

Gender Grouping in Education

Educational Research Project

Jessica Bialorucki

Spring 2015

## **Introduction**

### **General Problem Statement**

Historically, females have fought to be immersed in fields that were once dominated by males and have strived to be treated the same as their male counterparts. Most public schools today group males and females together, giving identical tasks and instruction, however according to Simon (2013), “The brains of men and women are to a significant extent wired differently from the start. These developments have opened up an opportunity for a paradigm shift toward gender-based instruction.” (p. 3). Gender grouping may be an option that should be explored. There is still a significant gap between the success of boys and girls in certain subjects therefore educators must look at ways in which the two sexes differ and apply strategies accordingly.

### **Review of the Literature**

Public schools that separate students by gender are not as common as they once were. According to Friend (2006) there are fewer than 12 public schools in the United States that are either an all-girls or an all-boys school. Friend stated that although research supports higher achievement and positive support for single-sex schools, the results are debatable as data suggests parents and students who attend these schools are more motivated and achievement-oriented. Therefore, the nature of the families may be the variable that promotes higher achievement. When we look at both sexes overall, there are many gaps between the performance of girls and boys, especially in the fields of science, technology, engineering and math (STEM). However, the gap in mathematics is not apparent until secondary school and this could be due to higher math anxiety in females. Woodward (2004) states “In the early grades, there is no

significant difference in math anxiety experienced in either gender, but females exhibit more math anxiety in secondary school and college” (p. 2).

Science and math are not the only subjects that affect genders differently. Sadker (1999) explains that male students enter school with more computer experience and confidence with technology. Because of this, girls are more likely to enroll in basic computer courses such as word processing and clerical classes, whereas boys enroll in advance computer science and computer design courses. These gaps and problems such as anxiety and lack of confidence not only affect girls in school, but in the workforce. Friend (2006) states that males in the United States outperform females in science assessment measures and although females make up half of the workforce only 15% of mathematicians, scientists, and engineers in the United States are females. Additionally, Howe (1997) states that regardless of academic achievement, classroom interactions may affect how boys and girls feel about their ability to sustain certain occupations. Howe concluded that these interactions could cause one sex or the other feel uncomfortable in perusing these occupations.

In addition to gaps in achievements and differences in professions, girls and boys are treated differently when grouped together based on societal norms or teacher bias. When explaining biases among gender, Sadker (1999) states that many teachers, not by conscious decision, put males in the spotlight and downgrade females to the sidelines. This means the teachers call on male students at a much higher frequency or devote more time to them in class. “Teachers unconsciously make males the focus of instruction, giving them more frequent and more precise attention.” (p. 4). Having access to the teacher’s time and attention could suggest that boys procure advances in their knowledge compared to girls. Based on Archer’s (1998) findings, girls take a backseat when grouped with boys. For example, they are more timid and

may go unnoticed. In an all-female class however, girls often feel more confident and less resistant to actively participate. In a 1998 Archer conducted a study at the Walker School in Marietta, Georgia, a school with gender specific classrooms. Archer's observations indicated that a classroom in which there were only girls, students felt more comfortable and more inclined to ask questions. This could be because girls were given the think-time they need to generate these questions. Due to different learning styles among genders, girls often work well learning in small groups with other students; boys are more competitive and are predisposed to raising their hand quickly or blurting out answers. The blurring and quick responses by boys in class do not enable girls to adequately process the information.

Buchmann (2008) counters the advantage of typical boy behavior by stating that girls have advantages in social skills and classroom conduct which leads to better grades. She explains that boys display more disruptive behavior, developmental disabilities, and less positive inclinations to learning activities. "According to parent and teacher reports, twice as many boys as girls have difficulty paying attention in kindergarten, and girls more often demonstrate persistence in completing tasks and an eagerness to learn" (Buchmann, 2008, p. 322). Course grades are affected positively when cognitive performances are controlled therefore girls feel more confident in regard to their academics.

### **Rational for the Study and Research Questions:**

Research shows benefits and detriments to gender specific classrooms. The purpose of this study is to get teachers' perspectives of the practice of gender segregated grouping and determine if teachers feel it is detrimental to the self-esteem of female or male students or advantageous to their achievement.

