that have higher salaries and jobs that are more physical, while having the same amount of education as women. When men do enter jobs that are traditionally held by females they are not in the same positions as women. “In 1998, men comprised less than 2% of all pre-kindergarten and kindergarten teachers and less than 17% of all elementary teachers. However, nearly half of the high school teachers and 55% of the principals and assistant principals were men” (Gollnick & Chinn, 2004, pg 139). But women are breaking down the barriers in male dominated profession, and are still earning less doing the same job than their male peers. “The majority of women enter the labor force at the lowest level of these categories, with unstable employment opportunities and low averages” wages (Gollnick & Chinn, 2004, pg 139).

Boys and the gender gap. The “new” gender gap as it is being called, looks at boys falling behind in language and reading. There is much debate still raging over whether this is indeed a “new” problem. Wiens (2006) notes that there are several theories about why boys aren’t achieving: Nature and nurture, influence of culture, feminism, neurological differences, and anatomical differences. But there is no definitive answer as to which one or more of these theories explains why boys aren’t performing in the classroom. According to the author it is up to educators to work to provide an environment where all students can learn using methods that appeal to both genders and allowing for both groups to be successful. In a book titled *Real Boys’ Voices* by Pollack

(2000) discusses our failure as a nation to listen to boys; that we as a nation are not giving boys the emotional support, empathy, and the attention that they need and desire. There is pressure on boys to conform to the norm, teaching them not to talking about nor showing emotion. However, boys want to talk about their emotions, and need to know that it is okay to say what they feel. When boys do open up they talk about the pressures of not flunking out of school or the pressures to try or use drugs. The roles of men are changing but it is a slow process, and boys are feeling the pressure and conflict between generational expectations and their own wants and needs.

A 2004 study done by the National Center for Educational Statistics finds that females are less likely to repeat grades or drop out of school than males. “When examined by sex and ethnicity, the dropout rate of White males and females, Black males and females, and Hispanic females decreased during this period (1972-2001), while no decrease was detected for Hispanic males” (Progress through School, para. 2). Along with the decrease in dropout rate is an increase in graduation rates even among students that are more at risk and who have children while still in high school. More women are entering college, 66% of females and 59% of males. When attainment of the degree is considered females are earning 57% of the bachelor degrees. (These figures are shown in Table 1). Still, when entering the work force women are working in fields that have lower pay than their male counterparts of the same educational level. “In 1970, young women with a bachelor’s degree had a median annual salary that was equivalent to 71 percent of what their male peers earned; in 2000, it was 78 percent” (Outcome, para. 3). This percentage has not shown a substantial increase since this statistic has been followed.

Table 1

College Degree Attainment Based on Gender

	Males	Females
Percent of people entering college	59%	66%
Percent of people attaining college degrees	43%	57%

In an article titled “An Educators Primer on the Gender War Sadker, (2001) calls all the discussion about girls falling behind a “gender war”. The author claims that girls dominate the classroom, text-books make sure to point out famous women, and you find famous posters of women in the hallway. Girls receive better grades elementary through college, and are much more involved in extracurricular activities than boys. The author does admit that males are more likely to be listed on the honor roll and be chosen valedictorian. Along with this boys still dominate the advanced math and science classes, as well as, high level technology classes. And, while, women earn more bachelor degrees women lag behind in the earning of Ph.D.s receiving only 40% of all Ph.D.s awarded. Though there may be a “war” on boys the choices that girls make in the classrooms every year are leading them to lower paying jobs and less education as a group.

The Ethnicity Gap

The impact of ethnicity on the gender gap is a new factor that is being more closely examined as the United States population changes and the pressure from national educational policy change to have all children perform. In a report by Standard and Poors titled *School Matters* the racial gap is defined as between Caucasian students and their African American or Hispanic peers, because these are the three largest ethnic groups in

the United States. These test scores were taken from the 2003-04 and the 2004-05 school years. The author looked at schools that increased the high achieving group and made gains in the lower achieving groups which resulted in a closure in the gap between the two groups by more than 5 points. The schools used for this study are in the same district as the school being used for this dissertation. The same measures have been implemented throughout the district to increase student achievement. The study found that the district made 6.7% gains in closing the gap while the state average was a -0.1%. However, the district has a 26 percent gap to close while the state average is only 19.2 percent. In both math and reading the increase is not seen as much as in the lower grades, but appears in the eighth and eleventh grade benchmark testing (Standard & Poor's School Matters, Fall 2006).

In a 2007 report by Standard & Poor's the district is slightly behind state and national percentages in both literacy and math. This data means that the district did not meet Adequate Yearly Progress (AYP). When the data are broken down by gender the females are outperforming males in both math and literacy but falling short of the national average. If the data are considered by ethnicity the gap between Caucasians and Hispanics is very large, but has closed some 3 percent in math and 2 percent in literacy. Though not a large gain it is a move in the right direction. The 2007 school year is also when the rules on portfolio testing ESL students was tightened allowing fewer students to be portfolio assessed. This meant that more students who had never tested before were expected to test in English with modifications (Standard & Poor's School Data Direct, 2007).

According to The Nation's Report Card (2007) both male and female grade point averages (GPA) increased in math and science since 1990. Females made fast gains reporting higher GPA's than males. This report on the nation's academic progress has three curriculum levels that it considers. The standard level consists of 4 English credits and three credits each in math, science, and social studies. The midlevel curriculum requires the same number of credits as the standard with more difficult math courses, two courses of physics, biology, or chemistry, and one credit in a foreign language. The rigorous curriculum uses the standard curriculum and adds a math credit in Pre-calculus or higher, all three science courses in the standard curriculum, and three credits in a foreign language. During 2005 more females completed a curriculum that is considered midlevel or rigorous than males. When the NAEP score of students who were in the more rigorous curriculum are compared in math and science male students outscored female students. While there was no significance found between students who had not taken higher level courses. When ethnicity was compared all groups made increases since 1990 and all groups increased in the number of students completing higher level courses. African Americans have made gains to close gap in completion of the midlevel curriculum by six points, while, Hispanics have shown no significant gains. In advanced math and science classes both Hispanics and African Americans were less likely to complete the higher level classes, and have higher GPA's. Still, across the board students are taking more and harder classes to graduate. Every subject showed an increase in the number of students receiving credit for upper level classes (The Nation's Report Card, 2007).

The 2005 Trial Urban District Results compared the NAEP results from Austin, Atlanta, Boston, Charlotte, Chicago, the District of Columbia, Houston, Los Angeles, and New York City to one another. On the 4th grade reading test students from Austin, Boston, Charlotte, Houston, and New York City African American students had better scores, while Chicago, the District of Columbia, and Los Angeles African American students received lower scores. For Hispanic students higher average scores were achieved by Austin, Charlotte, and New York City, in Los Angeles the students received lower scores. In mathematics on the 4th grade NAEP Austin, Boston, Charlotte, Houston, and New York City received higher scores for African American students, but Chicago, the District of Columbia all received lower scores for African American students. When looking at Hispanic students Austin, Charlotte, Houston, and New York City scored higher, while Chicago, the District of Columbia, and Los Angeles students scored lower. Overall, there is no pattern to which cities or groups received the higher scores (National Center for Educational Statistics, 2005).

In a paper presented by Uyeno and Zhang (2006) data was gathered from over 9,000 3rd, 5th, 8th and 10th graders who took the Hawaii State Assessment. Overall, girls were less likely to fail than boys, and when Caucasian students are compared to Filipino and Hawaiian students, the Filipino and Hawaiian were more likely to fail a grade than their Caucasian counterparts. The only group to outperform Caucasians students where the East Asian students in the 3rd grade when their test scores were compared. The researchers found that though poverty and ethnicity were related to a degree but nothing concrete. Uyeno and Zhang could not find a direct correlation; ethnicity was a factor unto itself that could not be over looked. When poverty was controlled for, Filipino students

were 122 percent more likely to fail and Hawaiian students were 361 percent more likely to fail than Caucasian students of the same age.

Aside from test score, divisions between ethnicities are a more fundamental problem that students and teachers face every day. According to West in *Race Matters* (1993) in the United States we can't discuss race because we spend all of our time labeling people not figuring out where they fit into society. We divide people not include people. This practice is dividing our country and our classrooms (West 1993). The students we teach find themselves looking at the Caucasian majority, learning the white majority middle class culture, and wanting to be like them. We need to try to find a common ground (West 1993). West says, "To establish a new framework, we need to begin with a frank acknowledgment of the basic humanness and Americanness of each of us. And we must acknowledge that as a people – E Pluribus Unum – we are on a slippery slope toward economic strife, social turmoil, and cultural chaos. If we go down, we go down together." (West, 1993, pg. 4) To not do this we face continued racial problems and possibly self-esteem issues from our minority students.

In a book titled *Lessons from High-Performing Hispanic Schools* Scribner (1999) describes the characteristics found in these "High-Performing Hispanic Schools" and the environment that surrounds them. Scribner believes that as Hispanic students enter each higher grade they gain a more negative self image. "Inappropriate and often poor instruction combined with repeated academic failure lead to feelings of alienation, lack of self-esteem, retention and ultimately being over age for grade level, and increasing instances of teenage pregnancy, gang activity, and other forms of socially deviant behavior" (Scribner, 1999, pg. 2). To add to these problems many minority students are

left in low performing classes and left unchallenged in school. This lack of expectation by classroom teachers leads to academic and behavioral problems. To combat this Scribner says schools should be student centered, and a place where learning is fun. She offers that with this principle at the center schools should work to create communities of learners, a caring environment, and collaborative relationships. These policies can help eliminate the down turn of the Hispanic population and lead to better performance in the long run (Scribner, 1999).

Brain Research. By being able to better understand the brain, educators hope to better serve students. In *Boys and Girls Learn Differently* by Gurian and Ballew (2003) the differences in the brains of boys and girls is discussed in detail. The authors are not looking to demonstrate that one group is superior to the other but find areas where genders brains differ. Their research found that girls mature quicker than boys and by pre-school age girls often have better vocabularies than boys and continue to maintain that lead through maturity. Girls also tend to take in more sensory data than boys do. Their sense of hearing, smell and touch are better on average than their male counterparts, while males tend to have more spatial abilities, making it easier to measure, read maps, or judge distances. When looking at the brain activities of males and females the female brain uses more parts of the brain than the male brain and therefore females appear to have the advantage when learning. In school the brain differences in brain activity play out in social roles, girls with their dolls talking to each other and boys building their forts building and constructing. According to Guarian and Ballew as students move up into elementary, school boys are more likely to become under achievers in language and writing because it is much harder for them because most elementary

teachers are women. This helps create an environment that is easier for girls to adapt to (Guarian & Ballew, 2003). During the middle school years there is massive growth both in the brain and in the body. The boys and girls are beginning to look and think more like the men and women they are growing into. The different usage of the brain and maturation rates help lead to the differences that affect learning in the classroom and the differences that teachers experience in the classroom.

