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Education Senior Seminar

GENDER BIAS ON A LOWER TRACK:
A Look at Gender Bias in Lower Academically Tracked Classrooms

INTRODUCTION:

In American society today, there has been a large movement towards equality for all. Since the days of the civil rights marches, Americans have been fighting for equality in every aspect of life. This fight has not just been for racial equality for all people, but also for gender equality. Gender inequality is seen in every aspect of every day life, from commercials, to products, to the job force, and in the home, gender inequality, stereotyping, and bias, is leaving America's women hiding in the shadows. This unequal treatment begins, not when a woman enters the job market, or gets married, or buys her first car, but rather these inequalities and biases begin within the walls of the American school system. In 1995, 44.8 million girls were enrolled in public school, grades K-12. It was estimated that by 2006, two million new teachers would have to be hired to meet the growing demand of children entering the school systems across the United States.¹ Each year more and more children are entering schools, each striving for the best education. Of this ever increasing student population, about half of them are girls. Despite the almost even distribution of sexes, males still, on average, are the focus of the education system. Myra and David Sadker's book *Failing at Fairness*, examines classroom atmospheres and materials, focusing on interactions, texts, and behaviors. In their book, Sadker and

¹ AAUW. *Gender Gaps: Where Schools still Fail Our Children*. Marlowe & Co. New York, 1999

Sadker state, “sitting in the same classroom, reading the same textbooks, listening to the same teacher, boys and girls receive very different educations. From grade school through graduate school, female students are more likely to be invisible members of the classrooms. Teachers interact with males more frequently, ask them better questions, and give more precise and helpful feedback. Over the course of years the uneven distribution of teacher time, energy, attention, and talent, with boys getting the lion’s share, takes its toll on girls.”² Whether it is the technology the students use, the textbooks they read, the administrators they see, or the teachers they learn from, boys are the stronger focal point for the American education. Despite many findings and reports, girls are still getting lost in the education system and being shortchanged.

In 1992, The American Association of University Women (AAUW) released a report about gender and the school system. In the report they found that girls are missing out in many aspects of their education. The AAUW found that schools in fact shortchange the female students, causing them to fail in many aspects of education and eventually even life.³ Ten years later, gender inequality is still a large issue for the American education system. Despite their initial report and a follow-up report in 1999, schools still have not been able to get over the hump of solving the gender bias problem. Gender inequality and bias in an invisible barrier for girls in the classroom. It affects every aspect of their education, allowing them to develop issues of inferiority and self-consciousness. “Gender equity [is] a significant issue that could affect both the academic and the personal success of children.”⁴ Many studies have looked at gender bias and the

² Sadker, David; Sadker, Myra. *Failing at Fairness*. Charles Scribner’s Sons, New York, 1994. p 6-7

³ AAUW. *How Schools Shortchange Girls*. Marlowe & Co. New York, 1992

⁴ Matthews, Catherine; Binkley, Wendy; Crisp, Amanda; Gregg, Kimberly. “Challenging Gender Bias in the Fifth Grade,” *Educational Leadership*. December ‘97/ January ‘98, v55. p. 54-57

affect that it has on the students, not just girls, in the classroom. But despite the reports and despite the findings, classrooms have remained a hazardous environment for students, especially females. As Karen Weiller and Eva Doyle reported “gender bias can be a serious detriment to learning... female students can become nearly invisible, as teachers interact more frequently with boys.”⁵ Numerous studies and reports have been published showing the gender bias exists in classrooms across grades and subjects. These reports, as well as this study, define gender bias as “the demonstration of inequitable treatment towards one gender over another,”⁶ no matter how subtle. These studies, such as Karyn Wellhousen and Zenong Yin’s look at gender bias in a kindergarten classroom⁷, all look at classrooms and the role gender bias plays in them. Many found that gender bias exists everywhere, no matter what classroom, and what level. More girls have begun to enter traditionally male-dominated subjects of math, science, and technology, but they are still receiving inequitable treatment. “Gender bias seems to exist in all types of classes, at all levels of instruction, and with both genders of teachers.”⁸ Despite the findings posted in these studies, gender bias still has not been sufficiently dealt with within the walls of schools across America.