### **Quantitative Research Questions**

1. What are the perspectives of teachers of single-gender classrooms?
2. According to teachers, can single-gender classrooms increase achievement among students in STEM subjects?

### **Qualitative Research Questions.**

1. In what ways does grouping by gender affect the classroom environment?

## **Methods**

### **Overall Design**

This mixed-methods research study was explanatory and non-experimental. Responses were collected from a quantitative survey and then qualitative interviews were conducted based on responses and findings from the surveys.

### **Ideal Subjects and Setting - Quantitative**

Ideally there would have been 100 participants with an equal number of teachers who have and have not experienced gender grouping in education. The sample would include all grade levels from K-12 and ideally be from various districts or states. This would be an ideal sample as I could analyze teacher perspectives from various schools, grade levels, and those with various backgrounds. Perhaps teachers from lower grades would feel entirely different from higher grades; teachers with experience grouping this way may feel entirely different from teachers who have yet to try this type of grouping.

### **Ideal Subjects and Setting - Qualitative**

For the qualitative interview, a targeted selection of ten teachers would have been chosen. Some subjects would have had positive experiences with gender grouping, some negative

experiences with gender grouping, and some with no experience at all. Additionally, out of the ten there would be a mix of elementary school, middle school, and high school teachers. This one again would allow me to analyze the differences of perspectives based on grade level and experience with this type of grouping.

### **Actual Subjects and Setting - Quantitative**

A survey monkey link was sent out via email to 50 teachers who work in Washoe County School District and Lyon County School District. Thirty of the 50 teachers responded, and all respondents work for the Washoe County School District. From the 30, 19 have experience with gender grouping and 11 have no experience with gender grouping. Twenty-six of the 30 are middle school teachers and four high school teachers. The teachers who were sent the link were chosen due to convenience. I either work with the selected teachers currently or have worked with them in the past. The subjects were told they could take on the role of a teacher with a different attitude than they have on the topic and attest to how they would feel in regard to gender grouping if they had no experience with that type of grouping.

### **Actual Subjects and Setting - Qualitative**

For the qualitative survey, due to convenience I chose five teachers I work with at Dilworth Middle school. Four of the five have had experience with gender grouping. Interviews were conducted at the school either during lunch or after school hours and took between 10 and 20 minutes. Most teachers I chose had experience with this type of grouping as the majority of respondents in the quantitative survey had experience as well. I also purposely chose a selection that included various subjects: two mathematics teachers, one English teacher, one science teacher, and one social studies teacher. The English teacher was the only one who had not had experience with grouping by gender.

## **Quantitative Measures**

A survey was developed and Survey Monkey for the purpose of this study and comprised of both multiple-choice questions and short answer responses. There are 18 questions total and nine of the questions discuss attitudes teachers have about gender grouping. Two questions involved demographics, the gender and age of the participant. Four questions are related to how students perform or participate in a classroom based on their gender. All multiple-choice questions are closed ended so data can be easily quantified and displayed in charts and tables. There are two questions at the end that allowed participants to type in answers. These gave me the most insight on possible interview questions. The survey was piloted using one Washoe County School District middle school math teacher. A copy of the survey used can be found in Appendix A.

## **Quantitative Data Collection and Procedures**

The survey was administered during the 2015 spring semester by sending the survey link to 46 Washoe County School District teachers and four Lyon County School District teachers. Prior to receiving the survey link, the participants were contacted by the researcher via email or in person to explain they could either answer the survey questions truthfully or take on the role of someone else. They were also asked to contact the researcher if they would be interested in participating in a qualitative interview. The quantitative survey generally did not take more than 10 minutes to complete. Participation in the survey was completely voluntary and there was no incentive to participate.

## **Qualitative Data Collection and Procedures**

The qualitative data collection is from five one on one interviews lasting 10-20 minutes and completed during the 2015 spring semester. Four of the five teachers have had experience

with grouping students by gender. Specific questions were generated from the data analysis of the quantitative survey. For the teachers who had experience with this type of grouping, the interviews were started with the question, “Please explain a time when you observed positive or negative behavior as the result of grouping students by their gender.” For the teacher who did not have experience with gender grouping, the interview started with the question “What behavior would you envision taking place in an all-girl or all-boy classroom.”