In an article Sylwester (1980) explains that there are three growth spurts in the brain during the school years. During these spurts of growth, the brain grows somewhere between 5 and 10 percent larger. The largest growth for females is between the ages of 10 and 12 while for boys it is during the ages of 14 to 16 years of age. Girl's brains are generally earlier to start these growth spurts than boys meaning that girl's brains are maturing faster than boy's brains. This means that a student's brain maturity could affect their classroom performance and their behavior toward class material, other students, and teachers.

There is an argument that both girls and boys are falling behind in different subjects. Girls in Math and Science and boys in Reading and Language, because of this there is no clear consensus about who is really the most at risk or the furthest behind. Brain research as the newcomer to this debate has yet to give us any clear view of how gender affects performance (Sylwester 1980).

Chapter 3: Research Design and Methodology

This dissertation looks at 6th and 7th grade students' perception of the achievement gap between both gender and ethnicity. To create an effective study, 13 male and female students participated in this mixed methods study. Using a mixed method approach allows this research to look into the students' perceptions on these issues from their views. To determine the reality of the achievement gap between gender and ethnicity for the school, the student's test scores from the Arkansas Benchmark State Assessment Test were used. A quantitative approach to the test scores provides evidence to show the schools' actual achievement gap as compared to the students' perceptions of the gender and ethnic gap. As a teacher in this school and a researcher looking at the gap in the test scores through the lens of the students' views of the school it is hoped that this study will provide an understanding of the hypothesized gender and ethnic gap in academic achievement.

To understand what the students' perceptions are of the achievement gap between both gender and ethnicity, qualitative research methods were used. Students were interviewed using semi-structured interviews. The guiding questions used in this type of interview were used to structure the interview, but allow freedom for follow up questions where and when they are needed (Hatch, 2002, Merriam, 1998) (Appendix C). Semi-structured interviews were chosen because students may require support to understand and respond to questions being asked; it may be necessary to restate or explain a question in different terms so that it is more easily understandable to the students (Hopkins, 1985). The questions posed to the students are open-ended, which allows students to more freely express their views of the achievement gap. This open-ended response style is important

since it enables the researcher is able to ask follow-up questions when the student's meaning is unclear (Hatch, 2002, Merriam, 1985). During the interview students were asked about their preferences in reading and Math, about their peers' preferences, their opinions of the opposite sexes' preferences, and what they think would help lower the achievement gap in the school. Then the students were asked to look at a class picture and to tell a story about the children in the class. The students shown in the picture are of various ethnicities and as a part of the information the students were asked to determine preferences for Math and reading about the student they chose in the picture. Prompting questions were used to help gain information from the students.

Students may also be asked for follow up information after the interview if their meaning was still unclear or more information is needed. The interviews were recorded and transcribed. The students' gender, ethnicity, and age were recorded prior to the interview for demographic use. The gender and ethnicity of the participants were recorded on tape to see if there is a difference in responses between the genders and ethnic groups that are interviewed.

The Role of the Researcher

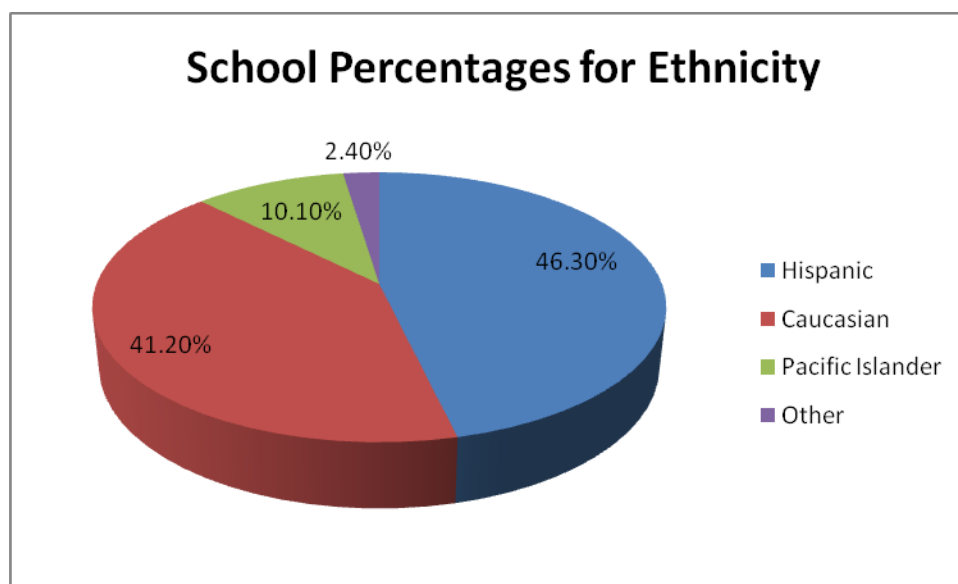
The researcher in this study had a dual role as social studies teacher to nine of the thirteen participants and researcher. The dual role of the researcher was explained to the participants before the interview. The researcher has been a teacher at the school for seven years and is known to both 6th and 7th grade participants from either classroom experience, group presentations, or as their club sponsor. All of the 7th grade participants attended classes taught by the researcher because of the team approach used in the school; while the 6th grade participants were known through other teachers. Access to the

participants was acquired with approval from the school district, the principal, the parents of the participants, and the participants themselves. The dual role of the researcher as both teacher and researcher during the qualitative section allowed the participants to be comfortable in their setting and allowed the effective use of time and resources for the researcher.

Participants

The School. The school chosen for this study is a 6th and 7th grade middle school with about 950 students divided fairly evenly between the grades. The numbers change frequently due to the schools highly mobile population. The school is composed of: 46.3% Hispanic, 41.2% Caucasian, 10.1% Marshallese or Pacific Islander and 2.4% other. This is shown in figure 1. Over the past ten years the school has moved from a white majority to majority Hispanic and Caucasian with a Marshallese minority population. The district itself has experienced large growth in the student population with that rise chiefly in minority populations.

Figure 1



Springdale School District Statistical Data 2006

The school population has more males than females which is common all over the district at this age level. There is a majority of students are English Language Learners. The information for this is shown in Table 2. The school used in this study has created classes that include boy's interest and help them become excited about school and learning, as well as, provide a safe environment. The class with the best success is the all boys reading class. This class has seen an increase in the boy's Accelerated Reader scores and more willingness from these boys to read in the classroom. These classes work to help boys realize that reading is not just for girls and provides a safe environment for boys to read literature on their level.

Table 2

Gender and Ethnicity of the Schools Student Population

Ethnicity	Male	Female	Total in %
Hispanic	238	190	46.3%
Caucasian	200	173	41.2%
Pacific Islander	55	40	10.1%
Other	11	13	2.4%
Total for School	504	416	100%

The year before this study was completed the school was chosen as a National School to Watch, which means that the school is academically excellent, developmentally responsive, and socially equitable according to the initiative launched by the National Forum to Accelerate Middle-Grades Reform in 1999. Though the school was honored for its work and programs in the 2009-2010 school year, the school will be in year 4 of school improvements. This means that the students' test scores on the Benchmark have

not met the state required yearly increases in math and reading. Because of this the school is required to offer tutoring, transfers to achieving schools, and an action plan that includes research based methods to help students reach grade level proficiency.

The Participants. There were thirteen students that participated in this study. There were 110 letters sent home with 6th and 7th grade students requesting their participation in the study. Students returned 21 letters granting permission to participate in the study but only 13 were able to be interviewed to keep the sample representative of the school. Two Caucasian females were eliminated to create a more even male female division and to make the ethnicities more representative of the school. Due to conflicts in schedules with the students and the researcher, 6 students were unable to participate in the study.

Participants were chosen by their team of teachers and limited to those whose parents signed informed consent allowing them to participate in the study. Team teachers in the 6th grade were asked to select children from their team to provide a more diverse cross section of the school. The teachers met as a team with the researcher who asked a list of children that would be willing to participate. On one six grade team the entire team was asked to participate while on other team the teachers were only willing to ask 4 students that they thought most likely to participate.

The thirteen participants were chosen to participate in the study were 6th and 7th grade students ranging in age from 11 to 14 years old. The participants are both male and female, comprised of Hispanics, Caucasians, Marshallese, and Native American, and taken from four teams, two 6th grade and two 7th grade. The interviews were conducted at different times during the school day due to scheduling conflicts between 6th and 7th

grade. The participants were interviewed during the researchers planning period with the permission of their classroom teachers. The participants represent all ability levels and include special education students, ESL students, and students that are served under the 504 laws as other needs not served under special education.

When selecting participants for the study the school in which the researcher works was chosen as a convenience sample. However, when individuals were chosen to participate in the interviews the researcher tried to create a proportional sample to be representative of the school, yet was limited by the accessibility of the students due to scheduling conflicts. The school has a large population of ESL students and helps to provide views on the gap between the ethnic groups. In the 7th grade all children that the researcher taught were invited to participate: these students who chose to participate are shown in Table 3.

Table 3

Participants Chosen for this Study

Participants	Ethnicity	Grade	Teacher Recommended	Researcher Taught	Students chose to participate without Teacher Recommendation
Participant 1	Caucasian	7		Yes	Yes
Participant 2	Hispanic	7		Yes	Yes
Participant 3	Caucasian	7		Yes	Yes
Participant 4	Caucasian	7		Yes	Yes
Participant 5	Marshallese	7		Yes	Yes
Participant 6	Hispanic	7		Yes	Yes
Participant 7	Marshallese	7		Yes	Yes
Participant 8	Hispanic	7		Yes	Yes
Participant 9	Hispanic	7		Yes	Yes
Participant 10	Caucasian	6	Yes		
Participant 11	Native American	6	Yes		
Participant 12	Hispanic	6	Yes		
Participant 13	Marshallese	6	Yes		

n=13

When student's returned their letters to the researcher a mix of students was chosen that were as representative of the schools population as possible. There were more females who chose to participate in the study than males, and more 7th grade students than 6th grade students. To represent the school population as clearly as possible many of

the students who were interviewed did not speak English as their first language, nor did most of the students grow up in the district that they are attending; this information is shown in Table 4.