These many articles, reports, and studies do a good job showing that gender bias does in fact exist within the classroom and school; however, many fail to look deeply at

⁵ Weiller, Karen H.; Doyle, Eva J. “Teacher-Student Interaction: An Exploration of Gender Differences in Elementary Physical Education,” *The Journal of Physical Education, Recreations & Dance*. March 2000, v71. p. 43

⁶ Davis, Kathryn. “A Case Study in Gender Equity for Basic Instruction Programs,” *The Physical Educator*. Winter 2000, v57.

⁷ Wellhousen, Karyn and Yin, Zenong, “Peter Pan isn’t a girls’ part’: an investigation of gender bias in a kindergarten classroom.” *Women and Language*, Fall 1997, v20. p. 35

⁸ Weiller, Karen H.; Doyle, Eva J. “Teacher-Student Interaction: An Exploration of Gender Differences in Elementary Physical Education,” *The Journal of Physical Education, Recreations & Dance*. March 2000, v71. p. 43

the role gender bias plays in lower academically tracked classrooms. Many studies review gender bias in kindergarten or elementary classrooms, such as Matthew, Binkley, Crisp, and Gregg's look at a fifth grade classroom⁹, or many studies have looked at the inequalities of higher education classrooms, such as Davis's study in college classrooms. These studies present significant findings, but fail to look at what happens to these students in the lower level classes. Even the AAUW reports on gender inequality and biases only glance at the lower academic tracks, not presenting much data from them. These studies fail to review these lower academic tracks, playing off the nation's idea that these students are already failing at education. Many people do not pay attention to these students for they are the ones that are lacking light in their academic futures. In fact, it is these students that need the most help and attention, not the least. This study hopes to move beyond the scope of these past studies and explore inside the walls of these lower tracked classrooms, to see if gender bias exists at the same level as it has been found in existing studies. The hypothesis this study works off of is that gender bias does exist within these classrooms. This study hypothesizes that, like many studies have shown, males receive more interactions with the teacher than their female peers, however, unlike some studies have shown, it is also hypothesized that the interactions the females do receive are, on average more substantive and more complex than those received by their male counterparts.

⁹ Matthews, Catherine E. and Binkley, Wendy and Crisp, Amanda and Gregg, Kimberly, "Challenging Gender Bias in Fifth Grade." *Educational Leadership*, December '97/January '98, v55. p. 54

METHODOLOGY:

Before beginning my study, I first submitted my idea to the Trinity College Internal Review Board for approval. Once gaining the need authorization, I contacted the guidance counselor at a local Hartford public middle school (to be referred to as HMS from here on out to ensure confidentiality) who I met with to propose that I do my research in his school. After gaining approval from him, the principle at HMS and the superintendent, the guidance counselor set me up with placements in three seventh grade classrooms. The first classroom was a lower tracked math class with a male teacher. The second was a lower tracked science class with a female teacher, and the third classroom I was placed in was a lower tracked social studies class with a male teacher. All three classrooms were comprised of some of the same students, but some classes were larger than others. All, however, were made up of lower academically tracked students, as pointed out to me by each teacher on separate occasions. At no time while in these classrooms did I record the teacher's name, nor did I record the names of the students within the class. This study was not focused on either group; rather my focus remained on gender bias in general.

I observed each classroom a total of three times, each observation occurred on the same day, at the same time for each class respectively. The teachers were never told the full reason for why I was observing the classroom, for fear that the data may be contaminated because they would change how they taught to try and show less gender bias. While in the classroom, I sat in the back with a notebook and pen only recording interactions and my own observations. At no time did I intervene, help, discipline, or ask questions. I was merely conducting a non-intrusive study of the teacher-student

interactions. The interactions I observed were coded into the type of interaction that took place. I divided the page into two columns, male and female, to keep the two gender interactions separate. I then coded each observation per gender. The first part of the interaction coded was whether it was teacher initiated or student initiated. A teacher-initiated interaction is one in which the teacher asks a question to a specific student, calls on a student with their hand raised, or addresses a specific child when giving directions or praise. A student-initiated interaction is one in which the student asks the teacher a question without raising his or her hand, calls out an answer to a class wide open question (and the teacher acknowledges the student's response), or when the student approaches the teacher. Next, I recorded whether the interaction was simple or whether the interaction was complex. A simple interaction is one in which the interaction is brief, such as when the teacher asks a simple yes/no question, the student asks a simple yes/no question, or the interaction is only a few words between student and teacher. A complex interaction, however, is when the interaction has substance to it, such as the teacher asking a question, the student responding, and the teacher asking a follow up or giving an explanation to the child. Thirdly, I coded for whether it was a verbal interaction or a non-verbal interaction. A verbal interaction is one in which words are used for communication, while a non-verbal interaction is one in which body language or body contact is used to initiate the interaction. Next, I recorded whether the interaction was academic or whether it was non-academic. An academic interaction was recorded when the interaction was concerning something within the scope of the class or academics as a whole, such as questions about the homework, grades, tests, etc. A non-academic interaction was recorded when the interaction was regarding subjects outside of school,