## Results

### Quantitative

Table 1

Assessments and confidence by gender

	Mathematics assessments	Science Assessments	Confidence in Technology	Volunteer answers more frequently
Girls outperform boys	30% (9)	20% (6)	10% (3)	36.67% (11)
Boys outperform girls	13.33% (4)	20% (6)	46.67% (14)	26.67% (8)
Both genders are equal	23.33% (7)	13.33% (4)	36.67% (11)	36.67% (11)
I do not know	33.33% (10)	46.67% (14)	6.67% (2)	0% (0)



Table 2

## Academics and behavior by gender

	How girls perform academically with all females	How girls perform behaviorally with all females	How boys perform academically with all males	How boys perform behaviorally with all males
Much better than with mixed gender	33.33% (10)	23.33% (7)	16.67% (5)	20% (6)
Somewhat better than mixed gender	50% (15)	33.33% (10)	40% (12)	23.33% (7)
The same as with mixed gender	13.33% (4)	20% (6)	20% (6)	6.67% (2)
Somewhat worse than mixed gender	3.33% (1)	20% (6)	16.67% (5)	23.33% (7)
Much worse than with mixed gender	0% (0)	3.33% (1)	6.67% (2)	26.67% (8)

### Qualitative

There are two themes that emerged from the five qualitative interviews: environment and social interactions.

**Environment.** The interviews provided positive and negatives attitudes towards the environment of single-gender classrooms. The positive side of gender grouping was that when females are grouped with other females they tend to work quietly and cooperatively. One teacher commented that “Girls ask for feedback from one another before coming to an agreement. They like to talk out their ideas and get input from everyone in their group before a consensus is made”. Another positive aspect regards to environment is distractions are minimal. “Especially in middle school students are distracted by wanting to show off for the opposite sex. If they do not have the opposite sex in the class with them, that distraction is taken away and they are more focused on their academics and the task at hand.” The environment becomes more learning focused.

The environment in a single-gender classroom can be negative as well. Three of the four teachers who have experience with this type of grouping stated that a classroom with all boys tends to be loud or rowdy. One participant said, “A classroom full of boys is more difficult to handle for a teacher.” Another teacher mentioned that male students tend to be competitive, loud, and physically active. “They are out of their seat, constantly looking around at each other for affirmation, or their competitive side comes out by blurting as they want to be the first one with the response”. It was suggested that when dealing with an all-male class, teachers have to be prepared to alter their instruction to ensure the constant activity and noise is related to the lesson, which for many is exhausting.

Lastly in regard to environment, it was mentioned by two teachers I interviewed about the unrealistic setting of an all-boy or all-girl environment. Gender grouping is not a reality for adults. Environments in the real world rarely allow for working with only the same sex, therefore students should be exposed to, and learn how to work with the opposite gender.

**Social interactions.** How students interacted with each other socially was a theme that developed during the qualitative interviews and there were perspectives about social interactions for both single-gender classrooms and coed classrooms. One participant went into detail about how it is beneficial for males and females to engage with one another as females keep their male counterparts “in check”. She explained how among the demographic of students she teaches; males tend to behave insensitive towards females and boys encourage each other to objectify women in their discussions. “Surprisingly, when girls are present, they keep the boys in check with their behavior as well as bringing them back on task. Girls get irritated with the boys in their group being unmotivated or not focused and most are not afraid to address the problem and rein them in.” She also went on to say that males are more sensitive when mixed with female

students and there are less inappropriate comments when girls are in the room.

Another attitude on social interactions is the positivity of boys and girls learning from each other in a classroom setting. It was suggested that both genders learn social behaviors from each other that cannot be taught in a single gender classroom. A variety of interests and different perspectives add to classroom discussion when both genders are present. This opens students' minds up to various viewpoints they may not have considered and helps them practice tolerance.

Positive opinions regarding social interactions in single-gender classrooms were also discussed in the interviews. Four of the teachers interviewed mentioned that females feel more confident when they are in an all-female class. They are more willing to take risks and can learn more effectively when they do. One teacher gave a specific example of a female student who was extremely quiet and shy in her regular coed classes. This school year, during a two-week STEM unit, teachers on the students' team decided to have two all-girl classes and two all-boy classes. For the duration of this unit, this particular student interacted much differently with her teachers and peers. "She was actively involved in discussions and volunteering answers. She even emerged as a leader in her group". As mentioned with the theme of environment, in same gender classrooms there is less distraction from the opposite sex. Students are focused on their work and not preoccupied trying to impress one another.