Table 4

Demographics of the participants interviewed

Gender	Ethnicity	Grade	Age	Home Language	Years in US	Years in US Schools	Years in Springdale Schools
Male	Caucasian	7	13	English	5	5	5
Female	Hispanic	7	12	English and Spanish	12	7	7
Female	Caucasian	7	13	English	13	7	7
Male	Caucasian	7	13	English	13	7	5
Male	Marshallese	7	14	Marshallese	9	7	7
Female	Hispanic	7	12	English and Spanish	7	7	4
Female	Marshallese	7	13	English and Marshallese	11	7	7
Female	Hispanic	7	12	Spanish	12	7	2
Male	Hispanic	7	13	Spanish	13	7	1
Female	Caucasian	6	12	English	12	6	5
Male	Native American	6	12	English	12	7	6
Female	Hispanic	6	11	Spanish	11	6	4
Male	Marshallese	6	12	English and Marshallese	6	6	6

*n = 13 *Participants listed in order 1 through 13*

All the students listed below with any other home language than English are served by the ESL department at the school because they have not yet been exited from

the program; six of the participants were attending ESL classes and two others were just being monitored by the ESL department through their classroom teachers: this information is shown in Table 5. There were two students classified as Special Education and one who was considered 504 or other needs not served in special education services. These different issues combined might impact the participants' views of the gender and ethnicity achievement gap.

Table 5

Student ESL level and services

Participants with ESL Services	ESL Level	Home Language	Services received
Participant 2	Level 3	English and Spanish	1 ESL class a day
Participant 5	Level 3	Marshallese	1 ESL class a day
Participant 6	Level 4	English and Spanish	Monitored by teachers
Participant 7	Level 3	English and Marshallese	1 ESL class a day
Participant 8	Level 3	Spanish	Pull out classes due to Special Education and ESL
Participant 9	Level 2	Spanish	2 ESL classes a day and 504
Participant 12	Level 5	Spanish	Monitored by teachers
Participant 13	Level 4	English and Marshallese	Pull out classes due to Special Education and ESL

Data Collection

Instrument

The 6th and 7th grade students' perceptions of the gender and ethnic gap were measured using a mixed methods approach. The first part of the study used the state achievement test, Benchmark, to see how much of a gap actually appears in the school's Literacy and Math testing data. The second part of the study was an interview with middle school students to see what their views were of the hypothesized gender and ethnic gap.

Quantitative. The school's gender and ethnic gap was measured using the 2008-2009 Benchmark, the state assessment given to students each year. This test is given to all 6th and 7th grade students in the school that have been in the school more than a year. Students are scored in math, science, and literacy. Literacy is divided into two parts reading and writing. The reading part was the most relevant to this study, but it could not be separated in the scoring reports given to the school so the literacy scores were reported. The math and literacy scores reported for this test were used to calculate the statistical evidence of the gender and ethnicity gap.

Qualitative. The second part of the study was a formal, semi-structured interview, which provides insight into the students' views of the gender and ethnic gap. According to Hatch (2002) formal interviews "are semi-structured because, although researchers come to the interview with guiding questions, they are open to following the leads of informants and probing into areas that arise during interview interactions" (pg. 94). A formal interview also assumes the researcher is in charge of the interview. It must also have specific time limits. As a teacher in the school and of many of the students that

participated in the study, it was easier to help the students relax and answer the questions to the best of their ability. The interviews for this study were limited to 20 minutes due to the age of the participants and the need for them to return to or class in a timely manner. The interview consisted of two parts: part one had seven questions and part two had six questions. Both parts of the interview had follow-up questions usually consisting of why a student responded they way that they did (see Appendix C). These questions were designed to understand and describe students' perceptions of the gender and ethnic gap in a manner that made it easy for the participant to understand and feel comfortable answering.

In part one of the interviews, the participants were asked about their views on reading and math. Reading and math were targeted because these are two of the three components of the state Benchmark test the students take every year. These two were chosen because they were the lower two of the three components when all students at the school were tested. It was also decided that Reading and Math were easier for students to talk about than writing. Once the participants had reported their own views of math and reading, they were then asked to compare themselves to their peers.

For part two of the interviews, the participants were asked to look at a drawing of a class that was created by the researcher (Appendix D). In this part of the interview participants looked at a class that had both males and females of different ethnicities and answered questions or told a story about the students. The participant was asked to decide which students fit a certain scenario and then decided whether he or she, the pictured boy or girl, liked or disliked math and reading. Other questions such as what kinds of grades do you think this student makes, or how do you think they act in class helped to

understand the way that the participant viewed them. Participants were also asked to describe what the student in the drawing liked to do in their free time or how they behaved in class.

Procedure

The Benchmark testing data and the interviews were used to judge the participants' views of the school. The test scores can only express what is happening when students are tested. The interviews with the participants only express what they *believe* is happening at the school. Conducting these two types of data bring a check as to why test scores fall as they do and possibly what can be done to help improve these scores.

Quantitative. The entire student body was tested during the 2008-2009 school year. The scores for the entire school were used to ascertain the degree of the achievement gap between the genders and ethnic groups. The data were entered into the SAS computer system by the researcher where several tests were completed to determine the achievement gap that existed at the school during the 2008-2009 school year. The t-test helps determine if there is a statistical significance between the difference of two means. An independent sample t-test was done to determine if there was a difference between the genders for both math and literacy.

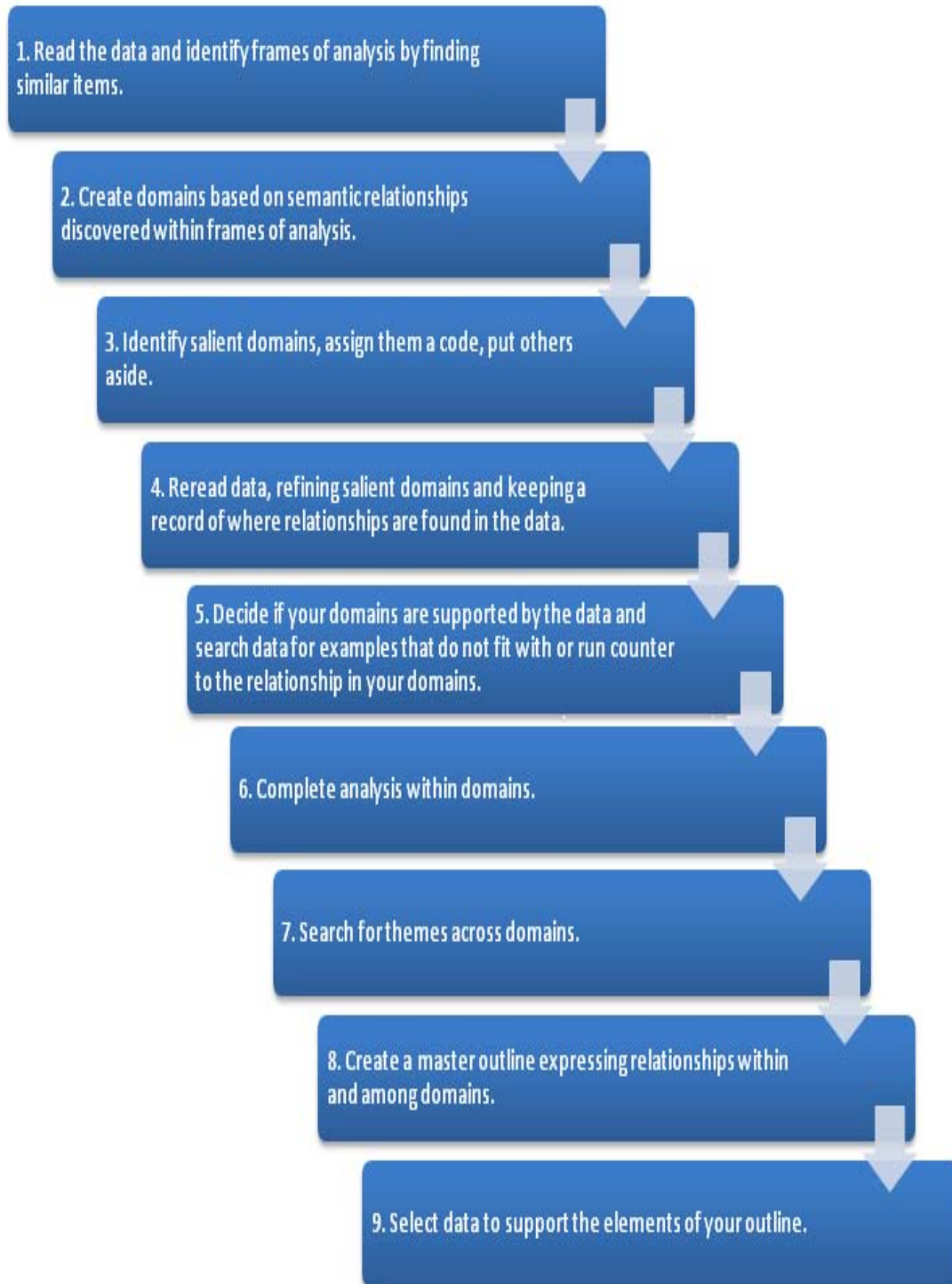
To consider the achievement gap for ethnicity a one-way ANOVA with one between-subjects factor was completed for both math and literacy scores. The ANOVA produces a single statistic that measures if the means for the two groups are significantly different.

To determine if there was an interaction between gender and ethnicity a factorial ANOVA with two between subjects factor was done. This type of ANOVA allows a researcher to determine if there are significant differences between two or more means, and to find if there is an interaction between two or more groups.

Qualitative. To complete the second part of the study thirteen students were interviewed. Because students could not be pulled from any of their core classes a limited number of students could participate. Then these participants' interviews were transcribed and analyzed to find themes and identify patterns that expressed the participant's views of the gender and ethnic gap. The interviews were analyzed using inductive analysis. Hatch (2002) describes this method of analysis, "Inductive thinking proceeds from the specific to the general. Understandings are generated by starting with specific elements and finding connections among them" (p. 161). Frames were created to interpret the student responses. Each of these frames is related to the schools' achievement level on the Benchmark. After looking at the frames, domains were created. Domains are "semantic relationships discovered within the frames of analysis"(Hatch 2002 p. 162). Hatch says "Creating domains is the key inductive element in this model; the data are read searching for particulars that can be put into categories because of their relation to other particulars" (p. 164). The interview transcripts were reread and analyzed to identify patterns and themes related to students' perceptions of the gender and ethnic gap. A method described by Hatch was used for this process shown in Figure 2.

Figure 2

Steps in Inductive Analysis



Hatch, 2002, p. 162, Figure 4.2

The domains created within the frames help refine relationships found in the data. The domains identified by the researcher are: a) students' interest in a subject, b) difficulty of the subject, c) the students' willingness to participate in activities, d) natural ability in the subject, and e) social acceptance. In each of these domains there are linking terms that indicate connections between the data and the domains. An example is shown in figure 3.

Figure 3

Domain: Students' interest in the subject

Including Terms	Semantic Relationship	Cover Terms
It's boring		
I like it		
It's interesting	are reasons to	pay attention or not pay attention
I like challenges		
It's fun		

When working to create domains it is important to understand that the student-participants were interviewed with the constructivist paradigm in mind because “constructivist science argues that multiple realities exist that are inherently unique because they are constructed by individuals who experience the world from their own vantage points” (Hatch, 2002, p. 15). Because of their age the researcher worked with participants to reports their understandings. Hatch describes a process to guide researchers through Inductive Analysis. Through this method the data were divided into frames of analysis and domains that express the relationships within those frames. To help find relationships in the data a coding system is set. The data are broken down into

the frames and domains so the information is more manageable. Then the cover terms are used to find relationships in the data; an example of coding from this study is shown in figure 4.