such as athletics, television, movies, etc. Lastly, I recorded whether the interaction was a question, praise, direction, or response. A question was defined as any sort of question asked by the teacher or the student. Praise was defined as any sort of positive feedback given by the teacher, like “good job,” “way to go,” “that’s right, great,” etc. A direction was defined as any sort of directional comment given by the teacher to a student, such as “Billy, sit down,” or “Jane, stop talking.” A response was defined as a student responding to an open question presented to the class by the teacher and the teacher acknowledging that student for being the one to respond, for example: Teacher: Who knows what the name for this is? Student (calling out): An alligator. Teacher: That’s right Michelle. Using this coding scheme, I recorded all the teacher-student interactions within the classroom into my notebook, each day receiving a separate sheet. Again, to ensure confidentiality, at no time did I record the names of the students or the teachers in the classes I observed.

Once I completed the observations, nine in total, I formed tally sheets from the coded observations. Keeping each day separate, I totaled the number of each type of coded observation. While totaling, I kept the genders separate, as well as whether the interaction was teacher initiated or student initiated. Once the tallying was complete, I was left with nine tally sheets, each divided by gender, and within this division, divided by teacher initiated and student initiated. Using these daily tallies, I created totals of each type of coded observation for each classroom observed. Left with three totals sheet, one from each classroom observed, I created ratios of interactions per student for each type of interaction, again keeping genders separate. The ratios were created using the total number of each coded gender interaction and dividing it by the total number of students

of that gender. For example, in the math classroom, there was a total of twenty-four female simple interactions (teacher and student initiated combined) and a total of three female students, creating a ratio of eight simple interactions per female student. The ratios were created in three groups: totals (student and teacher initiated combined), student initiated, and teacher initiated. It was by these ratios that I compared the data I had collected.

RESULTS:

The numbers-

The math classroom was comprised of ten students total, six males and three females. There were a total of one hundred and eighty interactions that I observed in the math class. Of these interactions, one hundred and thirty six of them were with the male students, while forty-four of them were with the female students. This breaks down into about 22.7 interactions per male student and about 14.7 interactions per female student. In the science class there were fifteen students total, eight being male and seven being female. For this class, there were a total of two hundred six interactions, one hundred and fifty seven of which were with the male students and one hundred and three of them with the female students. This means that there were about 19.6 interactions per male student and about 14.7 interactions per female student. In the social studies class there were twenty students total, twelve males and eight females. In the social studies class I observed a total of one hundred and fifty two interactions, this breaking down into ninety-seven male interactions and fifty-five female interactions. This averages out into

about 8.8 interactions per male student and 6.9 interactions per female student. On a total average, the males received about 17.3 interactions per male students while there were, on average 12.1 interactions per female student. In total interactions, the males received about sixty-six percent of the total interactions while the female received about thirty-four percent of the total interactions.

These totals break down further as you can see on chart page one. As you can see on the first chart, simple interactions, the males, again, on average received more interactions than their female peers. In each class breakdown the males received a higher number of interactions, and on average, they did as well, with males receiving 12.9 interactions per student, while the females received 7.5 interactions per student. However, when looking at the complex interactions chart, it can be seen that the females actually received more interactions than the male students in the classrooms. The social studies class was even with 3 interactions per student for each gender, however, the math class and science class were heavily skewed towards the females. On average, the males received 4.1 interactions per male students, while the females received more, having 6.8 per female student.