## **Discussion**

### **Summary of Results**

The qualitative question explored in this research study was, in what ways does grouping by gender affect the classroom environment? The literature reviewed concluded that females are more confident when in a class grouped by gender. This concept held true based on the answers given during the qualitative interview, especially the specific examples of female students who

participate more and ask more questions when in a class with all girls. Furthermore, the literature stated that boys are more competitive and are predisposed to raising their hand quickly or blurting out answers. Specific examples of this were discussed in the qualitative interviews and it was stated on several occasions that boys are louder and more active. In the literature, Sadker (1999) stated that “Teachers unconsciously make males the focus of instruction, giving them more frequent and more precise attention” (p. 4). Due to the responses and attitudes of my participants, I wonder if teachers are giving males more frequent attention not because of gender biased, but because for some teachers that is necessary to engage male students and manage their behavior.

### **Overall Conclusions**

Although gender grouping may be beneficial in some respects such as building confidence in female students and taking away distractions from the opposite sex, it does not prepare our students to function well in the real world. When students become adults, they will be required to work with the other gender. Mixed gender classrooms give them the social interaction and experience needed to work effectively with the opposite sex. Teachers or schools may group by gender in some classes or circumstances and have positive outcomes; however, it is important they give their male and female scholars ample opportunity to work side by side. As a teacher, if you plan to separate girls and boys, be prepared to alter your teaching strategies to meet their learning styles, and be ready to have a loud, active room full of boys.

### **Limitations**

The biggest limitation of this study is time. To get the data and ideal subjects it would take a lot of time and utilization of connections and networking. Another limitation is current literature on the topic. Most sources I found were written over ten years ago. With technology

and teaching strategies changing rapidly, the literature may not reflect current attitudes or practices. If I were to conduct the study again, I would like to also explore the attitudes of parents and students on this topic to see if their stances are like that of teachers' feelings on grouping by gender.

### **Lessons Learned**

I learned many lessons during this research study. I learned that Survey Monkey has a wide variety of tools to assist in data analysis. I learned that during a qualitative interview, participants can easily get off track if the questions are not direct or specific enough. I learned how time consuming it is to review literature on a research topic and that not all topics have up to date information applicable to recreating a similar study today. I also have more compassion now when asked to take a survey from someone as it is frustrating as a researcher when you do not get many responses while collecting data.

## References

- Archer, Jeff. (1998). Private coed schools find benefits in single-sex classes, *Education Week*. Retrieved from <http://www.edweek.org/ew/articles/1998/04/08/30coed.h17.html>
- Buchmann, Claudia. (2008). Gender inequalities in education, *Annual Review of Sociology*, 34, pp. 319-337. Retrieved from <http://www.annualreviews.org/doi/full/10.1146/annurev.soc.34.040507.134719>
- Friend, Jennifer. (2006). Research on same-gender grouping in eighth grade science classrooms, *Research in Middle Level Education*, 30(4), 1-11. Retrieved from <http://files.eric.ed.gov/fulltext/EJ804115.pdf>
- Howe, Christine. (1997). Gender and Classroom Interaction, SCRE Publications. Retrieved from <http://web.iaincirebon.ac.id/ebook/indrya/Classroom%20interaction/10.1.1.113.5343.pdf>
- Sadker, David. (1999). Gender equity: still knocking at the classroom door, *Educational Leadership*, 56. Retrieved from <http://www.sadker.org/PDF/GenderEquity.pdf>
- Simon, Pamela, R. (2013). Gender grouping and its initial effect on a Title 1 upper elementary school during the pilot year of implementation. UMI Dissertation Publishing. Retrieved from <http://0-search.proquest.com.innopac.library.unr.edu/docview/1431462253?pq-origsite=summon>
- Woodard, Teresa. (2004). The effects of math anxiety on post-secondary developmental students as related to achievement, gender, and age, *Inquiry*, 9(1). Retrieved from <http://files.eric.ed.gov/fulltext/EJ876845.pdf>