Figure 4

Example of the Coding Procedure

Code	
I	Students interest in the subject
	A It's boring
	Selection from the interview "I just don't like reading it is so boring." (Hispanic male)
	B I like a challenge
	Selection from the interview "I think math is so cool because you get to solve problems that are hard and I like working those hard problems." (Caucasian male)
V	Social Acceptance
	A Weird or different
	Selection from the interview "Most girls don't like math. I don't think anyway. I'm just weird girls aren't really suppose to be interested in math, so I'm just weird I like math more than reading." (Caucasian Female)
	C Everyone else does it
	Selection from the interview "My friends and I like reading because we can all read the same books like "Twilight". What was better was we could all watch the movie together and then talk about the book." (Hispanic Female)

Summary

The mixed methods approach chosen by the researcher was used to determine students' perceptions of gender and ethnicity gaps in achievement. Data were collected from the schools' 2008-2009 state Benchmark test scores and from 13 student interviews. The extent of the gender and ethnic gap was examined quantitatively using T-tests and two way ANOVAs. To understand the qualitative data gathered during the study inductive analysis was used to create both frames and domains to analyze the interview data. Both the quantitative and qualitative analyses were used to determine the students' perceptions of the gender and ethnicity gaps.

Chapter Four: Findings

This two part mixed methods study examined students' perceptions of the achievement gap between gender and ethnicity. In part one of the study, data were collected from the Benchmark exam scores from both the literacy and math tests. Statistical analyses of the data were conducted using both t-tests and ANOVAs. In part two of the study semi-structured student interviews with researcher follow up questions were conducted to determine their view of the hypothesized gender and ethnic gap. When all the data were collected, the students' views were compared to the data collected from the school. In doing this the students' perceptions can be compared to the test data to help create a clearer picture of what the students' believe is happening as compared to what is happening in the school on the Benchmark test.

Research questions for this study are:

1. What are students' perceptions of the gender gap?
 - a. Do the students believe that there is a gender gap?
 - b. Why or why not?
2. What are the students' perceptions of a gap between the ethnic groups?
 - a. Do the students believe that there is a gap between ethnic groups?
 - b. Why or why not?
3. What actions do the students think might help solve or eliminate these problems in the classroom?

The Arkansas Benchmark exam is given to all students in the school who have been in the United States more than a year. The test is divided into three sections literacy, math, and science. The science test was not used for this statistical analysis because it is

only given in a few grades, and it is new to the Benchmark testing set. The test is reported to the public using scaled scores that range from 0 to 1000 for literacy and 0 to 950 for math. These scores are separated into four levels: below basic, basic, proficient, advanced. These scores are determined by the state and are used to determine the Adequate Yearly Progress or AYP for the school. These scores may determine a student's placement in the classroom. These scores will help to decide whether or not to remediate the student if their score is not proficient or above. The high numbers and the cut off scores between the levels change every year due to rescoring of questions (shown in Table 6).

Table 6

Benchmark Scoring for the 2008 – 2009 school year

	Literacy	Math
Advanced	823-1000	722-950
Proficient	641-822	641-721
Basic	417-640	569-640
Below Basic	0-416	0-568

Analysis

Quantitative Analysis

Descriptive Statistics. The data from Arkansas state assessment, the 2008 – 2009 Benchmark, were used to establish the existence and extent of a gender and ethnicity gap. The students' scaled scores were used in the analysis because the raw data were unavailable. The descriptive statistics were obtained by calculating means and standard deviations.

The school's information is shown in Table 7. As a whole the school's scores are in the proficient range. There are fewer students reported in the data than actually attend the school. This discrepancy is accounted because students who are not tested are included into the school population. There were 25 students not reported in the school data because they were new to the country or absent for the entire testing week. The means and standard deviations for literacy scores in the school are 669.55 (1.82) and for the math scores are 694.37 (1.02) for the 2008 - 2009 school year.

Table 7

Means and Standard Deviations for the School's Benchmark Test

	N	M	SD	Range
Literacy Scores	896	664.47	1.88	17 – 970
Math Scores	896	694.80	1.02	93 - 984

Gender and the achievement gap. Analysis was conducted for gender using the 2009 Benchmark data. Gender was divided into two groups, male and female, to find the extent of the gap between the gender groups. The means and standard deviations when considering gender range from 664.47 (1.88) to 694.80 (1.02). The data for both genders are found in Table 8.

Table 8

Means and Standard Deviations for Gender on the Benchmark Test

	N	M	SD
Female Scores on the Literacy Test	405	685.6	1.89
Female Scores on the Math Test	405	695.0	1.03
Male Scores on the Literacy Test	491	646.9	1.85
Male Scores on the Math Test	491	694.62	1.01

A t-test was used to analyze the 2008-2009 Benchmark scores of both males and females. There was a significant difference in their literacy scores $t(894) = 3.08$, $p = 0.0021$. When the math scores were considered there was no statistical significance found between the genders $t(894) = 0.05$, $p = 0.95$. Significance levels for alpha were set at the $p < 0.05$ level. This data is shown in table 9.

Table 9

T-test Scores for Math and Literacy

	DF	t	P value
Math	894	0.05	0.96
Literacy	894	3.08*	0.0021

* $\alpha = 0.05$

The statistical significance found between the genders in literacy means that there is a measurable difference in the scores of boys and girls, which in this case mean that girls scored better on the literacy section of the 2008-2009 Benchmark Test. In fact when the mean scores are reported by gender, females 695.0 just barely outscore males 694.62 in math. The traditional view of the gender gap is that girls will outscore boys in literacy

and boys will outscore girls in math. This holds true here for literacy but not in math. This reinforces the findings of Francis & Skelton (2005); who found that while boys are continuing to fall further behind in language and reading, girls are catching up in math. Helpern (2002) found that by middle grades girls begin to pull ahead in language and still manage to stay even with boys in math.

Ethnicity and the achievement gap. The analysis for the different ethnic groups was used to determine the gap between different ethnicities in both literacy and math. There were three groups examined for the study. These are the three major ethnic groups in the school: Hispanic, Caucasian, and Marshallese. Means and standard deviations ranged from 537.41 (.91) to 720.91 (1.78) for the different groups. The data for these items are shown in Table 10.

Table 10

Ethnic groups' scores on the Benchmark test

	Literacy Score			Math Scores		
	N	M	SD	N	M	SD
Caucasian	361	718.13	1.69	361	720.91	1.05
Hispanic	420	643.20	1.78	420	687.84	0.91
Marshallese/Pacific Islander	90	537.41	2.37	90	620.51	1.02

When ethnicity was considered an ANVOA test of variance with one between subjects factor was completed. This test was completed for both math and literacy scores. This analysis revealed a significant difference for ethnicity as a group to be considered in the Benchmark math scores $F(3, 891) = 20.12$, $MSE = 9596.18$, $p = 0.001$. Though the

school considers ethnicity an area of concern, it is important to determine how well, at the time of the study, the school was reaching those different groups to educate them. The summary of this test data is shown in table 11.

Table 11

Ethnicity ANOVA for Math Scores

Source	df	SS	MS	F	R ²
Ethnicity	3	772335.06	193083.76	20.12*	0.08
Within groups	891	8550197.98	9596.18		
Total	895	9322533.03			

Note N = 896

*p < .0001

A Tukey's HSD was also calculated for this data. This test compares multiple groups and their means: for the math scores it was found that there were significant differences between Caucasians and Hispanics, Caucasians and Marshallese, and Caucasians and all other groups. Comparing Caucasians and Hispanics revealed that Caucasians both male and female are outscoring Hispanic males and females. Hispanic males and females when compared to all other groups score less than Caucasian students and better than Marshallese students. When the Marshallese data were compared to all other ethnicities they score the lowest on the test for both male and female.

The students' scores were also analyzed using their literacy scores. When the different ethnicities' literacy scores were considered there was a significant difference, $F(3, 891) = 20.90$, $MSE = 32565.58$, $p = 0.0001$. The data for this are shown in Table 12.

Table 12

Ethnicity ANOVA for Literacy Scores

Source	df	SS	MS	F	R ²
Ethnicity	3	2722673.98	680668.49	20.90*	0.09
Within groups	891	29015929.08	32565.58		
Total	895	31738603.06			

Note N = 896

*p < .0001

When a Tukey's HSD test was conducted for the literacy scores, it was found that there were, once again, significant differences between Caucasians and all other groups. This again illustrates that there is a gap between Caucasians and Hispanics with Caucasians. When the Hispanics and the Marshallese are considered together the Hispanics outscore the Marshallese. The test shows the Marshallese are scoring the lowest of all ethnic groups in literacy on the Benchmark test.

The most serious gap is found between the Marshallese and all other ethnicities. These students are scoring the lowest in the school in both math and literacy. The other noticeable gap is between the Caucasians and Hispanics in the school.

Gender, ethnicity, and the achievement gap. To determine if there was any interaction between gender and ethnicity a factorial ANOVA with two between subject factors was calculated for both math and literacy. There was no significant interaction found between gender and ethnicity using the math scores $F(3, 886) = 1.25$, $MSE = 9595.50$, $p = 0.29$. Significance levels for alpha were set at the $p < 0.05$ level. The data do show a small interaction. A summary of this data is shown in Table 13.

Table 13

Relationship between gender and ethnicity using math scores

Source	df	SS	MS	F	p	R ²
Gender (A)	1	1642.76	1642.76	0.17	0.68	0.01
Ethnicity (B)	2	735128.32	183782.08	19.15	0.0001	0.08
A x B Interaction	2	48123.99	12030.99	1.25	0.29	0.005
Within Group	886	8501616.84	9595.50			
Total	895	9322533.03				

Note: N = 896

When looking at the means and standard deviations of the groups may be some explanation for this small interaction. The means for the math scores shows Caucasian females outscoring all the other groups but with the highest deviation 113.17. The Hispanic males on average are out scoring Hispanic females, and the means for the Marshallese males show they are scoring at the bottom of the group. This data are shown in Table 14.

Table 14

Descriptive statistics by gender and ethnicity for Math

Gender	Ethnicity	N	Mean	Standard Deviation
Female	Hispanic	185	685.71	90.18
	Caucasian	166	721.32	113.17
	Marshallese	38	631.00	86.60
Male	Hispanic	235	689.51	91.78
	Caucasian	195	720.56	97.73
	Marshallese	52	612.85	112.70

The literacy scores revealed the same findings, the interaction between gender and ethnicity was not significant but showed a slight trend. The F statistic for this interaction is $F(3, 886) = 1.27$, $MSE = 40893.78$, $p = 0.28$. There was statistical significance found for ethnicity and moderate significance found for gender. The data for this test are shown in Table 15.