The above also holds true in the teacher-initiated interactions as well. By looking at chart page 2, it is seen that in the simple interactions breakdown, males received more teacher-initiated interactions than the females. On average, the males had 8.5 interactions per students while the females only had 5 interactions per student. However, it can be seen again that the females received more complex interaction than the males when you look at the ratios for complex interactions. In the social studies and math classes, received more interactions per student than the males. However, when you look at the science

classroom you can see that this is actually opposite, with males receiving 2.3 to the female's 1.8. Although for this class the results show differently, on average, the females still received more complex interactions than their male counterparts, receiving 2.9 per student to the male's 2.5 per student.

This data results change slightly when you look at the student initiated interactions. By looking at the simple interactions on chart page 3, the same does hold true, males receiving more interactions than the females. By looking down the chart it can be seen that in all three classes, the males received more interactions, and on average, they received 4.3 to the female's 2.5. This data is the same as the data seen in the other charts, however the data does change slightly when looking at the complex interactions chart. In the social studies and science classes, the females still received more interactions than the male students, but in the math class, the males received 1.3 interactions compared to the female's .67. On average, the males and the females ended up receiving equal number of complex student initiated interactions, with 1.7 per student for each gender.

In other categories of interactions, the males on average received more of the interactions than the female students. Although some of the data varies from class to class, when looking at the average ratios, it can be seen on all three chart pages that the males were the ones dominating the interactions. For example, one chart page one, males, on average, received 14.3 academic interactions per student compared to the female's 10.8 academic interactions per student. The male domination can also be seen on chart page 2, where the males had, on average, 5.9 questions asked to them by the teacher compared to the 5.0 that the females received. In addition, it can also be seen on chart

page 3, where the males responded an average of 2.7 times per student, while the females only responded an average of 1.4 times.

Analysis:

By analyzing the results, it can be seen that males dominate most of the classroom interactions, whether they initiate it or the teacher does. As it is seen above, the males are the ones receiving the attention of the teachers on the simple level. These are the interactions that are short and do not contain much qualitative information. This means that although the males are dominating the classroom interaction time, these interactions are simple such that they may just be being told to sit down, or may be being punished, or simply answering a yes or no question. Overall, the males in all the classes receive more interactions but these interactions tend to be less substantive which means that although they may be dominating the teacher's time, what they get out of it may be lacking in comparison to the females.

Finding that the females receive more complex interactions than the males goes against much of the existing research which shows that females lose out all the way around. In fact, I found that this is not true in the fact that on average, the females may not be getting as many interactions than the males, but the interactions they receive are more likely to be ones that are complex, meaning they are substantive and convey more information.

In classroom observations, not recorded interactions, I discovered supporting evidence for the above statements. Throughout my research, I kept field notes of other classroom events that went beyond recorded interactions. When reviewing these notes, I

found that the males are receiving more quantity while female receive more quality. For example, in the first day of my math class observations, I noticed that the six males were paired together at desks in three rows and the three females all sat together in one row. The classroom was set up with four rows of three desks each on each side of the classroom facing the front, with an aisle down the middle. Two pairs of boys sat on the left side of the room in the first two rows, while the first row of the right side was where the three girls sat, with the last pair of boys behind them in the second. During the lesson, the teacher stood in the center aisle next to the first row, making consistent eye contact with the second rows, which were filled with boys. The teacher would turn every few minutes to face the first row of boys, turning his back to the girls, but only turned twice to face the row of girls. The majority of the lesson time was spent looking at, and thus teaching to, the boys. They were the ones that were answering the questions more often and were being called on more often. The lesson ended and the students worked in their pairs or trios on worksheets given to them by the teacher. It was at this time that the teacher interacted with the females for longer periods of time. He would walk around the classroom encouraging and helping the students. He only approached the boys groups when they were in obvious distress or when they requested his help. At this time he would stand near the pairing and briefly help them and then move on. With the girl's group however, he would pull up a chair and sit with them when they needed his help, and at times would approach them even when they did not request assistance. Overall, the teacher interacted in short spurts with the males when teaching the lesson, but spent longer periods of time with the females during the group work, giving them more substantial interactions than the males had received during the lesson.