Table 15

Relationship between gender and ethnicity using literacy scores

Source	df	SS	MS	F	p	R ²
Gender (A)	1	332753.48	332753.48	10.32	0.0014	0.01
Ethnicity (B)	3	2665394.35	666348.59	20.66	0.0001	0.08
A x B Interaction	3	163575.13	40893.78	1.27	0.28	0.005
Within Group	886	28576880.11	32253.82			
Total	895	31738603.06				

Note: N = 896

The slight interaction that occurred between gender and ethnicity appears in the data regarding group means. The mean shows females, in general, outscoring males, and Caucasian females with the highest mean (739.18). The group that once again scored the lowest on the test is the Marshallese males. The description of this is shown in Table 16.

Table 16

Descriptive statistics by gender and ethnicity for literacy

Gender	Ethnicity	N	Mean	Standard Deviation
Female	Hispanic	185	661.01	173.90
	Caucasian	166	739.18	184.47
	Marshallese	38	580.45	228.22
Male	Hispanic	235	629.18	180.17
	Caucasian	195	700.21	152.17
	Marshallese	52	505.96	241.27

Qualitative Analysis

In the second part of this study thirteen students were interviewed to find their perceptions of gender and ethnicity gaps. The first part of the interview asked participants about their views and their peers' views of reading and math. This section of the interview was aimed at finding the students' perceptions of the gender gap. The thirteen participants were asked to judge themselves and their peers against the group as a whole to answer the question: Do you think that most boys/girls think like you do, and then the participants were asked to explain why they believed as they did. These questions were asked for both math and reading.

Research Question 1. Research question one looked at the students' perceptions of the gender gap. The participants were asked about the gender gap with regards to math and reading. The participants were asked to express their views of math and reading, what they believe their peers think, and why they believe as they do about math and reading.

When the data were broken down according to the student's opinion of their gender and that of the opposite gender; it was found that female students had a more positive image of their gender and themselves. While male students had a positive self image, the image of their gender was more negative. Males felt that females were better readers.

When the participants were asked about reading, the answers were divided, females tended to fall along more traditional lines. Females believed that they like reading more than males. The boys, on the other hand, were more divided, half of the male participants believed boys liked reading more than girls though half did not. When

asked to explain why they believed as they did, one Marshallese male offered this explanation of the lack of social acceptance, “I like reading when I get to read what I want, and if you don’t broadcast it, it is kinda fun to tell a friend about a book and have them read it too.” While other boys often explained that reading was boring and too inactive; a Caucasian male said, “I don’t like reading I’d rather play games they are much more interesting.” The girls had a much more positive view of reading among their social group, one Hispanic female said, “My friends and I like reading because we can all read the same books like *Twilight*. What was better was we could all watch the movie together and then talk about the book.” The most interesting fact that was found about reading was as they are compared to the students’ own views of reading to what the student believes about their gender as a whole. In regards to gender when students were compared; 11 of the 13 students believe that other students are like them and believe as they do about reading and math. A summary of the students views of literacy are shown in Table 17.

When the participants were asked about the opposite gender and reading, 10 of the 13 participants believed that girls were better at reading than boys. When boys were asked to explain their opinion of reading a Hispanic male, said this, “I think overall boys would rather play games or soccer not read so girls practice more and are better at it.” According to this student boys aren’t willing to participate in reading practice. What is most noted about this participant is that he has a very positive attitude toward reading even claiming it as his favorite subject, yet he still believes girls are better at reading. Only one male and one female thought boys would be better at reading. A Caucasian female offered this reason, for why boys are good readers but socially don’t want others

to see this, “Boys can be just as good at reading as girls, sometimes better. It just isn’t cool to show it so they play stupid cause it isn’t cool to read and be smart.”

Table 17

Students’ views on Gender and Reading

Students’ Views of reading	Males	Females
Number of students	6	7
Positive view of their gender	3	6
Negative view of their gender	3	1
Positive view of the other gender	5	2
Negative view of the other gender	1	5
Positive self view	5	5
Negative self view	1	2

While reading fit into more traditional stereotypes, the results for math were more mixed. When math is considered females have a positive image of themselves and their gender, but still believe that boys are better at math. The male participants had a positive image of their gender and math, but a very negative image of females and math. Females appeared to have a more positive image of math than a traditional stereotype would assume. When asked if they liked math four of the seven females had a positive self-image. One Hispanic female during the interview offered this evidence as to why girls have a positive image of math, “Girls are, you know, smart, we can do it if a boy can. I mean come on, like how many boy math teachers are there, like two.” This female believes that girls have the same natural ability to succeed in math as boys. However,

one Caucasian female believed she was very much alone in her positive view of math saying, “Most girls don’t like math. I don’t think anyway. I’m just weird, girls aren’t really suppose to be interested in math, so I’m just weird. I like math more than reading. I want to be an engineer some day and I don’t think that people (her peers) are okay with that and it sucks.” This participant feels that it isn’t socially acceptable to like math, and it troubles her in school to try to conform to the norms of the perceived stereotype.

The males that were interviewed were also more likely to have a positive self image of math with four out of six boys claiming they liked math. A Hispanic male stated his interest and a favorable view of the subject “Math is the only subject that I think I can do okay in, I mean my grade in Mrs. C class isn’t that good but I get what she says and can do it if I try. I like math.” A Marshallese male who believed that females were better at math explained his reasoning of girls natural ability by saying, “Well, I think it is that girls listen to what the teacher says all the way through and then answer while boys don’t. I think that girls just get school better than boys, I don’t know why.” When the participants’ own opinions of math were analyzed 12 out of 13 students thought their gender had the same view of math as they do.

Things change when the participants are asked about their views of the opposite gender. They were asked to choose, who is better at math males or females and though most participants believed that their peers felt the same way about the subject as they did; they still tended to pick more traditionally. Eleven out of thirteen participants believe boys were better at math than girls. Boys were stronger in this belief with all six boys interviewed believing boys were better at math than girls. When asked why boys were better at math a Caucasian male said, “Well you watch TV Mrs. H and it's like that. You

know on all the shows the nerdy math guy and the cute girl. You have to watch Scifi to see a lot of girl nerds. It's almost like people tell us it can't happen in reality." A Hispanic male, said, "You know I'm not sure why I just think it has always been that way." These two believe that society and media indicate that boys will be better at math than girls.

A Hispanic female, who liked math, believed that most of her peers felt the same way but still decided that males were better at math. When she was asked to explain her answer she said, "Well, you know it's like this we aren't suppose to like it. When you are better at something, like you know, like math and you have a [boyfriend], well they don't like you being better than them, so you just like aren't. It hurts their feelings." A Marshallese female, who liked math, believed her peers did, yet chose boys to be better at math to explain her choice she said, "Mrs. Hendrickson things aren't the same here like they are everywhere else. Girls can like math okay, but it isn't like that everywhere." When asked to explain further she said, "I like math and my friends like math and that is okay here, but maybe if I went somewheres else it wouldn't be okay. Cause in some places you get made fun of for liking math. It's better here." Both of these participants felt that it wasn't socially acceptable to like math. A summary of the participants responses' are found in Table 18.

Table 18

Students' views on Gender and Math

Students views of math	Male	Female
Positive view of their gender	4	4
Negative view of their gender	2	3
Positive view of the other gender	0	5
Negative view of the other gender	6	2
Positive self view	3	4
Negative self view	3	3

Research Question 2. In the second part of the interviews participants were asked to look at a researcher created class picture (Appendix D). This part of the interview was looking for the participants' views of the ethnicity gap. The participants were asked many of the same questions that appeared in the gender section of the interview. When asking them to explain those beliefs to the researcher. Once again the questions focused on why participants believe the way they do. The data were classified according to the students' views of their own ethnicity and that of other ethnicities in both reading and math.

When participants were asked about the various students they chose on the class picture and those fictitious students' beliefs about reading and math, they appeared, at first to be random. But, when the student responses were broken down by domain and ranges the answers fell along traditional lines of gender and not ethnicity; girls being the readers and boys liking math. This was very strictly adhered to by the participants with the exception of the last question when the students were asked which student they

wanted to be their friend. This question fell out along the students' own personal preferences on reading and math. A Hispanic female explained, "I want to share stuff with my friends not just sit there and stare at them so we kinda have to kinda like the same stuff."

The participants were asked to pick which child is the smartest in the class and tell a story about that student. When making their choices 10 of the 13 participants chose a male. Nine of the males chosen were Caucasian while one was Hispanic. The three remaining participants all chose a Hispanic females. These responses are shown in Table 19. When the participants were asked why they chose a Caucasian male as the smartest a Marshallese male said, "I think they answer more than everyone else especially in math, so everyone thinks they are the smartest." To this participant the Caucasian male is more willing to participate in class than other students. A Hispanic female explained her choice of a Caucasian male, "Well, I don't know cause they just usually do good in school and so I just picked someone who reminded me of a smart kid." A Hispanic male who chose a Hispanic female because he believed that a female had more natural ability said, "Cause I think that girls are just better at school."

Table 19

Participants answers to question one

Participants			Fictitious Student		
Number	Gender	Ethnicity	Number	Gender	Ethnicity
1	Male	Caucasian	16	Male	Caucasian
2	Female	Hispanic	16	Male	Caucasian
3	Female	Caucasian	2	Female	Hispanic
4	Male	Caucasian	16	Male	Caucasian
5	Male	Marshallese	16	Male	Caucasian
6	Female	Hispanic	16	Male	Caucasian
7	Female	Marshallese	16	Male	Caucasian
8	Female	Hispanic	2	Female	Hispanic
9	Male	Hispanic	16	Male	Caucasian
10	Female	Caucasian	5	Female	Hispanic
11	Male	Native American	16	Male	Caucasian
12	Female	Hispanic	16	Male	Caucasian
13	Male	Marshallese	1	Male	Hispanic

The second question about the class picture asked the participants to decide which student was in trouble a lot in class. The participants overwhelmingly chose male students with only one participant choosing a female. The participants that chose males all chose number ten in the class picture. The participants were asked to explain what about that student made them chose him, and all 12 participants said his hair style. With

further questioning it was found that many of the Hispanic males in the school wore their hair in a fashion similar to the student in the picture. The ethnicity of the student in the picture didn't cause their choice as much as the style of his hair. A Hispanic female said, "You know Mrs. Hendrickson it looks like ____ and he is in trouble all the time, so it just made me think of him." Another participant a Native American male said, "Kids like him don't pay attention, they don't listen, and they don't do their work. Then they wonder why they are in trouble all the time and gripe about teachers who are trying to help them behind their back. It's just like ____ he does that all the time." The one participant, a Caucasian female, who did not chose number ten chose a Caucasian male stating, "It reminds me of my brother." These responses speak to the student in the pictures lack of willingness to participate.

When the participants were asked to decide who was most popular all 13 participants' picked the same girl number two. When asked to explain their choice, answers varied but the most common answers included such characteristics as blond hair, blue eyes, and her pink shirt. A Caucasian male made a case for the girl's social acceptance saying, "She is the perfect stereotype: she's pretty, blond, and blue eyed. I mean that's like suppose to be a dream girl right, so she has to be popular." The other students when asked their choice expressed many of the same sentiments though one female Hispanic student said, "Well she can't be the smartest kid in the class because that is usually a boy, and she is pretty, well, for a cartoon, so she has to be popular."

The question dealing with the student in the picture that is the quietest is interesting for several reasons. What is interesting here is what they said about her when they were asked to describe her. All 13 students chose a female student, but the ethnicity

of the female was very divided: three Asians, four Hispanics, four Caucasians, and two African Americans. These results are given in table 20. The most common answer about why they chose this student was they just look quiet. Most participants couldn't explain further when prompted. Still, when asked about this student's behavior in class many of the participants expressed the thought that she was unable or unwilling to ask for help in class. A Marshallese male thought difficulty was the reason. He said, "She isn't quiet because she wants to be, but because she can't ask questions. It isn't she doesn't know how, but she is afraid to feel stupid, afraid others will laugh at her." The participants also reported that her grades were poor consisting of Cs, Ds, and Fs. Another participant a Caucasian female said, "She is like me a good girl who is quiet. She never gets in trouble, but the teachers don't really talk to her unless it is because she did something wrong on a paper, otherwise they don't really pay attention to her, number ten gets all their time." Several of the female students identified themselves with the quietest students though not to the same extent. They identified with this group because this is what they felt was socially acceptable for girls.

Table 20

Participants' choices in answer to question four

Participants			Fictitious Student		
Number	Gender	Ethnicity	Number	Gender	Ethnicity
1	Male	Caucasian	13	Female	Asian
2	Female	Hispanic	11	Female	Hispanic
3	Female	Caucasian	9	Female	Caucasian
4	Male	Caucasian	11	Female	Hispanic
5	Male	Marshallese	15	Female	African American
6	Female	Hispanic	11	Female	Hispanic
7	Female	Marshallese	11	Female	Hispanic
8	Female	Hispanic	12	Female	Caucasian
9	Male	Hispanic	13	Female	Asian
10	Female	Caucasian	9	Female	Caucasian
11	Male	Native American	13	Female	Asian
12	Female	Hispanic	12	Female	Caucasian
13	Male	Marshallese	15	Female	African American

n= 13

The question of who was the most athletic in class brought back surprising results all 13 participants picked a male with six of the participants picking number six an African American male and seven of the participants picking number seven a Caucasian male. There were no Hispanic males chosen for this category. One Hispanic male offered this explanation for his choice of an African American male, "Well we don't, you know,

ever make it big in the US. Maybe in Mexico but not here so you don't see it. But, well they do." The student is explaining that Hispanic males don't show up often in televised sports programs while African Americans are more often shown on TV. While a Caucasian female who chose an African American male said, "Well, not to be bad and all, but, they are the ones in the NBA, so you know, I just sort of think of them." Several other students expressed the same feeling, but only expressed those ideas after the interview was concluded. A Marshallese male who chose a Caucasian said, "Well here in the US they don't have like soccer and other stuff so like at the high school all the football players are white." A Caucasian female who chose a Caucasian male said "My dad plays golf and Tiger is the only one not white so I thought he looked like he would like golf." Many of the answers expressed societies' acceptance of certain ethnic groups in sports.

The last question asked the participants about who would be their choice of friends. This question did not match gender the usual stereotypes nor match the participants own ethnicities; though all students chose someone of the same gender. Most of the girls wanted to be friends with the their chosen "most popular girl", five of the seven females chose this way while three of six boys chose to be friends with the smartest boy and two others chose the person they said was the most athletic. A Hispanic female who wanted to be friends with the popular girl said, "I want to be popular. I mean I have friends but not like that." A Caucasian male who chose the smartest boy to be his friend said, "I'm smart and I like to hang out with smart people. We are alike people don't make fun of you that way." Both of these statements are in favor of social acceptance helping to choose friends. A Marshallese male chose a person for a friend because he thought that

person a certain natural ability. He said, “I think that knowing the smart guy would be good then he could help me with like math in school.”

When ethnicity was discussed with the students in the interview there was a much more positive image of lighter or white students than all other ethnicities. Caucasian students were picked during the interview for characteristics that are deemed more positive such as: popular and smart. While, children of other races were picked to be more negative such as: the child that is in trouble all the time or as undesirable in some way.

At the end of each interview the participants were asked if there is anything that they believed could make the school better, or that they wish would happen in the school to make it easier for them to learn. The students were excited to tell about the activities that were their favorite in the classroom. A Marshallese male expressed a great deal of excitement about a game that their class recently played. “So, like two weeks ago we played this game and we had bowls upside down that we hit spoons on when we know the answer. It was so cool we could wack the bowl and yell out the answer when we knew it. It was the best review game ever.” He continued to give a blow by blow of the game remembering each question and answer. There were many different suggestions from the participants. One Caucasian male explained what he thought would help encourage boys to read. “I think that it would be a really good if boys had their own shelf in the library. I mean if it had all boy books and stuff that you know we want to read. That would be cool cause we wouldn’t have to look all over for stuff that we want.” Several students spoke about the graphic organizers that they use in class and how helpful they were to organize their thoughts. A Hispanic female explained why she liked graphic

organizers: “I think that like the vin diagrams and stuff are the most helpful things. They help kids like me who can’t get their thoughts in order, so that they are more organized when they work or well you know write stuff. I think it would be good though if we all had the same ones (graphic organizers) to use in class that way you never had to think about which one to use. It would be like automatic and easy. I think that is the best thing I can think of for ya’ll to do.”

Summary

Overall, the data suggest that gender and traditional gender stereotypes played a bigger role than ethnicity as far as reading and math scores are concerned. The students’ self perceptions of math and reading broke with gender stereotypes. These students’ felt safe in the school environment to express their idea and thoughts. The achievement gap in ethnicity is much harder to break away from gender. Ethnicity is much harder to determine when applied to the achievement gap than that of gender. When ethnicity is the component is being investigated, the image of the students and their behavior in class are much more important than their views on math and reading. The participants in the study were interested in offering information and ideas that they thought would help close the gender and ethnic gap as well as make their school a better learning environment.

Chapter Five: Discussion

This study used a two part mixed method approach to examine the perceptions of gender and ethnicity achievement gap in middle school students. Differences in achievement between groups on the state assessment affect a school's Adequate Yearly Progress (AYP), which means that the school is not meeting the state mandated progress. This study helps explain the student's perceptions of the achievement gap at this school.

In part one of the study data were collected from the school's Benchmark scores to determine if the gender and ethnic gap actually existed at the school. The data was broken down and analyzed. A t-test was used to help determine that girls were scoring better in literacy, while in math there was no significant difference. An ANOVA was used to determine significant differences between the ethnicities. This test found that Caucasian students both male and female outscored all other groups, and Marshallese students scored lower than all other groups in both math and literacy. To determine if there was any interaction between gender and ethnicity a factorial ANOVA was calculated and showed a small interaction in both math and literacy.

In the second part of the study 13 6th and 7th grade students in the school were interviewed to provide understanding of the students' perceptions of the gender and ethnic gap as it related to reading and math, as well as, to investigate ways to make learning at the school more interesting and equitable. The semi-structured interviews were done in two parts. First the students were asked about their perceptions of gender in literacy and math. The second part of the interview asked students to look at a drawing (Appendix D) and answer questions about ethnicity in math and reading.

Research questions for this study are:

1. What are students' perceptions of the gender gap?
 - a. Do the students think that there is a gender gap?
 - b. Why or why not?
2. What are the students' perceptions of a gap between the ethnic groups?
 - a. Do the students think that there is a gap between ethnic groups?
 - b. Why or why not?
3. What actions do the students think might help solve or eliminate these problems in the classroom?

The first research question addressed students' perceptions of the gender gap. The quantitative data provided evidence that there was not a significant difference between boys and girls in their math scores, but there was in their literacy scores. Yet, the interviews provided strong evidence that participants believe there is a gender gap at the school and in the society at large. The participants believed that girls were better at reading and boys were better at math. The evidence was much more telling when the class picture was used when discussing their personal views of the subject. Participants were given a class picture and asked a series of questions. The questions asked participants to explain who in the picture would be smart or popular and how they felt about reading and math. The boy identified as the smart boy in the picture number 16 liked math and the popular girl liked reading. The participants' views of themselves and their peers indicate that there may be a shift in this traditional thinking. The girls felt better about liking math, and for the most part did not think that they were so different from their peers. The girls' positive image of math may be because programs like G K-12

in the school are making a difference helping girls feel like they can succeed in math. The G K-12 program pairs university graduate students in math and science with school teachers.

In reading, the same shift is being seen, that the traditional stereotypes aren't holding as true. With four of six boys having a positive view on reading and liking to read suggests that there is something happening in the school to cause this movement from traditional thought. Four of the male participants in the interview attended an all male reading class. Two of the boys attributed this to being the reason that they liked reading now, whereas in the past they did not. Another boy talked about liking reading better as he has gotten older and thought it was because the books were bigger and were better. Girls didn't view boys and reading as positively as the boys did themselves as readers. Girls five out of seven times reported that boys were "lazy" and that is why boys did not read a lot. Along with that they expressed that boys would rather do something more active. While most boys agreed they liked playing games, they were still willing to read.

The participants were asked to explain why they felt that one gender was better at reading than the other; most answers were negative towards the opposite gender. One student summed up the general consensus of females about their male classmates by saying:

"I think that girls are better at reading cause we aren't lazy and boys you know they kinda are. I mean you know Mrs. H when we get home we have homework and little brothers and sisters to take care of. I have an older brother and he does nothing, but play games. He is just lazy. I think that boys bring that to school and they act like they do at home. If they can't play games they don't want to do it, and well books aren't games so they're like stupid and boring so they don't want to do it. It's just too much effort." (Hispanic female)

A Hispanic male agreed with her saying, “I just don’t like reading; it is so boring. I’d rather play games.” On the positive side most of the participants interviewed reported that they like reading.