By looking at the above data that was gathered during my observational study, and the analysis of it, it is seen that my original hypothesis, *males will receive more interactions than the females, but the interactions females do receive will be more complex than those interactions of the males.*

WHERE DO WE GO FROM HERE?:

In 1972, Title IX was added to the Education Amendment after studies found that girls were being discriminated against in schools. Title IX had the full intention of providing “equal opportunities for instruction to all students so that males and females could develop skills in a full range of activities.”¹⁰ Unfortunately, almost thirty years later, schools have not been able to provide equal opportunities for both males and females, rather females are still missing out on a lot of their education. Numerous studies have been done since the implementation of Title IX and all have come to similar conclusions: males are the focus in American education, being the focal point of technology and text books, and dominating classroom and teacher time. Females are taking a backseat.

In order to overcome the skewed education that students are receiving, school wide, county wide, state wide, and nation wide changes must be made. In Whitney Brown’s unpublished senior research project, she makes the following suggestion to help wipe of gender bias from our classrooms. “Further research and controlled data tests must be conducted in order to eradicate its gender biases. Researchers must address the issues

¹⁰ Davis, Kathryn L. “Giving Women a Chance to Learn: Gender Equity Principles for HPERD Classes.” *The Journal of Physical Education, Recreation, & Dance*. 1999, v70. p.4

does gender, or age, of a teacher make a difference in their gendered attitudes and behavior?”¹¹ Brown continues on to mention controlling for race, ethnic and cultural background, and economics to discover what is causing the gendered attitudes of many teachers across the nation. Brown is correct. We need to continue research and not just look at one or two classes, but rather need to look at entire schools, entire districts. The nation needs to be awoken to what is going on inside the walls of classrooms, and they need a way to stop it. Questions need to be asked, and answers need to be found.

Society needs to invest time into the education of our children. Our nation’s girls are lacking in their education because of the gender bias that is ever present in everything they do. Teachers believe that boys need more attention, need more discipline, when in fact, in many cases, it is the opposite. Girls in math and science classes throughout all grade levels are getting lost. By the time they reach high school and beyond, many choose not to enter math classes and science based classes because they have lost an interest. Slowly females are beginning to overcome the biases and are beginning to pursue more careers in these two subjects, but the numbers are still predominately males. Females are being excluded from these job positions and future life goals because of the discouraging education they receive within the walls of their schools.

By looking at my study, it is seen that even females placed in lower tracked classrooms are still facing the same discouraging education. These classrooms are filled with students that the school has lost hope for. On separate occasions, each teacher of the three classrooms I observed informed me that these were the students who didn’t really belong in school and I shouldn’t expect much while watching them. To me, these were

¹¹ Brown, Whitney, “Educating America’s Women.” (Unpublished Senior Research Project, Educational Studies Program, Trinity College, May 2000).

the students who had been forgotten about. They were slipping through the cracks, but nobody was trying to help them back up. There were some seventh grade students I observed who could barely read at a third grade level, while others still had a hard time understanding basic math concepts. These were students without a bright future and still, the girls were still be excluded. The school and their teachers had given up on these students, believing there was not much hope for their future, yet while systematically excluding these students from a full education, they were still making it even worse for the females. Although they are receiving more quality interactions, these interactions are few and far between because the males are dominating the classroom time. These girls not only being pushed out of their education through the tracking system, but they are being pushed again by the gender bias that is ever present in their classes.

It is my hope that society will begin to face up to this problem of gender inequality within the classroom. Teachers should be required to go through gender equity training, they should be evaluated and reevaluated throughout their teaching careers, and they should be made aware of any biases that they covey to their students. Administrators should be aware of what technology is being used, whom the programs focus on, and who is being encouraged to use the technology. Districts should be aware of what textbooks are being used, whom the book is teaching to, and what lessons are being conveyed through it. Overall, the American Education system needs to be more aware of what is happening within the walls of the schools.

Our society needs to begin supporting America's young women. We must understand how we socialize our children and what this means for their futures. Continued attention to gender equality within our schools needs to happen if we can ever

hope for the females in our society to ever succeed. We can no longer sit back and ignore the problem. More studies need to be done, but many, including this one, have already proven that gender inequality does exist in schools and America's girls are missing out on education. They have been forced to take a backseat and it is time for us to work together to help gain equality throughout the education system. HMS is not an isolated incident rather, whether in lower-tracked classrooms or in higher education, gender bias exists within the walls of every school. Society needs to come together in support for our females. These girls need to be actively supported to ensure they are getting not just quality, but equal educations. Our society needs to create equality in education if we can ever hope to create equality in life.

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