The testing data pulled from the 2008-2009 Benchmark show that on average girls are scoring better on the test by a wide margin than boys when it comes to literacy. When the means are compared the difference is obvious: girls $M = 685.7$, $SD = 189.6$ and boys $M = 647.0$ $SD = 185.6$. The difference between those two means, which is statistically significant, is 38.72. With the evidence from the testing data and the evidence from the interviews, it is reasonable to say that the students’ perceive a gender gap exists at the school when it comes to literacy or reading. From the evidence in the small sample of interviews the students’ perceptions of this gap are beginning to change, and it is hoped that a change in the scores will follow that same pattern. The participants’ views on the gender gap and math were similar to their views of reading.

The Benchmark testing data showed that there was no significant difference between boys and girls when it came to the math scores. The girls are scoring better than the boys but not significantly. The girls were also much more positive about themselves in regard to math than boys were when they discussed girls and math. The girls positive view of themselves and their peers in math might explain their performance on the test. Boys, on the other hand, believe they were better at math and girls were not supposed to be. The stereotype was less pronounced with the girls interviewed four of the seven girls like math. This provides some evidence that there is an shift, a change, away from the traditional stereotypes, by the participants, of math being a boy’s subject.

Many of the students at the school participate in the G K-12 project, which promotes interest in science especially among girls, and roughly half of the advanced math classes are female. As one student pointed out earlier “I mean come on how many boy math teachers are there like two.” The teachers are helping to paint a picture that women can do math. Boys, however, feel that math is hard for girls, one boy said: “It is like my little sister always says. I hate math it is hard and makes no sense. I figure most girls are like her.” The boys couldn’t verbalize why exactly girls weren’t as good at math as boys; they simply stated that they just were not.

The interviews indicate that there still is some evidence of the gender gap in the views of the participants, which are held much more strongly by males than by females. The test data support a tentative conclusion that the girls’ positive image of themselves and math in this educational setting is beginning to be reflected in the testing scores. There is no significant difference in girls’ and boys’ scores. The results by their means only show a 0.38 difference, which is not statistically significant, between the two groups: girls $M = 695.0$ $SD = 103.5$ and boys $M = 694.6$ $SD = 100.9$. The question now becomes, not just how to get girls to like math, but how to encourage girls to do better in math, while encouraging the boys to do better as well. Classroom teachers are being asked to juggle the needs of a differentiated classroom while meeting the demands of a large curriculum.

The second research question dealt with the ethnic gap. The Benchmark data showed that there was a gap between the ethnicities in both math and literacy. Though the participants did not verbally acknowledge the ethnicity gap; they do indicate that they

perceive it by their choices of fictitious students and the information reported about those students to the researcher.

After analyzing the data, it was clear that all the questions on math and reading fell along traditional stereotypes: girls are better at reading and boys are better at math. What was more enlightening, were the participants' choices of students pictured and their reasons for picking the students that they did. Positive choices were overwhelmingly Caucasian, the smartest student, the most popular student, and the most athletic student. However, the quietest student and the student that is in trouble the most were associated with other ethnicities mostly Hispanic. In looking at this division it is striking that in a school that has a minority population, the majority would have a more positive view of the Caucasian population. The most athletic was the most interesting in this category, because soccer is such a big deal and so many boys and girls play. The participants did often refer to television stereotypes as reasons for their choice with the exception of the student who is in trouble the most. The negative concept that most participants expressed when talking about a student who was in trouble all the time came from personal experience often relating him to a person they knew not to something they have seen on television. There were many statements that started "Well he reminds me of..." The students named were exclusively Hispanic. The participants explained that this is due to his hair style which is common among Hispanic boys. The participants were explicit in their descriptions of the students' behavior in and out of the classroom. Giving examples of how they act towards principals, teachers, classroom work, homework, parents, and other students

The fact that Hispanic students at the school view themselves in a negative light and Caucasians in a positive light is evidence that there might be an ethnic gap in the school. Though the participants do not directly apply their views of ethnicity to the gap in academics, the students perceive the gap in their image of the whole ethnic group at school. The participants who they perceive to be receiving the good grades and doing appear to be Caucasian, while the students not performing are the other ethnic groups.

Though the quietest student was divided among four of the ethnic groups three Asian, four Caucasian, four Hispanic, and two African American, there were still nine of the 13 students who belong to a minority group. Being the quietest student in the class picture was not deemed positive by most participants. The quietist girl in the class picture was thought to be shy by some or unwilling to talk by others. Her grades were poor and the participants reported that this quiet girl had a lot of trouble in class. Though not related to ethnicity the girls who were interviewed seemed to identify with the quiet girl in class who never spoke, and the boy participants with the athletic boy in class picture (See Appendix D). Statements by participants of both genders included sentiments like “Well they are like me...” and “I like to do things like them...” when discussing these athletic students in the picture.

There were several other findings that were interesting. When participants were asked to pick a friend from the class their choices didn't fall along racial lines, but someone who would be the most useful to them in their goals whether that was to get better grades or to be more popular. It is also interesting that the “smart boy” number 16 who was chosen by most participants didn't like to read but he did like math. To be smart as a boy does not mean that you are good at everything just good at Math. Most

participants said the smart boy was a bit annoying. One Marshallese male said “He answers questions even when he doesn’t know the answer just because he is used to always being right and when he is wrong he wants to argue instead of just being wrong.” Even so this same boy thought that he would talk to him in class and be somewhat of a friend to him. Again he would like speaking with the smart boy because he would be helpful to him, number 16, in class. The participants deemed the position as the smartest child in class as important and a positive influence.

Along those same lines the popular girl was deemed very smart, but disliked math and liked reading. The idea that the popular girl is smart but cannot be the smartest child in the class is interesting. The student in the class picture that was chosen to be popular was blond haired, blue eyed, and wearing a pink shirt. These were the traits that caused many students to choose her. Being popular was viewed as both positive and negative by the participants, but was still a coveted position in the school, pod, or classroom. Some of the girls even chose to be friends with her to help gain that status for themselves.

It appears that gender was much more important for reading and math than ethnicity at least as far as the interviews are concerned. However, the discovery of the students’ image they associate with their own ethnic group leads to the idea that the ethnic gap maybe more covert in the participants’ views while more overt in the testing data. The group image is what the students believe about their friends and the group in which they identify.

The Benchmark data, however, provides not a gender gap as much as an ethnicity gap. The mean math scores for the test show: Caucasian $M = 720.91$, $SD = 104.96$, Hispanic $M = 687.83$, $SD = 90.99$, and Marshallese $M = 620.51$, $SD = 102.36$.

Caucasians are still outperforming the other ethnic groups in the school. The literacy scores show the same trend: Caucasian $M = 718.13$, $SD = 168.68$, Hispanic $M = 643.20$, $SD = 177.93$, Marshallese $M = 537.41$, $SD = 237.44$ with both of these being statistically significant differences. Once again the Caucasians are outperforming the other ethnic groups. The difference is greater for literacy than for math. Some of the difference in the scores, especially for literacy, can be explained by the lack of English skills for both the Hispanic and Marshallese, but not completely. It is troubling that the Marshallese students are behind in both math and literacy, scoring more than 100 points below the other ethnicities in the school. It is worrisome that the negative group image the participants illustrated in the interview is reflected in the test data, or that the test scores are down was evidence of the students' negative group image. When students were asked to choose positive character traits such as: who is the smartest child in the drawing, Caucasian looking students were chosen over any other ethnicity. Several students in the interviews expressed the feeling that they were not expected to do as well as other students simply because of their gender and in the case of one Marshallese boy "Since English isn't my language my teachers don't make me do everything because they say I can't." The student understands by his words "they say" the teachers do not believe that they are yet ready to be successful in school yet. This cycle needs to end, to help students progress and feel successful in school. The belief that they can succeed and do well in school as well as in life is important for all students. Teacher and schools need to help create an environment where students know that they can be successful.

A test for interaction between gender and ethnicity run for both math and literacy was not statistically significant. Additionally, the interviews provided evidence that the

participants do perceive an interaction between gender and ethnicity, which is not significant in the test scores. And, though the test data only showed a slight interaction, it did help to determine what was happening in the interview. Participants didn't see things along racial lines as far as math and literacy were determined, but group image was determined along racial lines. The test data supports this. Girls are outscoring boys in literacy across the board, but Hispanic females are not outscoring Caucasian males. This leads back to the group image of Hispanic students who viewed themselves as not as good at math and reading and receiving lower grades because of it.

Math is a different story, both Caucasian and Marshallese females edged out the opposite sex in their same ethnic group, while Hispanic males outscored Hispanic females. Again, however, Hispanic males still lag behind Caucasian males in the scores. The Marshallese males' (612.85) mean score was over 100 point below that of the Caucasian female (721.35). These differences are not manifest when looking at the likes and dislikes of reading and math but in the image the students have of their whole group.

Research question three covered the students' expressed beliefs regarding what could help teachers make classes better for all students, but especially to lower the gender and ethnic gaps. The students were talkative when given the opportunity to help make school better and more interesting. The ideas that were mentioned the most were games, projects, and graphic organizers. There were several educational games and activities mentioned that even when with extensive explanation could not be reproduced by the students as it was in their classroom, though they sounded interesting. The students' excitement and their willingness to share their ideas, as well as, what is going on in their classroom does credit to their teachers. The teachers that come to work with these

students are trying to make class interesting and educational. Figure 5 below shows some of the students' suggestions for the classroom. Other suggestions were more personal. Several boys asked if a section of the library could be set aside with "boy books" so they didn't have to look "not cool" by looking for a book. Several girl students suggested an all girls' reading or math class like the all boy classes already at the school. This way they felt it would be easier to ask questions without someone thinking you are dumb or having to worry about what a boy thinks of you. Both boys and girls felt that more opportunities to work with teachers one on one were needed especially in math. The idea of tutoring for math came up several times during the interviews. Several students said that they were unable to attend both morning and afternoon tutoring and unwilling to give up their time with friends at lunch and social time to work with a teacher. Many students offered that they would be willing to come in the morning or after school if transportation home was provided.

Figure 5

Students' Suggestions for the Classroom



Summary

The gender gap is quite evident in the participants' stereotypical choices, but it shows signs of an internal shift when compared to their personal choices. The ethnic gap is present in both the interviews and in part in the Benchmark testing data. The old stereotypes persist, stating boys are better at math and girls better at reading, but change

are occurring in this school. The girls' test performance have increase and the boys' perceptions of reading lend hope that there is change. The more troubling problem is how the small sample of participants have a negative concept of non-Caucasian groups could affect their classroom performance. According to the small sample the ethnic gap is present at the school whether it is because of the students' poor test performance, the students' poor group image, or the need for more time to acquire the language. This leads to several implications for the school and teachers.

Implications

Implication one. Teachers need to help boys find reading material that is interesting to them. As teachers there is a need to be flexible. The boys in the study thought that there were few interesting books on sports; perhaps other materials like periodicals could count as reading assignments instead of books. This would require teachers to modify their current reading assignments to allow certain magazines to count. Along these same lines helping boys find books that match up to their interest while challenging but is important to pursue.

Implication two. Girls need to feel that they can succeed at math and should not be made to believe that it is wrong for them to like math. When even one girl in the interviews feels that strongly that she was different and did not belong simply because she enjoyed math, leads this researcher to believe that though there has been much done in this area more needs to follow. There are several programs like G K-12 that are active at the school, but a more concerted effort is needed to change this traditional view of math. One girl offered this advice "Maybe we could see some cool people that like math.

I mean we show all these movie stars that like reading but only nerdy scientists that no one has heard of like math that makes it really hard to get into.”

Implication three. Math was viewed by most participants as a difficult subject and every student suggested tutoring as a way to make the class easier. Tutoring is supplied by the school before school, after school, and by most teachers during lunch. The students in the study had not gone to these sessions. Some said that their bus came to school too late in the morning to attend the morning tutoring. Most of the students were not in the neighborhoods that were served by the after school buses so they could not attend after school tutoring, and only a couple of students were willing to go at lunch. Though money is an issue more busses are needed to reach more students for after school tutoring. A Marshallese male offered this information, “Some students would go to morning tutoring if there was like an early bus that ran to take them. Maybe that would help.”

Implication four. One of the hardest things to do is to keep students interested and engaged in the classroom. Participants often referred to a subject as boring. Their reasons for this were the lack of activities in the classroom. Though it isn't always possible to have lessons that entertain and teach every minute every day there needs to be a concerted effort to hold student's attention. Most participants suggested activities and games. Even moving from their seats into different groupings help to make things different, one student, a Hispanic female offered this advice: “You don't always have to do big stuff sometimes just a choice of the color of paper or sitting on the floor versus in a desk is enough. But the big stuff is nice.”

Implication five. Differentiation in the classroom isn't a "fix all" for every student nor is it easy to pull off in large classes, but it can be done. It is something that teachers already do every day. Students are more diverse than in past years; educators need to be able to provide for all these students needs every day (Wormeli, 2006). Besides this practice is fun for the students and caters to their independent needs while still teaching the required curriculum. Teachers may requires extra planning and extra time to create, but the end result is an activity that is achievable and challenging for the whole class. Both students and teachers will need time and training to become effective with differentiation. It is not just changing a practice but changing the mindset for planning lessons (Wormeli, 2007).

Implication six. It is imperative that we find a way to improve the group image of the minority students. The students' negative group image is not only hurting their classroom performance but can have an impact that resonates throughout their lives. To create a better self image will require support from the teachers and the community and must be a fundamental change of thinking for both groups. This seems to be a critical need especially for the Hispanic population to achieve in and out of the classroom.

Directions for Further Research

The current study explored the students' perception of the gender and ethnic achievement gap with regards to math and literacy. Future research might include a larger study investigating students' perceptions of their group image in the school. This would allow for more in-depth understanding of the effect that a negative or positive group image has on classroom performance, outside of school activities, or job and college choices.

Another consideration for research might be to examine the teachers' views of the gender and ethnic gap as compared to the students. This type of research would also provide valuable information about the teacher's practices in the classroom. This examination would provide feedback as to how the gender and ethnic gap are changing, and how to continue those changes in the future.

Studies are needed to investigate other schools in this district, other schools in the state, and across the nation to determine if the responses that appear in the student interviews appear in the other schools. In studying other schools might determine if this phenomenon is just an artifact of the school in this study or if it generalizes to the other schools and students. While the sample size of thirteen students used in this study is small, the findings could be used to compare against larger samples from within the district or from other districts to determine possible relationships between group image and academic performance.

Conclusions

The gap between both gender and ethnicity are more intently watched and investigated since the passage of the No Child Left Behind legislation. The pressure on school districts to close the gap has increased. There is a great deal of debate over which programs or methods to use to increase achievement. This study looked at 6th and 7th grade students' perceptions of ethnicity and gender gaps. A review of the literature showed no clear path only more ideas and finger pointing than solutions. The issue of the achievement gap is just as politically charged as educationally charged. No mother wants her child left behind. The voices of the students in the classrooms are left out of much of this debate.

The researcher for this study has been working in the school system for seven years and listening to the ideas and opinions of students. Still, these students were interviewed; it was surprising how vocal and explicit they were about the gender gap and how general they were about the ethnic gap. It was difficult to listen to child after child described Hispanic students as the trouble makers and Caucasian students as the smartest or most popular. Students, who should rightly feel that they are one of the smartest in the school, equated themselves with a negative group image. It was also troubling to learn that the Marshallese students were scoring so far below other students in the school. It is not clear why they cannot be just as successful as the other students. Though it is in no way applicable to all Marshallese students there is a lack of parental involvement. As a school and a district it is important that parents be brought into the school on a more regular basis and not only when a child is in trouble. Along these lines as a school we need to recognize this group and their heritage and find ways to include them in the life of the school.

The information given by the participants in this sample must be considered suggestive of this particular school's population. If this study were done on a larger scale the information gathered might offer more information to help bring positive change to students in the classroom. The students' information suggests some recommendations as to changes that could help student achievement. This study also provides information about these students' self-image and group-image are factors that affect classroom achievements and test scores, and suggest that if students had a more positive self and group-image that they might perform better at both the classroom level as well as in a high stakes testing setting.

For educators this is a study that may impact the professional development of teachers in the school, and the examination of school data. It is by looking at data and talking with students in classrooms that a clearer picture of the school is achieved. As a teacher the belief we have in our students can encourage them to achieve even when they will not do it for themselves. Throughout the interviews with students I found that these students want to be the child in the room that the teacher cared about and talked to simply by the excited faces of the students that were told that they got to participate in the interview process. The students that attend the school may not believe in themselves nor have the support system away from school to achieve, but at school they are special and we hope, want, and expect them to go on to do great things; no matter what testing data says.

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Appendix A

Parent Permission Letter in English

January 2009

Dear Parents:

My name is Marian Hendrickson, and I have been a teacher at JO Kelly Middle School for 7 years. As a part of my dissertation work through the University of Arkansas, I would like to interview your child. Your student will be asked to look at a fictional class picture and tell me what they think about the children in the picture. Your child's responses will be recorded so that they may be transcribed, but their name will not be attached. Each child will be assigned a number to ensure privacy and that responses are not confused when all the data is collected.

The name of your student will not be used, and his/her information will remain confidential. This experiment is completely voluntary, and you or your student may refuse to participate at any time. If you or your child chooses not to participate, your child will not be punished in any way. If you have any further questions please call (XXX-XXXX) or e-mail me at _____.

Thank you very much for taking time to consider this project. Please sign and date this letter and send it back with your student if you want your student to participate.

Sincerely,

Marian Hendrickson

PLEASE SIGN AND RETURN

I give permission for my student to participate in this study.

Parents

Signature _____ Date _____

I am willing to participate in this study.

Students

Signature _____ Date _____

Appendix B

Parent Permission Letter in Spanish

Enero del 2009

Queridos padres:

Mi nombre es Marian Hendrickson, y he sido maestro en la escuela de JO Nelly por 7 años. Como parte de mi trabajo de disertación en la Universidad de Arkansas, me gustaría entrevistar a un estudiante. A su hijo se le preguntara que vea una foto de un salón de clases imaginario y me dirán que piensa de la clase y los niños. La respuesta de su hijo será grabada pero el nombre de su hijo no será mencionado. Se le asignara un numero a cada niño para asegurarme de la privacidad y para que las respuestas cuando la información se colecte no se confunda.

El nombre de su hijo no será usado, y la información de el/ella permanecerá confidencial. Este experimento es completamente voluntario, y usted o su estudiante pueden rehusarse a participar. Si usted o su hijo escogen no participar, su hijo no será castigado de ninguna forma. Si usted tiene algunas preguntas por favor llame al XXX-XXXX o mándeme un correo electrónico ala dirección _____.

Muchas gracias por tomarse el tiempo en considerar este proyecto. Por favor firme y ponga la fecha en este permiso y regréselo con su estudiante, si usted quiere que su hijo participe.

Sinceramente,

Marian Hendrickson

POR FAVOR FIRME Y REGRESELA

Yo le doy permiso a mi estudiante de participar en este estudio.

Firma de los padres _____ Fecha _____

Yo quiero participar en este estudio.

Firma del estudiante _____ Fecha _____

Appendix C
Interview Questions

Information in Permanent File:

1. Age
2. How long in US
3. How long in Springdale Schools
4. Ethnic Background
5. Language spoken at home

Interview:

The student will be welcomed to the interview and asked if they are still willing to participate. I'll describe what is going to happen and that the interview is going to be recorded so that I can write it down later. Ask the students if they have any questions about what is going to happen then start the interview.

Interview Questions:

1. Describe what you like most about school. (why? May not be needed)
2. What you dislike about school. (why? May not be needed)
3. Tell me about your favorite subject in school. (why? May not be needed) Is this the easiest subject for you in school?
4. Explain to me why you like or dislike reading? (only used if reading is not their favorite subject)
5. Do you think that most girls/boys like/dislike reading?
 - a. Why? (Question depends on gender of the student and their answer to the previous question. If they are a boy that dislikes reading I would ask: Do you think that most boys dislike reading?)
6. What about girls/boys do you think that they like reading more than girls/ boys? (ask about the opposite gender)
7. Explain to me why you like or dislike math? (only used if reading is not their favorite subject)
8. Do you think that most girls/boys like/dislike math?
 - a. Why? (Question depends on gender of the student and their answer to the previous question. If they are a boy that dislikes reading I would ask: Do you think that most boys dislike math?)
9. What about girls/boys do you think that they like math more than girls/ boys? (ask about the opposite gender)

These last two questions may be reordered depending on students answers to which subject that they like the most.

Now we are going to look at a picture together. (The picture is of a group of children which are numbered 1-16)

10. I want you to look at this picture and pick which student in it you think is the smartest.
 - a. Tell me about this student. (Why do you think that they are the smartest student?)

- b. Prompting questions: What do you think he/she does in his free time? How do you think he/she acts in class? What do you think he/she is good at in school?
11. Now I want you to find the student that you think is in trouble all the time.
- a. Why do you think they are in trouble so often?
 - b. Prompting questions: What kind of things does he/she do in class to get them in trouble? What subjects do you think he/she will be in trouble in? Why?
12. Can you tell me a story about some of the girls in the class?
- a. Prompting questions: Who is the most popular girl in the class? Tell me about her. Who is the quietest girl in the class? Why do you think that is? (Only is student is a female) Who do you think you would be friends with in this class? Tell me about her as a student.
13. Can you tell me about some of the boys in the class?
- a. Prompting questions: Who is the most athletic boy in the class? What sports do you think he likes. Who is the most popular boy in the class? How does he act in school? (Only is student is a male) Who do you think you would be friends with in this class? Tell me about him as a student.

Appendix D

Class Picture

